INDONESIAN HOUSING FINANCE
SENIOR OFFICIAL MEETING AND SEMINAR

October 29-30, 2007
Shangri-La Hotel, Jakarta-Indonesia

Coordinating Ministry of Economic Affairs

Ministry of Finance

THE WORLD BANK

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FOREWORD

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Foreword

Housing sector plays important role in stimulating national economic development. In spite of existence of real demand for housing, from macro-economic point of view, a development in housing sector could not be achieved without supports from other sectors/industries. Thus, a development in housing sector would be subsequent developments of many factors in the real sector.

One significant factor that directly fueling housing sector development is the existence of housing finance system, which will ensure fund flow avaibility to housing related sector continuously, beside condusiveness of overall business climate.

In the other hand, those sectoral developments and availability of such financing mechanism will strengthen social prosperity and welfare from job opportunities creations. This is an economic value added of a sound economic development.

In many countries, the challenge to develop strong and sound housing finance system, needs commitment and effort from government and all entities that involved in the housing sector. Strong coordination and cooperation between those entities is absolutely needed to get equal understanding and perception in steps that will be taken for better development.

Indonesian Coordinating Ministry of Economic Affairs, Ministry of Finance, and PT Sarana Multigriya Finansial (Persero) together with The World Bank and International Finance Corporation initiatively conducted the First Indonesian Housing Finance Senior Official Meeting and Seminar.

Hopefully the coordination and cooperation between related Government Agencies and private sector will be increased to develop strong, sound and sustainable housing finance system in Indonesia.

As a tribute for the nation, we compiled valuable informations from the event for public dissemination and hopefully could be utilized as a reference for Indonesian housing finance stakeholders.

PT Sarana Multigriya Finansial (Persero)

Welcoming address by Mr. Francois Grossas, *Head of Investment, IFC*

October 29, 2007

Your Excellency Minister Asyary, Head of BPN, Bpk Joyo Winoto, Senior Government Officials, Ladies and Gentlemen:

On behalf of the World Bank Group, I am very pleased to welcome you to this Housing Finance Seminar organized by SMF and sponsored by the World Bank Group.

It will be a two-day seminar. Today's session will be attended by Regulators and Senior Government Officials involved in Housing matters. Tomorrow's session will be attended mostly by financial institutions.

The agenda for both today and tomorrow will cover issues relating to the Primary and Secondary Mortgage Market.

1. to focus on the importance of establishing a strong and sustainable Housing Finance system in Indonesia

2. to address the impediments of Housing Finance

3. To raise the awareness among financial institutions of the importance of Housing Finance, particularly to meet the needs of the low income groups

In Indonesia, the World Bank Group is committed to the development of a modern and progressive housing finance system, and this requires close coordination between the regulators, market players and other stakeholders.

The Government of Indonesia has played a key role, and is continuing to play a key role, in improving the regulatory framework for a sustainable housing finance system. Such initiatives include the establishment of SMF.

Provision of shelter to Indonesians is very important, and in this respect the announcement by the Government of the construction of 1000 Towers is commendable.

The World Bank Group stands ready to continue to assist the Government of Indonesia in these efforts.

Today, our Keynote Speaker is His Excellency Minister of Housing Yusuf Asyary

Tomorrow, the Keynote Speaker will be Her Excellency Minister of Finance Sri Muliani

I wish all the participants a very productive and fruitful day, and I am now very pleased and honored to introduce His Excellency Minister Yusuf Asyary.

Welcoming Speech

Adam Sack, Country Manager IFC Indonesia
Shangri-La Hotel
Jakarta, 30 October 2007

Honourable Guests of Indonesian Housing Finance System,

On behlf of IFC, I would like to welcoming you all this morning in this seminar. Seminar conducted by collaboration between Coordinating Ministry of Economic Affairs, Ministry of Finance and SMF with The World Bank and IFC.

First of all, I would like to introduce myself as the new Country Manager for IFC Indonesia. As I had learn for quite sometimes, there are some weaknesses in housing finance industry in Indonesia. It is assumed that in 10 years, 70 million people will move to city area, it means there is 21 million housing demand during that period. If calculated, needed 20 billion US dollars per year for financing housing development. This is a big chance for banks and other finance institutions to help solving this problem.

Now, IFC is working to provide longterm housing finance fund for developing banks and NBFI and give advices based on best practices.

IFC's experience helping the development of housing finance in 35 countries, makes it has many experiences with banking sector. IFC as part of World Bank has assignment to help finance institution to be able to flow housing finance in Indonesia, especially for low middle level. One of our reason conducting this seminar is that we want you to have new perspectives from our special guests presentation.

We hope that experiences in other countries could give more thoughts to develop stronger housing finance system in Indonesia.

Thank you end enjoy the seminar.

Keynote Speech

By : Minister of Housing of the Republic of Indonesia
Shangri-La Hotel
Jakarta, 29 October 2007

- Distinguished Speakers, panelist and participants.
- Ladies and gentlemen.

Assalaamu 'alaikum Wr. Wb.

First of all, allow me to express our gratitude to Almighty God for allowing us to attend this important meeting and I would like to welcome all of you to this senior officials meeting.

To fulfil the Finance Minister's request, I will submit an important message and a hope regarding the development of housing finance system relating with government's effort to fulfil urgent demand of longterm fund to provide affordable housing ownership - especially for low middle level people - which is systematic, reachable, and sustainable.

The scarcity of longterm funding sources to support development activities and housing supply, caused by the elimination of funding source from KLBI and RDI in 1999 and 2002, just responded by the government in 2005 through an establishment of a secondary mortgage finance institution as a state-owned company which is then known as PT SMF.

The establishment of SMF is the only program of the 100 day programs of United Indonesia Cabinet that relates to the Housing Ministry. Realizing strategic position of SMF, we hope in 100 days SMF has been existed. The development of housing finance system in Indonesia needs to be supported by more understanding about the contribution of each party. We hope with the existence of SMF, could resolve the funding mismatch problem and longterm funding scarcity. However, seems the history said differently as it is already half periode of the cabinet almost end, SMF still does not run as we all expected.

Obstacles due to insufficient regulation that could support the operation of SMF have to be resolved, such as:

a. Enhancement of permit efficiency
b. Land Right transfer system
c. Taxes

which explicitly stated in INPRES No. 6/2007 regarding the enhancement of real sector development and utilization of low and middle micro business together with time limit of the implementaion.

Obstacle from internal constaints due to limited scope of activities defined in PERPRES 19/2005 have to be re-addressed to provide flexibility for SMF to mobilize long term fund and long term lending.

In PERPRES 19/2005, the essence of secondary mortgage financing conducted by SMF basically is to provide funding to develop capacity and sustainability of affordable housing finance.

SMF as a corporation carries heavy mission and requires support to develop and improve primary housing market efficiency, facilitates longterm fund mobilization from capital market to primary housing market effectively, efficiently, and sustainably.

Related to this meeting, the existence and journey of SMF in bearing heavy mission needs to obtain reviews and inputs regarding existing market condition, therefore SMF as a secondary mortgage institution could match longterm fund demand for housing sector.

The important inputs which will effectively, efficiently and sustainably benefits SMF's operation, especially related with :

a. Readiness of regulation which still needs time
b. Readiness of housing market from supply and demand side
c. Readiness of bonds market which will be used by SMF to mobilize longterm fund from capital market.
d. How far SMF could be pushed to perform its role in pursuing enhancement of related regulations and in boosting improvement of primary market efficiency.

e. If needed some adjustments, movements or re-orientations of SMF's role to perform as a liquidity facilitator rather than as a facilitator in secondary mortgage market, it is needed to be considered and discussed.

Deepen role of SMF to facilitate longterm fund supply for supporting subsidized KPR and subsidized housing micro credit, as national programs for developing is for low/middle people, is really expected.

In the name of The Mighty God, I open today's meeting and wish you all the best. (er_edit)

Keynote Speech
"Coordination and Cooperation Improvement for The Development of Strong and Sustainable Housing Finance in Indonesia"

By : Minister of Finance of the Republic of Indonesia
Shangri-La Hotel
Jakarta, 30 October 2007

- The honorable Minister of Coordinator for Economic Affairs of the Republic of Indonesia
- Distinguished Speakers, panelist and participants
- Ladies and gentlemen.

Assalaamu 'alaikum Wr. Wb.

First of all, allow me to express our gratitude to Almighty God for allowing us to attend this important meeting and I would like to welcome all of you to this seminar.

We gather here to discuss a topical and very timely theme concerning "Housing Finance in Indonesia". I truly feel that this gathering is very important for two reasons. First, it enables us to share knowledge in housing finance and second, it provides us an opportunity to learn from each other and gain a deepen understanding of matters related to housing finance. With such a distinguished array of speakers and valuable material, I am sure we will all learn a great deal during the seminiar.

In discussing about the "Housing Finance in Indonesia" which is the focus of this seminar, allow me to share with you my personal thoughts on the topic, and then to touch briefly on Indonesia's experience in developing housing finance.

I am sure no one would argue against the pivotal meaning of the housing as a basic need to every one around the world. Therefore, to strengthen our housing industry through creating sound & healthy housing finance system is very important and it becomes one of the priorities of the government's agenda to support the growth of housing industry for the benefit of the people and to increase homeownership in our country and through this

industry, help boost our economy. With a sound & healthy housing finance system, it can provide sustainable flow of medium and longterm funds from the capital markets to the housing sector, which ultimately should increase affordablity to own houses by the Indonesian family.

Housing finance has a number of extremely important roles to play in both housing markets and economic activity. First, it increases effective demand for housing by providing financing of housing upfront to be paid back over time and then housing finance also will deepen the financial sector and link the banking sector to the capital markets. In addition, the stability and transparency of the legal and political environment is critical for housing system development. It affects to a great extent the efficiency of the housing system and its ability to attract private and foreign funds.

Ladies and gentlemen,

Allow me now to touch briefly on Indonesia's developing the housing finance sector in general. The short-term nature of bank's deposit liabilities in relation to the fairly long term of mortage loan is the main crusial cases in Indonesia on extending mortgage lending. Besides that, banks still have limited access to long-term funds from pension funds, insurance companies or capital market, or mechanism to improve the liquidity of mortgages. As a matter of fact, banks can issue medium term bonds against their pool of mortgages, but this is relatively expensive.

As we aware that the backlog of the houses are 3 million per December 2005 with annual demand of approximately 800,000 houses per year. However, economic affordability of the people is extremely low. Around 70% of households in cities earn less than Rp 1.5 million per month. Like many other countries in the World, the housing sector role is very strategic for real sector development which eventually will contribute to the growth of the economy. We estimate that Rp. 1 trillion increase in property sector would likely induce additional GDP growth of 0.34%. In ASEAN countries like Malaysia, Thailand and Singapore, mortgages contribute 23%, 16%, and 36% respectively to their GDPs. Indonesia, on the other hand, was only 5.9%, and this figure was actually for construction in general that includes housing.

Lack of liquidity is not the major issues in preventing a surge in mortgage lending, but term-mismatch is. Therefore, to create a sound & healthy housing finance system, the government has taken several initiatieves which includes the establishment of PT Sarana Multigriya Finansial (Persero). In fact, Indonesia has long discussed the option of developing a secondary mortgage facility, in order to deal with liquidity and term-mismatch issues in mortgage lending. This company is given a task to promote and develop secondary mortgage markets. We know that to complete the task, it requires time an full supports from the government. Our commitment to develop housing finance sector should be then translated into a strong cooperation and coordination among related institutions to create conducive laws, regulations, and incentives that can form a synergy to promote the operation of the market.

Ladies and gentlemen,

I believe through this seminar we can learn more by sharing experiences and by looking for ways to solve problems, if there is any. Those are sure of my personal thought that I would like to share with you on issue related to housing finance in general and Indonesia's housing finance sector in particular. I am sure all of you have enjoyed a comprehensive discussion of some of the issues that I alluded to earlier. It is our hope that all of us will find the setting for this seminar condusive to constructive discussions and succesful outcome.

Before I end my remarks, I would like to extend my apreciation to the organizing committee for all of their efforts in making this seminar goes smoothly.

Finally, I wish each of you the best and may your deliberations be succesful and enjoy the rest of the seminar.

Thank you.
Wassalaamu 'alaikum Wr. Wb.

Sri Mulyani Indrawati

Closing Remarks

"Coordination and Cooperation Improvement for The Development of Strong and Sustainable Housing Finance in Indonesia"

By : Chairman of Capital Market and Financial Institutions Supervisory Agency
Shangri-La Hotel
Jakarta, 30 October 2007

- The honorable Minister of Coordinator for Economic Affairs of the Republic of Indonesia
- Distinguished Speakers, panelist and participants
- Ladies and gentlemen.

Assalaamu 'alaikum Wr. Wb.

First of all, allow me to express our gratitude to Almighty God for allowing us to attend this important meeting, of which very important for the development of secondary mortgage market in Indonesia. Housing sector plays very important role in the economy through its multiplier effect to boost economic growth. On micro perspective, the availability and higher access of home ownership could increase welfare of the society.

As far as my observation, I could express through the materials and the discussion we learnt a lot of other countries experience that we have never heard before. I believe through all these things all related parties for the housing finance sector in Indonesia will be benefited and will render better participation for the development of housing finance system in Indonesia. And the eventual result will produced more housing as targeted by the current government to supply the housing need of the people of Indonesia that presently are very low in realization. Currently, home ownership in Indonesia is only 30% of total households. We hope the portion could increase to fulfill one aspect of millennium development goals (MDG's) provide housing for every household in Indonesia. The key element to enlarge the portion of homeownership is increasing accessibility of households to housing finance.

The design of housing finance system should be well prepared in order to avoid sub-prime crises like in the US. Regulator, players and other

stakeholders should work together and coordinate to have sound housing finance system in place. The key word is integrative policy and level understanding among stakeholders.

For all of this I would like to express also my gratitude to the speakers of today seminar since they have traveling many miles to share their expertise in order to expedite the development of housing finance in Indonesia and also to the moderator of today seminar who has guided the seminars.

From today seminars the points that I underline is in order to be succeed in developing the housing finance in Indonesia, firstly we need to have the same perception on some issues as has been raised in the seminar for the developing of the housing finance industry. Secondly, we need to formulate the strategy and direction that we are going to follow. Thirdly, all of the related parties need to work together to make the noble objectives of this seminar into the reality.

I believed that with the level of understanding, integrative policy and cooperation between all parties involved, the Indonesian housing finance system will be implemented soon. Hopefully, it will boost the real sector activities and increase the economic growth.

Finally as we well concluded this one day seminar, I really appreciate all participants for your contribution in the development of housing finance system in Indonesia.

Thank You

Wassalaamu 'alaikum Wr. Wb.,

A. Fuad Rahmany

PREFACE

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The demand for housing in Indonesia was substantially huge, more than 800,000 units per year. However, the current housing mortgages could only finance 200,000 units and most of them are for middle - up income earners. To increase affordability and access to housing mortgages for all level of Indonesian income earners, coordinated and concerted efforts by the Government of Indonesia and other related institutions are needed. In an attempt to develop comprehensive housing finance system, the Indonesian Housing Finance Senior Official Meeting and Seminar was conducted on October 29-30, 2007 jointly by Coordinating Ministry of Economic Affairs, Ministry of Finance, World Bank, International Finance Corporation and PT Sarana Multigriya Finansial (Persero). It was the first event that bring together the stakeholders of housing finance in Indonesia to listen to foreign experts' insights and inputs as well as to learn models of housing finance system from other countries.

It is important to note, that one of the efforts to develop sustainable housing finance was to create the secondary mortgage market of which the Government of Indonesia had established PT Sarana Multigriya Finansial (Persero), SMF, in 2005 to serve as conduit of the market, to access long-term funds from the Capital Market then to finance primary mortgage market. However, for the market to operate, there are still hurdles to be addressed.

The following passages summarize the insight and inputs from the speakers as a result of in-depth study on Indonesian mortgage market that explains the problems and recommended actions to be taken as well as several experiences from other emerging markets that might be taken as a valuable lesson.

The Housing Finance Sector in Indonesia

In the seminar, Marja Hoek-Smit, using her study on "Housing Finance in Indonesia" sponsored by the World Bank in 2005, explained that strong primary mortgage lending market is the foundation of housing finance system which needs strong government supports and interventions. Studying the impact of the 1998 financial crisis to Indonesian mortgage lending, and the recovery and the growing of the lending in 2003-2004 which then flattened starting end of 2004 to October 2005, Hoek-Smit concluded that the macro-economic stability had proven to be the key to Indonesian housing finance sector development. The ups and downs of the development are closely related to inflation rates which has direct impact to the real interest rates, and in turn, to the mortgage lending rates. When mortgage rates come down demand is likely to pick up as well, depending on adjustments in real incomes. She identified some important changes made after the crisis that assist such recovery: (a) stronger banking sector with better supervision, (b) the growing investment from banks, private and state-owned, to build up the infrastructure for mortgage lending, thus creating a competitive environment, (c) improvement in the legal environment for mortgage lending that cause more households have ownership title to their land, and shorter foreclosure time, (d) more efficient and transparent subsidy scheme that qualifies households at the margin of current mortgage lending and is available to all lenders, and (e) the establishment of a secondary mortgage market corporation - SMF - as a catalyst to access capital market funding and allow a gradual move towards partly fixed mortgage instruments or capped adjustable rate mortgages, and to develop measures to improve the credit quality of mortgage portfolios.

Despite the positive changes, there are still remaining serious gaps and weaknesses in the mortgage system that need to be addressed for it to continue to deepen and expand the market:

1. Credit risk remains high partly as a consequence of the lack of credit information, and credit risk management mechanisms. She recommended that (a) Bank Indonesia (BI) to facilitate the establishment of a credit bureau, (b) Ministry of Finance (MOF) and SMF to take action to establish public/private mortgage insurance, (c) BI to regulate consumer protection and the requirement for consumer education, (d) BI and SMF to develop borrower education tools.

2. Lack of access to mortgage credit for those households who are creditworthy and can afford a mortgage loan, but whom the market is not yet serving. This is due to credit risk and high transaction costs relative to loan amount and fees hinder lenders from moving down-market, and lack of finance to buy more affordable houses in the resale market further weakens upward mobility in the formal housing market. Recommended actions include: (a) the Ministry of Housing (MOH) and MOF/BI to explore ways to tie requirements for saving for housing over a period of time to subsidized loans to establish lender confidence and increase owner equity particularly for borrowers who have non-fixed income, (b) the expansion of (small) upfront subsidies to a level of income closer to the current margin of banks' willingness to lend (for houses of Rp75 million and below); if mortgage insurance is to be developed a subsidy for this group of borrowers at the margin could focus on the payment of the insurance premium to improve both lender confidence and borrower access to loans, (c) consumer education programs and consumer support systems to focus on this group specifically, iv) allowing part of the subsidy programs to be used for existing housing.
3. Inadequate housing market information creates inefficiencies. Actions recommended include MOH and/or the SMF set up an integrated housing data base that includes price and appraisal information, information on building permits issued and housing transactions completed for different types of houses, consolidated information on housing finance, etc.
4. Successful operation SMF requires clarification of tax rules and adjustments of the limit on its lending term. This means (a) tax regulations to be clarified to avoid double taxation on securitization activities; (b) MOF to explore the extension of the term for liquidity lending by SMF beyond the current three year limit.
5. Finance Companies (FC) can play a role in medium term mortgage lending with the availability of liquidity funding from SMF, which could increase competition in the mortgage sector and improve the diversification of risk for the FCs. Recommended action include MOF to explore lifting the regulation for certain categories of Financial Companies that prevent their expansion into mortgage lending.

Other improvements are required in areas that hinder the flow of affordable (below Rp75 million) mortgage-able properties to the market:

1. The lack of supply of serviced land and tedious permitting procedures make it unprofitable for developers to use available land resources for middle and lower-middle income houses. Recommended actions include: (a) the enforcement of the permit system, measures to release public land for residential development in suitable locations, and (b) improvements in the process and reduction of upfront and hidden costs to gain development and building approvals.
2. The lack of construction financing provided by banks due to poor past performance causes developers to focus on projects based on equity financing rather than debt financing, and force contractor to build houses depends on owner funding. Recommended actions include: (a) BI to develop a circular with guidelines on prudent construction lending; (b) BI to explore the establishment of special guarantees for construction lending, (c) explore the establishment of an independent, fee-based housing quality guarantee program for new residential construction to ease the burden on lenders to conduct in-depth technical appraisals for moderate income housing and increase confidence to invest in this market segment, (d) eliminate the double VAT taxation on home sales for moderate income housing that impact affordability of developer to build houses.To complete the housing finance system for all types of households, access to shorter term, non mortgage based housing finance options need to be expanded. Irrespective of the exact numbers of households that can access a regular mortgage loan with or without a subsidy, at least 40 percent or more than 300,000 of the total new households formed annually will not qualify for such loans because of low or uncertain incomes or low collateral quality.
3. There is a need to focus specifically on expansion of smaller, medium term housing loans to finance new and existing houses and home-improvements for this category of households. Recommended actions include: (a) provide training in housing micro-finance and technical support to cooperatives and other such lenders which are technically weak, (b) provide liquidity support to micro-finance providers; such a function may be conducted by the SMF since it requires similar types of analyses as required for liquidity funding for finance companies and banks, (c) explore alternative risk guarantee subsidies for micro-finance for housing in the form of escrow accounts for missed payments, which

may improve lender confidence. When such micro-lending for housing becomes better known as a separate product, and the risks are better understood, it may be easier to develop credit insurance products.

According to Hoek-Smit, therefore, government intervention to establish long-term financing is needed. However this long-term financing should be sustainable, sound and equitable. This can be achieved through secondary mortgage market by securitizing mortgage loans to be traded in the Capital Market.

Mortgage Securities in Emerging Market

Loic Chiquier of the World Bank conveyed his paper that discusses the rationales for introducing mortgage securities to fund housing, pre-requisites that underlie successful introduction, the role that government can play in developing these instruments, the experience of issuing mortgage securities in emerging markets through short case studies of their use, and the observations on the way forward to increase the use of mortgage securities in emerging markets.

Chiquier presented that despite numerous attempts, there have been limited successes in introducing mortgage securities in emerging markets at a significant scale. There are two major reasons for this result. First, the infrastructure requirements for mortgage security issuance are demanding, time consuming and costly. Second, the challenging primary market requirements as it is highly unlikely that mortgage securities can be successfully issued in countries with weak and under-developed primary mortgage markets. There must be a modicum of standardization in mortgage instruments, documents and underwriting, reasonable standards of servicing on the part of lenders and issuers and professional standards of property appraisal.

Even in countries with reasonably well-developed primary markets there has been spotty success introducing mortgage securities. A major reason has been a lack of issuer need for capital market funding since the cost of wholesale funding through mortgage securities is higher than retail funding, at least in terms of the relative cost of the debt. Other reason is the design of mortgage security has perhaps been overly complex for the environment. The use of particular instruments needs to be in line with the standards

and prerequisites of investors and the underlying legal infrastructure, as well as the funding and residual risk exposure needs of primary lenders. Institutional models should be adjusted to the development stage of financial and mortgage markets. Multiple legal and regulatory challenges must be addressed, particularly in civil code countries. Governments have been active in trying to stimulate issuance of mortgage securities in emerging markets. However, one lesson learned is that government involvement is not a guarantee of success. There must be an underlying market need for capital market funding and investor demand for mortgage securities. Government's most important role is as a facilitator, removing obstacles to issuance and investment, and strengthening the legal and regulatory environment surrounding housing finance. In a number of countries, institutions with characteristics similar to the government-sponsored enterprises in the US have been created. Although the jury is still out as to their potential role and importance, in most cases they had at best a modest impact. Policy makers must be aware of the potential risks and distortions to the system that such institutions present. A level playing field and sunset clauses for such government support are important considerations.

Does the limited success to date mean that mortgage securities are not relevant for emerging markets? By no means does he ascribe to this conclusion. Mortgage securities are the vehicle to tap capital markets for funds for housing and can improve the accessibility and affordability of housing and allow lenders to better manage the complex risks of housing finance. In markets with demonstrable need of appropriate instruments and institutions, mortgage securities can make a real contribution to the housing finance. He believes that the use of such instruments will grow over time as housing demand increases, as lenders become more capital and liquidity constrained and as investors become more familiar with their risks.

The first rationale for introducing mortgage securities is that in economy with pools of contractual savings funds, mortgage securities can tap new funds for housing from Institutional investors (pension, insurance funds) with long term liabilities as they can manage the liquidity risk of housing loans more effectively than short-funded depository institutions. Efficiencies can be gained through passive investment in mortgage securities by institutional investors, allowing depositories and specialist mortgage companies perform the other functions.

The second rationale would be the increase of the liquidity of mortgages, thereby reducing the risk for originators and the risk premium charged by lenders. Access to the long term funds mobilized by institutional investors can reduce the liquidity risk of making long term housing loans, increasing their affordability and improving the access to funds for home buyers.

The third rationale is to increase competition in primary markets. The development of capital market funding sources frees lenders from having to develop expensive retail funding sources (e.g., branch networks) to mobilize funds. Securitization for example can allow small, thinly capitalized lenders who specialize in mortgage origination and servicing to enter the market. These lenders can increase competition in the market and lower the margins and introduce product and technology innovation into the market which in turn can increase efficiency in the housing finance system. Greater specialization can lead to cost-savings and reduce spreads. The phenomenon of unbundling has been associated with development of secondary mortgage markets. As the functional components of the mortgage process are unbundled, specialists emerge and obtain market share through economic scale in processing, access to information and technology and risk management.

Chiquier then presented the pre-requisites that underlie successful introduction. First and foremost, there must be a demonstrable market need for the type of funding offered by the capital markets because The lender may (a) be capital constrained (at least on the margin), (b) be liquidity constrained, and (c) have cash flow management needs. Second, there must be a demonstrable investor demand for mortgage-related securities. Specifically there must be a class of investors with an appetite and capacity for securities backed by mortgages. In certain circumstances, the demand may come from other lenders. If there is a geographic mismatch, for example, some lenders may be asset rich and others liability rich (historically the case in the large US market). The development of a secondary mortgage market can facilitate the movement of funds between regions. More likely, the demand will come from institutional investors such as insurance companies or pension funds. These investors will have long term liabilities and thus seek longer term assets to match their cash flow and investment needs. The task is to get these investors to fund housing through purchase of mortgage securities (solving the institutional mismatch).

Even if there are willing issuers and investors, there are a number of infrastructure requirements underlying the development of mortgage capital markets. Most important are the legal pre-requisites: (a) An adequate legal, tax and accounting framework for securitization and secured bond issuance, (2b) Facilities for lien registration as mortgage securities are backed by mortgage loans, (c) Ability to enforce liens, (d) Ability to transfer (assign) security interest, (e) Protection of investors against bankruptcy of originator or servicer, and (f) There are a number of primary market pre-requisites as well: standardization of documents and underwriting practices, high quality servicing and collection, professional standards of property appraisal.

These infrastructure requirements bring to the needs of the role the Government in developing mortgage securities in emerging markets. The theoretical considerations include that all formal sector financial intermediation exists with the support of some government intervention. At one extreme, the government may intervene only through the maintenance of a legal system that capable of enforcing private contracts. At the other extreme, the government may own and operate the housing finance system or even the entire financial system. Most countries operate in between these two extremes, usually with a blend of policies that reflects the common practices and circumstances of that country.

Government clearly has an enabling role to play in creating mortgage capital markets. Government can and should act to remove onerous laws, taxes and regulations that preclude or disadvantage mortgage securities. This should reflect in regulatory regimes that provide safety to mortgage securities. For examples, stamp duties on securities registration can inhibit issuance and the requirement that borrowers consent to a transfer of ownership. Mention examples add to the cost and disadvantages to mortgage securitization. It is particularly important for legislators and regulators to create sound and thorough guidelines for the creation and bankruptcy remoteness of special purpose vehicles (SPVs) and mortgage bonds. Securitization requires that the SPV have full rights over transferred assets and the proceeds from their liquidation, as well as the decision to liquidate them. Mortgage bond investors must have indisputable priority rights to the collateral which should not be part of the general bankruptcy estate in the event of issuer's bankruptcy, and ideally a priority right over the other assets comprising of the estate in case of a deficiency in the cover pool.

Government may seek to stimulate secondary mortgage market development to improve the allocation of risk in the financial system. Two risks that are somewhat unique to housing finance because of its long term nature are liquidity risk and cash flow risk. A relatively easy way for government to improve the liquidity of mortgage assets is to accept mortgage securities as collateral at the discount window (open market transactions with adjusted haircuts). But governments may also wish to support more directly and rapidly the development of secondary mortgage markets as a way to tap long term funds and help lenders manage the maturity mismatch. Developing mortgage capital markets can foster financial market and economic stability. Lenders subject to significant liquidity risk may ration the availability and terms of mortgages, which in turn may lead to cycles in housing construction and economic activity. Lenders subject to interest rate risk may pose a danger to safety and soundness of the financial system. For both reasons, the government may wish to stimulate capital market funding if it achieves a more desirable allocation of risk.

If a government seeks to simulate development of mortgage capital markets, there are a number of ways to proceed. These include creating new public institutions, providing guarantees for the securities issued by private sector institutions, and providing investor and/or issuer incentives for mortgage securities. In general, government involvement should be targeted, transparent, budgeted and temporary. In creating new public institutions, Government may play an important role in catalyzing the capital market funding for housing finance through the creation and support of institutions that address market needs or policy objectives. Thus, a government-sponsored mortgage insurer can accomplish a geographic diversification of credit risk and provide credit enhancement to facilitate institutional investment in mortgage securities. In countries where the primary market is geographically segmented, capital market investors, as well as nationwide mortgage lenders, have a major advantage in managing mortgage credit risk, the ability to diversify the risk across geographic areas.

A centralized secondary market institution – SMI – (either a bond issuing facility or a conduit) can reduce the relative cost of security issuance by developing economic of scale in bond issuance and liquidity. The SMI can provide guarantees of ultimate and/or timely payment of principal and interest which will increase the attractiveness of the securities.

The government can create or sponsor an intermediary or an insurer as a way to jump-start the market. In providing guarantees, government can provide guarantees for private sector security issuers to facilitate investor acceptance. Government guarantees of private sector issues can be targeted to be removed once the market is established and can promote competition in the market if offered to all lenders. The disadvantages of guarantees are the potential for fraud and associated high agency costs of monitoring and the lack of economic of scale in securities issuance. Guarantee schemes should be actuarially priced and on the government's budget.

There is vicious circle during the introduction that undermines secondary trading due to the absence of a wide, diversified array of investors. As only few investors accept to buy the new securities for fear of being unable to resell them. Therefore in supporting Market Liquidity Support, there are several specific ways government can help which include: (a) Central bank support of a repo market by accepting mortgage securities as collateral in its repo transactions; (b) Provision of guarantees that will help develop a private repo market; or (c) Creation of a contingent government fund that would stand ready to buy mortgage securities in the secondary market. Government may provide incentives to investors by exempting mortgage security interest from taxes (e.g., mortgage bonds in the Czech Republic) or reducing the capital requirements for holding them (e.g., risk weights on Fannie Mae and Freddie Mac securities held by banks are 20% as compared to 50% for whole loans).

In his view, success requires repeat issuance of standardized securities, a significant share of funding for housing coming from the capital market and secondary trading in security instruments. Only with sustained issuance will the benefits of improved accessibility and affordability of housing finance be realized. Repeat issuance is necessary to improve investor acceptance, bringing new investors to the market and lowering liquidity premiums. It can reduce and spread the one off transactions cost of security issuance over a broader base and obtain the interest of market makers, regulators, rating agencies and other entities that can spur market development.

Another measure of success is whether the introduction of a new instrument and/or institution produces a significant and positive change in the finance of housing within a country. For example, if the introduction of a facility

brings new lenders in the market and increases the supply of funds it may be judged as a success even if its volume of business is modest. If introduction of mortgage securities improves the structure of loans, by lengthening the term or increasing the loan to value, it may also be judged a success.

Lessons learned from other countries include provision of the basic infrastructure that consist of a sufficient legal, regulatory and primary market infrastructure in place before mortgage securities will take hold. A good framework is a necessary but not a sufficient condition. The sheer difficulty of developing infrastructure is one reason why has there been an only limited success in introducing mortgage securities in emerging markets. The legal and regulatory complexity of mortgage securities and specialized institutions are formidable and even sophisticated developed economies. It would be easy if setting up an appropriate legal and regulatory framework were sufficient to establish a market. This is far from being the case. Many countries have devised a framework for securitization or mortgage bonds, but the time lapse between the creation of the legal infrastructure and the actual development of regular issues can be very long – between 4 and 10 years. The development of a satisfactory legal framework for mortgage securities is also often complex and time consuming (often requiring further amendments), notably in civil code legislative environments where the concept of a trust may be not be available as a convenient, flexible and bankruptcy-remote special vehicle to issue mortgage backed securities. The Role of Government and Central Bank in Developing Primary and Secondary Market More detailed examples of how the government and the central bank helped the development of secondary mortgage market were explained by Narayanasami Kokularupan of the International Finance Corporation, of which he took the example of Cagamas, Malaysia. Cagamas Berhad was created in 1987 following a recession and liquidity crunch that restricted credit for housing, particularly for moderate income households. The purpose of Cagamas was to provide more liquidity to mortgage lenders, reduce market risks, assist social housing finance, sustain construction sector, and develop private fixed-income markets. Cagamas purchases mortgage loans (the principal balance outstanding) from mortgage originators, with full recourse from the primary lenders, at a fixed or floating rate for 3 to 7 years. This is in effect a secured financing which Cagamas locking 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. The debt is amortized independently of the mortgages. Cagamas is the largest non-government issuer of debt in Malaysia. Its securities are rated AAA by the Malaysian Rating Agency and subject to only a 10% risk weight for bank investors. As of the end of 2002, Cagamas had outstanding debt securities exceeding 24.9 billion Ringgit (approximately $6.6 billion). Cagamas receives a number of significant privileges from the Malaysian government, without which its refinancing activities would not have been perceived as sufficiently attractive for primary lenders. Loans sold to Cagamas are not subject to the Central Bank reserve requirements. Its securities are eligible as liquid assets (banks and finance companies must keep an additional 10% of assets in liquid form). Cagamas securities carry a risk weighting of 10%, compared to a 50% rating for housing loans, for investing credit institutions.

Cagamas has been successful in getting new lenders into the market and lengthening the term of mortgage loans. Cagamas has pioneered the securities funding of Islamic loans, which may be a role model in Jordan and other Islamic countries. Cagamas has been profitable throughout its existence and has successfully weathered a severe turndown in the domestic economy and property market.

The role of the government has been important in the relative success of these initiatives. Malaysia has strong legal and regulatory systems – a necessary prerequisite for success as noted above. The government is a minority owner of Cagamas. It puts up a portion of the initial equity, providing comfort for private sector investors. This support gives the institution a small funding advantage as the government is either implicitly guaranteeing the securities. A strong central bank board presence keeps the institution focused on its public policy objectives. Cagamas' loans and the bonds also receive favored regulatory treatment. In Malaysia, the roles of government and the central banks were twofold. First, the government strengthened the primary market by ensuring enabling environment for housing constructions was in place of which low-cost housing was always their priority. 30% of private housing constructions should be dedicated to low-cost housing. The central bank role at this stage were to promote mortgages for low cost housing by regulating that the banks should grant certain amount of loans to low cost housing and set the maximum interest rates. To develop

affordability, the Employees Provident Funds created dedicated account to finance down-payment of housing, and recent revision to the scheme was that this account could also finance the installment of the loans so that the lower and middle income group could afford repaying the loans. To encourage participations from private sectors, the government set aside funds as guarantee funds for financial institutions to offer loans to non-fixed income earners. Second, in the development of secondary mortgage company Cagamas, the central bank support was by having 20% of shares in Cagamas to give confident to the market. Tailoring the needs of the economy, Cagamas went through 4 distinct phases over the past 20 years. Phase 1 was to enable increases of mortgages by purchase the loans with recourse of which the credit risks were still with the banks. Cagamas then issued simple plain vanilla unsecured bonds to get the funding. The government supported the low cost bonds issuance. Phase 2, Cagamas bought Islamic housing loans, and industrial property loans, still with purchase with recourse basis. At Phase 3, Cagamas diversified purchase with recourse to hire purchase and leasing debts, Islamic hire purchase debts, and credit card receivables. Phase 4 was the securitization phase, of which the Government mandated Cagamas to undertake securitization of the Government's staff housing loans on a scheduled basis and over a period of time, while still continuing the purchase with recourse.

Housing Finance in Mexico: Evolution Strategy and Challenges Ahead
Finally, lessons from Mexico experience were presented by Gabriel G_mez Reyes of the Sociedad Hipotecaria Federal (SHF). Mexico has experienced an important housing boom over the past five years, and one of the main reasons is the continuous growth of the mortgage industry. The mortgage portfolio to GDP ratio was already 11% in 2005, and expected to be growth to 27.7% in the next 15 years. The residential mortgage backed securities market in Mexico, just born on Dec-2003, with the issuance amounted 54 million pesos and increased to 1.304 million pesos in 2007 which represent 30% of funding sources for private lenders and should become the main source of funds for mortgages sometime in 2009.

SHF was a successor of FOVI, the company then managed by the central bank. FOVI was a liquidity provider for Sofoles, the non-bank dedicated financial institutions that could not take deposits. FOVI had access to central bank loans with low rate, and World Bank and Inter-American bank loans.

FOVI raised funds for the collection of outstanding portfolios. In 2002, SHF overtook FOVI with no more access to central bank loans. SHF had to go to the capital market to raise funds. In addition to give loans to Sofoles, SHF began providing mortgage insurance to cover first loss risks, financial guarantees to banks so that they could get triple A rating as SHF received full faith guarantee from the government, and supported the liquidity of the mortgage backed securities by continuously quoting bid-ask prices.

There were deadlines for SHF. In 2009, SHF could no longer provide loans to Sofoles. This way the government aimed to further promote more securitization as Sofoles were forced to look for other means of raising funds, including through securitization. In 2013, there would be no more full faith guarantee from the Federal Government. This was a good chance for SHF to become private and profitable company. SHF would need to have detailed risk management, aiming for AA or AAA rating.

Continuing its mandate to promote the development of primary and secondary markets for residential mortgages, SHF implemented strategy to (a) promote major affordability to residential mortgage financing to the current attended population; (b) promote affordability to residential mortgage financing in the non-attended population (less than minimum wage income earners) through SHF´s aggressive strategies, and to (c) promote an adequate offer of popular residences framed in an urban sustainable environment.

In conclusion, in developing sustainable housing finance, there should be strong primary market in place as well as government and central banks supports for secondary mortgage market operations with sunset clauses in the forms of guarantees, supporting rules and regulations, and incentives. Since securitization was not always the most effective solutions depending on the state of the economy, secondary mortgage companies would need to play evolution of roles before ultimately become the market catalyst in securitization.

THE HOUSING FINANCE SECTOR IN INDONESIA

for
The Housing Finance Business Group
Financial Sector
World Bank

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Executive Summary

While the requirements for new housing in Indonesia is more than 800,000 units per year just to accommodate new household formation, the mortgage sector only finances at the most 200,000 of this demand, confined mostly to developer built residential schemes and high-end residences[1]. The production of houses is likely to be close to the national requirement for new housing, however, since house prices do not show signs of an overheated market. Both house-price –to-income ratios (3 to 3.6) and increases in house-prices relative to the overall CPI are modest. Most new houses are, however, built on an individual basis by contractors and households themselves and are financed from savings, and if debt finance is used at all, it is in the form of short-term loans. Such mode of production has severe limitations in relation to the systematic provision of services and infrastructure when cities grow rapidly. Indonesia shows major signs of stress in that area. Also, the construction process is less efficient when upfront finance is not available.

A 2004 national housing survey (BPS, 2004) showed that the great majority of houses were constructed on land owned by the owner, even though not all houses may have received formal building permits. It is, therefore, not the lack of formal title to the land that hinders the expansion of mortgage lending as it was perceived to be in the past. There are, however, other reasons both having to do with low demand and constraints in supply. This study looks into the current context and structure of housing finance in Indonesia and proposes some actions for its expansion and the development of alternatives to mortgage finance.

[1]It comprises only 7.8 percent of all credit outstanding and is 1.83 percent of the total value of GDP.

A. Demand Constraints for Long-Term Mortgage Borrowing. There are several demand constraints related to the expansion of mortgage borrowing of which the most important are:

- Low levels of formal sector employment (only 26 percent of the labor force) hampers access to long-term finance, since lenders are reluctant to make loans to individuals that are not permanently employed wage earners.
- Relatively high interest rates (only since 2003 have the rates come down and reach 14.5 to 16 percent for a 10 year adjustable rate mortgage loan at the end of 2004) and volatility of rates (recent inflation and other macro-economic factors caused mortgage rates to go up to 17 or 18 percent) decreases affordability and appetite for long-term debt. High upfront costs and down-payment requirements further decrease finance affordability. At the median income level, households can barely pay the monthly payments on a loan for a 36m2 house on a 90M2 lot in a rather poor location if they allocate 30 percent of their income to mortgage payments and require 2 to 3 times their monthly income to pay for transaction costs to obtain a loan, not including savings for a down-payment. There is also a deep cultural bias against incurring long-term debt.
- Middle- and lower-middle income households have a long tradition of receiving deeply subsidized fixed rate loans and demand for mortgage debt for this group is artificially conditioned to the number of subsidized loans issued by government.

B. Supply Constraints in Expanding Mortgage Lending. There are different types of supply-side constraints; limited real housing developments that qualify for mortgage funding and weaknesses within the mortgage sector itself that limit growth.

First there is a lack of developer built houses affordable to the majority of households, i.e., houses priced below the Rp75 million and an inability by lenders to deal with individual contractor built houses. This is related to:

- ***The lack of supply of serviced land and tedious permitting procedures*** make it unprofitable for developers to use available land resources for middle and lower-middle income houses.

Recommended actions: the enforcement of the permit system, measures to release public land for residential development in suitable locations, improvements in the process and reduction of upfront and hidden costs to gain development and building approvals.

- ***The lack of construction finance*** provided by banks related to poor past performance causes developers to focus on projects where equity investments rather than debt can finance construction, and make contractor built houses dependent on owner funding.

  Recommended actions: i) Bank Indonesia (BI) to develop a circular with guidelines on prudent construction lending; ii) Bank Indonesia to explore the establishment of special guarantees for construction lending (e.g., jointly with international development and investment agencies), although these could be expensive given the poor track record of such lending, iii) explore the establishment of an independent, fee-based housing quality guarantee program for new residential construction to ease the burden on lenders to conduct in-depth technical appraisals for moderate income housing and increase confidence to invest in this market segment, iv) eliminate the double VAT taxation on home sales for moderate income housing that impact affordability of developer built homes.

Second, mortgage finance while expanded and strengthened since the 1997/98 crisis still faces some important hurdles limiting its expansion.

- ***Current macro-economic volatility*** is a set back for the process of expansion, just when the sector had made substantial improvements in the aftermath of the 1997/98 crisis. Nominal interest rates have increased since the end of 2004 because of rising inflation and, as a consequence, NPLs have increased. Moreover long-term investors have moved part of the deposits held in the banking system towards shorter term deposits, creating concerns about asset-liability duration gaps. As a result there is a flattening of the expansionary trend in mortgage lending of the last few years.
- ***Weaknesses in the mortgage finance system itself*** that need to be addressed include:

- *Relatively high credit risk as a consequence of the lack of credit information, lingering issues in foreclosure risk, and lack of credit risk management mechanisms.*

  Recommended actions: i) BI to facilitate the establishment of a credit bureau, ii) MOF and SMF to take action to establish public/private mortgage insurance, iii) BI to regulate consumer protection and the requirement for consumer education, iv) BI and SMF to develop borrower education tools.

- *Lack of access to mortgage credit for those households who are creditworthy and can afford a mortgage loan, but whom the market is reluctant to serve.*

  Recommended actions: i) the Ministry of Housing and MOF/BI to explore ways to tie requirements for saving for housing over a period of time to subsidized loans to establish lender confidence and increase owner equity particularly for borrowers who have non-fixed incomes, ii) the expansion of (small) upfront subsidies to a level of income closer to the current margin of banks' willingness to lend (for houses of Rp75 million and below); if mortgage insurance is to be developed a subsidy for this group of borrowers at the margin could focus on the payment of the insurance premium to improve both lender confidence and borrower access to loans, iii) consumer education programs and consumer support systems to focus on this group specifically, iv) allowing part of the subsidy programs to be used for existing housing.

- *Successful operation of the Indonesian Secondary Mortgage Corporation (SMF) requires clarification of tax rules and adjustments of the limit on its' lending term.*

  Recommended actions: i) tax regulations be clarified to avoid double taxation on securitization activities; ii) MOF to explore the extension of the term for liquidity lending by SMF beyond the current three year limit.

- *Finance Companies could play a role in medium term mortgage lending now that SMF is operational,* which could increase competition in the mortgage sector and improve the diversification of risk for the FCs.

Recommended action: MOF to explore lifting the regulation for certain categories of Financial Companies that prevent their expansion into mortgage lending.

- *Inadequate housing market information creates inefficiencies.*

  Recommended actions: the Ministry of Housing and/or the SMF set up an integrated housing data base that includes price and appraisal information, information on building permits issued and housing transactions completed for different types of houses, consolidated information on housing finance, etc.

C. **Need to Develop Shorter Term, Non Mortgage Based Housing Finance Options.** Irrespective of the exact numbers of households that can access a regular mortgage loan with or without a subsidy, at least 40 percent or more than 300,000 of the total new households formed annually will not qualify for such loans because of low or uncertain incomes or low collateral quality.

- *There is a need to focus specifically on expansion of smaller, medium term housing loans to finance new and existing homes and home-improvements for this category of households.* Several banks and possibly some Finance Companies and micro-lending institutions may target that market. A new subsidy program is being developed that intends to stimulate the expansion of this sector through the provision of guarantees for part of the loan. But there is as yet reluctance by insurance companies to buy into the scheme.

  Recommended actions: i) provide training in housing micro-finance and technical support to cooperatives and other such lenders which are technically weak, ii) provide liquidity support to micro-finance providers; such a function may be conducted by the SMF since it requires similar types of analyses as required for liquidity funding for finance companies and banks, iii) explore alternative risk guarantee subsidies for micro-finance for housing in the form of closed escrow accounts for missed payments, which may improve lender confidence. When such micro-lending for housing becomes better known as a separate product, and the risks are better understood, it may be easier to develop credit insurance products.

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I. Introduction

Had this study of the housing finance system of Indonesia been conducted only less than a year ago when a smooth political transition promised a focus on macro-economic stability and the creation of a positive business environment, the tenor of the conclusions of this report might have been rather different. Economic growth rates for 2004 were higher than expected, Government and Central Bank (SBI) interest rates were steadily declining, and so were interest rates for mortgage lending, banks were confident to expand their credit portfolios and competition among banks for customers for mortgage and consumer credit was increasing, new housing lending products were introduced, demand for housing was increasing with the rise of disposable incomes and lower interest rates, housing finance subsidies had been redesigned to be more transparent and efficient and developers had come back into the market even though shortage of construction finance and constraints in land supply still hindered expansion into the moderate income housing. In short, the report might have concluded that after the major disruptions of the 1997/98 financial and real estate crisis and the related restructuring of the financial sector, the housing finance system showed signs of normalization and strengthening.

However, this positive trend was brought to a halt by recent macro-economic uncertainties; a worsening current account situation and decreasing international reserves, increasing oil imports and rapidly rising oil prices, and the effects of a global increase in interest rates resulted in a depreciation of the Rupiah, rising inflation and a related hike in government interest rates. Macro-economic uncertainties have a particularly negative effect on long-term mortgage lending, and therefore on housing investment, and there are indications that the current period of volatility is no exception. In addition, fuel subsidies are being phased out through the next year which has a negative effect on real incomes and therefore on housing demand and payment capacity, even if the poor are to receive a special cash transfer.

This paper will discuss both the improvements made in the housing finance sector, the expected trends, and the areas of needed reform. It anticipates, may be optimistically, that the current macro-economic and fiscal issues will work themselves out through the next year and, while slowing down mortgage lending in the shorter term and making lenders more risk averse for a while its expansionary course will continue in the longer term.

The paper will briefly outline the context in which the housing finance sector operates – the macro-economic environment, the overall financial system and the housing market – before detailing the development, structure, products and extend of both the mortgage and micro-finance sector for housing and the subsidies that apply to housing finance. It concludes with a summary of main recommendations.

II. Macro-economy, Financial Market and Housing Market

A. THE MACROECONOMY

Economic Growth

GDP growth rates turned negative (-13 percent) as a result of the financial and economic crisis in 1998 but increased to pre-crisis levels of 5% in 2004, and exceeding 6% in the last quarter of 2004 and the first quarter of 2005. Real GDP growth has been strong since 2001; total GDP at current market prices was Rp532,568 billion in 1996, Rp1,290,680 billion in 2000 and Rp2,303,013 billion in 2004 (See Table 17; BI, 2005). Per capita incomes rose from less than $550 in 1999 to just over $700 in 2001 and $1050 in 2004. However, there has been a deceleration in recent quarters as a result of a weakening exchange rate and higher inflation. The slow-down reflects a number of growing risks in the Indonesian economy mostly linked to the fact that Indonesia no longer is an oil and gas exporter but net importer. Bank Indonesia's forecast is, however, that the expected growth rate will remain around 5.5. to 6% (year-on-year) for 2005 and at 5.5% to 6.5% in 2006.

After the crisis, GDP growth was attributed mostly to increases in private domestic consumption (69 percent of GDP in 2003 (EIU, 2005) but the proportion of private consumption has declined in recent years to 66.5 percent (BI, 2005a) in favor of increased investment and, until recently, net exports. The relatively modest growth in private consumption in 2005 is due to the weaker purchasing power related to recent increases in inflation and credit interest rates, but is considered to rebound when macro-economic fundamentals improve.

Inflation, Prices and Interest Rates

CPI based inflation steadily came down to 5 to 6 percent since the post-crisis high of around 12 to 13 percent in 2001. However, during the first three quarters of 2005 inflation has increased and is estimated to reach over 15 percent by year end. This increase is attributable mostly to higher fuel prices.

Table 1 Inflation and Interest Rates, 1996 – 2005 (QII)

Year	Inflation Rate (%)	1-month SBI Rate (%)	3-month Time Deposits (%)	Interest Rate for Investment Credit (%)
1996	6.47	13.80	14.58	15.02*
1997	11.05	14.50	19.88	15.37*
1998	77.54	49.30	48.69	19.39*
1999	2.01	23.10	13.19	17.80
2000	9.35	12.50	13.33	16.62
2001	12.55	16.60	17.47	17.90
2002	10.03	13.50	13.65	17.82
2003	5.06	8.40	7.95	15.44
2004	6.40	7.43	6.99	14.05
2005 (Qtr II)	4.24	11.00	6.49	13.68
2005 (Sept)	9.06	11.00	8.51	14.17

**Un-weighted average of interest rates across all banks from Bank Indonesia*
Source: BI 2005 Economic Report on Indonesia 2004; BI 2005 Quarterly Report Vol 5, no.2 and BPS 2005.

Until 2004, food was the main driver of inflation. In 2004 non-food consumption exceeded food consumption for the first time since the crisis and CPI indices for housing, education and transportation showed higher CPI values than food. While the general CPI index for 2004 was 113.98 (with 2002 as base year), the housing index was 121.88, of which the cost of housing index was 120.91 and fuel, electricity and water was 137.68 (BPS 2005).

The greater economic stability and decreasing inflation from 2002 through 2004 caused interest rates to be adjusted downwards as well. However, the current increase in inflation has reversed that trend and the benchmark SBI discount rate increased from 7.43 percent in December 2004 to 11 percent in September 2005 and is anticipated to rise to well over12 percent before the end of the year. In response, banks adjusted the deposit rates and have recently increased the lending rate as well, including for mortgages.

Fiscal Policy

Current (2005) official estimates of the budget deficit are -0.9 percent of GDP, increased from earlier estimates of -0.7 percent. The increase was due to a quadrupling of fuel subsidies and, to a lesser degree, to the cost of rehabilitation of Aceh and Nias after the Tsunami disaster. Government has initiated a program to eliminate fuel subsidies in three phases, starting in March 2005 (29%), and again in October 2005 (126%) and the last increase in early 2006. Half of the subsidy savings were to be put into a compensation fund that is to benefit education, health and infrastructure and would provide a one-time income transfer to the poor. Disbursement form this fund has been slow however. The reduction in fuel subsidies is expected to decrease the budget deficit for 2006 and will allow Government spending priorities such as increasing civil servant salaries, increasing spending on infrastructure and implementing the fuel compensation program, to remain in place. No cuts in the current housing subsidy package are anticipated.

Trends in Income and Employment

Wages and per capita incomes. One of the critical impacts of the 1997 crisis was the decrease of real wages. From September 1997 to September 1998 real wages in the formal sector dropped sharply and came down to 1986 levels. Wage cuts were particularly severe in the urban sector and were concentrated at the bottom of the wage distribution. *Real per capita national* income began to rise again during 2004 from Rp7.4 million in 2003 to Rp7.7 million/year.[2]

[2]The average real growth in per capita income for the 1990-2000 period was 2.5 percent.

Table 2 Jakarta Provincial and National Average Minimum Wages 1998-2005

Year	MW/month in Rupiah* Jakarta Prov	% Change	Inflation y-o-y	MW/month In US$** National Average	% Change
1998	-	-	77.54%	$180	-66.60
1999	231,000	-	2.16%	$266	47.78
2000	245,000	6.06%	9.35%	$314	18.05
2001	426,250	73.98%	12.55%	$485	54.46
2002	591,266	38.71%	10.03%	$580	19.59
2003	631,554	6.81%	5.06%		
2004	671,550	6.33%	6.40%		
2005	711,843	6.00%	9.06%		

* *National Labor Survey, 2005;* ***World Bank, 2005*

Substantial real increases in minimum wage levels were approved in most provinces beginning in 1999. Table 2 shows the minimum wage adjustments for Jakarta province, and gives the national average yearly minimum wage in USD.[3]

Another indicator of a gradual improvement in consumption and incomes is the decrease in the proportion of the population living below the poverty line. This figure declined gradually from its peak of 24 percent in 1998 to 17 percent in 2004, which is the pre-crisis level (BPS, 2004).

Household incomes. Household income, rather than individual wages or per capita income, is the relevant base for the calculation of housing affordability. Interestingly, household consumption/ income figures showed far less volatility during the crisis period than individual wage incomes and overall GDP. Households coped by having household members move to informal employment and by extending female labor force participation. As a result, the decline in household incomes was about half the size of the decline in individual earnings.

[3]There is some doubt, however, whether the current inflation hikes will be matched by minimum wage increases, since employers have to absorb the higher fuel prices and resist proposed increases in the minimum wage.

In October 2001 a detailed study of housing demand conducted for the Ministry of Housing and Public Works and the World Bank estimated the median monthly household incomes (50th percentile) for rural areas, urban areas including DK Jakarta and excluding DK Jakarta, and for DKIJ separately (Hoek-Smit, 2001). These estimates were based on the PBS Susenas survey of housing consumption and expenditures of 1999 (see Appendix 1). However, no household income figures are maintained by BPS and current median household income data can only be derived by assuming that household incomes increased in line with inflation since 2002 (like the minimum wages and other income measures appear to have done). Table 3 shows the estimates for the median household income levels of different groups for 2001 and 2004.

Table 3 Estimated Median Monthly Income Figures in Rp. And Monthly Payment for Housing and Loan Affordability

	1997	1999	2001	2003	2004	2005
Labor Force Participation Rate	66.3	67.2	68.6	67.8	67.5	68.0
Open unemployment	4.7	6.4	8.10	9,57	9,86	10.26
Proportion of workers in informal sector **	63%	65%	70%	74%	74%	

Source: derived from Susenas 1999 and calculations by the author

These inflation adjusted median household figures are likely to be underestimated, since wages of formal sector workers rose by more than inflation during the 2001 and 2002 period to make up for real wage decreases of the 1998 to 2001 period. If it is assumed that informal wages tracked formal wages, total household incomes may, in recent year, have risen in real terms.[4]

[4]A back of the envelop calculation based on national per capita income figures for 2004 indicates that the average national household income would be in the order of Rp.1.67million per month, which would indicate a national median household income in the order of Rp.1.17 million per month, in line with the calculations of the median income above.

Structure of the Labor Force. As a consequence of the crisis changes occurred in the labor force structure – labor force participation increased as well as the proportion of self-employed and family workers, mostly in the informal sector. Open unemployment increased as well and is particularly high in the age group of 15 to 24 years old (28 to 29 percent in 2004/05).

Table 4 Labor Force Participation Rates, Unemployment, Informal Employment

	1997	1999	2001	2003	2004	2005
Labor Force Participation Rate	66.3	67.2	68.6	67.8	67.5	68.0
Open unemployment	4.7	6.4	8.10	9,57	9,86	10.26
Proportion of workers in informal sector **	63%	65%	70%	74%	74%	

**Source: National Labor Force Survey, World Bank and Bank Indonesia, 2005*
*** In urban areas these figures were 43% in 1997, 46% in 1999 and over 50% since 2001*

Disturbingly, neither unemployment rates nor the proportion of informal sector employed have decreased after 2002. The low labor absorption, particularly in the formal sector, is due partly to a mismatch between the qualification of job seekers and the demands of the labor market. This is a longer-term structural problem linked to levels of education of the workforce. Closing of labor intensive industries such as textiles and shoes as well as repatriation of Indonesians working overseas further pushed up unemployed and increased the proportion of *informally employed* (mostly in agriculture and trade) to 74% of the national labor force in 2003 up from approximately 65 percent in 1999. However, the growth in formal sector jobs exceeded those in the informal sector in February 2005 for the first time since the crisis (mostly due to shifts in the retail sector) and labor force participation increased as well.

The impacts of these macro-economic trends on the housing market are considerable. First, the crisis and the related fall in real household incomes affected housing demand. While the

crisis did not negatively affect aggregate employment it is likely to have caused an increase in the proportion of self-employed and family workers, informal sector employed and unemployed, which have persisted to this day. The potential pool of borrowers who can use conventional mortgage loans will be even smaller as a consequence, since lenders are reluctant to make loans to informal sector employed. Special savings and credit products will need to be developed to make sure that perceived lending risks to this group can be addressed (see below) and housing finance will be available for the majority of employed people. However, an increased sense of insecurity of future real income, higher fuel prices and rising interest rates will have a negative effect on the willingness of households to borrow longer-term for housing. Second, the crisis completely disrupted the mortgage finance sector and current macro-economic disturbances are a set back for the normalization of the sector which had just gotten underway.

B. STRUCTURE AND PERFORMANCE OF THE FINANCIAL SYSTEM

Development of the financial system

In 1988 Indonesia adopted a comprehensive deregulation of the financial and banking sectors, which was aimed at encouraging mobilization of funds, efficiency of banks and non-bank financial institutions and to develop capital markets. Until that time, the financial sector was dominated by government institutions and constrained by credit regulations. During the 1990s serious attempts were made to bring inflation under control which resulted in lowering inflation risk premiums in long-term interest rates. The banking system, non-bank financial credit and investment institutions, and capital markets saw considerable expansion and deepening as well as increasing international integration as a result. While the financial crisis brought this expansion temporary to a halt, it is quickly regaining momentum but now based on a more solid regulatory system. The main threat to the financial sector at this moment is related to increasing inflation.

Given the importance of the banking sector in Indonesia's financial system (see Table 5), the initial focus of regulatory reform rightfully focused on this sector. However, there is a growing awareness of the need for regulatory reforms of non-bank financial institutions such as finance companies, pension funds and insurance companies to expand the role they can play in unlocking financial resources and services for development. The newly established Indonesian Secondary Mortgage Corporation could play a critical role in this development related to the mortgage sector. Table 5 gives an overview of the financial assets of the banking and non-bank financial sector at the end of 2003.

Table 5 Assets of Banks and Non-Bank Financial Institutions in US$ and as Percentage of GDP 31/12/2003

Assets	US$ million	% of GDP
Commercial Banks	138,360	56.0
Insurance companies	10,496	4.2
Pension funds	4,431	1.8
Mutual funds	8,231	3.3
Finance companies	5,933	2.4
Venture capital companies	246	0.1
Stock market capitalization	54,539	22.1
Funds raised through capital mkt	4,222	1.7

Banking Sector. The deregulation of the banking sector enabled the entry of foreign banks in the form of joint ventures and encouraged genuine competition. There was a proliferation of banks in the decade before the crisis. Banks had close ties with the real estate industry, which facilitated investment in the sector, but also caused less prudent underwriting of real estate projects. Nor was the expansion in the banking industry sufficiently monitored and supervised. These factors certainly contributed to the severity of the financial and real estate crisis of 1997/98. Many banks closed, others were recapitalized by government bonds and merged with other recapitalized banks. Government is gradually divesting from the banks it recapitalized and the number of state-owned banks has decreased as a consequence.

Table 6 Structure of the Banking System 1997 - 2005

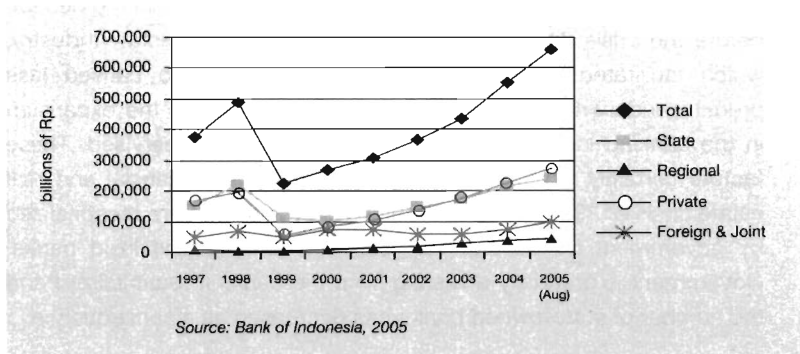
	1995	1997	2000	2005
State	7	7	5	5
Regional	27	27	26	26
Private	165	144	81	70
Foreign	0	44	39	30
Total	199	222	151	131

Source: Central Bank of Indonesia

Post-crisis, Indonesia has a well developed banking network of state, regional, private and foreign banks. There are 131 banks of which 5 are state-owned (including the only housing bank ,BTN) and the largest micro-finance bank (BRI). Most Regional Banks are (part-) owned by local governments.

Since the crisis, government has sought to improve the safety and soundness of the banking system and has developed a policy package -- the Indonesian Banking Architecture (API) -- which is gradually being implemented. The position of banks has strengthened (See Table 7) and is, if anything, rather conservative with CAR positions mostly in the double digits (an average of 19.5 percent in 2005, while Bank Indonesia requires 12 percent).

Figure 1 Total Outstanding Credit of Commercial Banks in Economic Sector 1997-2005



Source: Bank of Indonesia, 2005

Credits rose considerably during 2004, and were funded mostly by excess liquidity in the banks rather than through third party funds, i.e., there was a shift in earning assets from government and SBI bonds to credits when interest rates on government and SBI paper decreased in 2003 and 2004. Loan-to-deposit ratios (LDR) went up but are still low at 53 percent in June 2005.

Liquidity positions of the banks are sufficient as indicated by the high ratio of liquid assets to non-core deposits of over 98 percent. The blanket deposit guarantee issued after the crisis stabilized the deposit base. However, government and Bank Indonesia are preparing the establishment of a *Deposit Insurance Company,* capitalized initially by government, which will take over the deposit guarantee function and will limit its scope over time. The intention is to bring down the coverage to a maximum deposit of Rp100 million by March 2007, which may make large deposits less attractive. Another potential shorter –term risk to the liquidity position of banks is related to the current increase in interest rates, which induces large-scale depositors to move to shorter-term deposits worsening the duration position of the portfolio. Even if current mortgage portfolios are only a small proportion of total credit (approximately 8 percent) such outcome may in the shorter term have a negative impact on long-term mortgage lending.

Credit risk, as measured by the proportion of non-performing loans, decreased considerably for most banks since the restructuring, including for the state-owned banks, and was 4 to 5 percent in late 2004 and early 2005. The current increase in inflation and interest rates, and lagging real incomes, have increased NPLs, however -- gross NPLs stood at 7% in June 2005 for the banking sector in general and 13% for State Banks.[5]

[5]This latter figure is due mostly to a sudden increase in NPLs in one of the largest state-owned Banks.

NPL ratios differ markedly for different types of loans.[6] For example, at the largest state owned commercial bank NPLs in consumer credit were just over 2 percent in August 2005, compared to corporate credit NPLs of 41 percent and commercial loans of 16.4 percent. NPLs of BTN's mortgage portfolio increased from 3.2 to 5.3 percent between December 2004 and August 2005, mostly due to high NPLs on subsidized mortgage loans (see below). Expected interest rate increases may cause these NPLs to rise further since all mortgage loans are adjustable rate loans without caps (see below).

Banks profitability as measured by ROA and ROE increased gradually between 2001 and 2004 (ROA from 1.5 to 3.5 percent; ROE from 13.9 to 25.8 percent), but has fallen during the second and third quarters of 2005 as a result of higher NPLs, foreign exchange impacts and smaller interest rate margins. The banks appear highly competitive both on rates and types of products they deliver. The main vulnerabilities appear to be macro-economic volatility, weak risk management systems and poor governance (corruption).

Table 7 Banking Sector Financial Indicators

	2001	2002	2003	2004				2005	
	Dec	Dec	Dec	Mar	Jun	Sep	Dec	Mar	June
Capital Adequacy Ratio (CAR)	19.90%	22.40%	19.40%	23.50%	21.10%	20.80%	19.40%	21.80%	19.50%
Loan to Deposit Ratio (LDR)	33.00%	38.20%	43.50%	43.70%	46.40%	48.10%	50.00%	51.20%	53.10%
Non Performing Loan (NPL)Gross	12.20%	7.50%	6.80%	6.30%	6.20%	5.60%	4.50%	4.40%	7.00%
Return on Asset (ROA)	1.50%	2.00%	2.60%	2.70%	2.70%	3.00%	3.50%	3.40%	2.20%
Return on Equity (ROE)	13.90%	15.00%	21.40%	29.20%	27.60%	25.80%	23.00%	25.50%	19.07%
Net Interest Margin (NIM)	3.60%	4.10%	4.60%	5.90%	5.80%	5.80%	5.90%	5.80%	5.75%

Source: BI and World Bank 2005

[6]No up to date details were available on the breakdown in the period of loan delinquency. The 2001 HOMI study conducted an analysis of default/delinquency data of current mortgage portfolios (not originations) of a sample of banks (excluding BTN). It found that in 2000 11.17 percent of the mortgage loans were 1-90 days overdue, and 6.9 percent were more than 90 days overdue. These figures were 24.9 percent and 9.5 percent respectively in 1999. Loss ratios (over 12 months delinquent) on BRI mortgage loans were the lowest, 1.1 percent in 2000 and below 1 percent in 2001. However, LDR ratios at BRI were extremely low, a sign that BRI may have been too risk averse.

Rural Credit Funds and Village Rural Credit Institutions. There are a large number of non-bank credit institutions owned and controlled by provincial, district or village government (over 4500 in number), savings and credit cooperatives and credit unions (over 2000) and government pawn-shops (788 such institutions) that play an important role in providing short term credit, including for home-improvement/ expansion (according to spot surveys conducted by staff). Jointly with the large branch network of BRI, the micro-finance state-owned bank, these institutions make access to financial services widely available in Indonesia. All such institutions, with the exception of pawnshops, require savings accounts to be set up before credit can be issued. Unfortunately, no breakdown is available of the actual uses of the loans issued by these micro-finance institutions, nor is information about their performance easily accessible. However, performance of the local government and cooperative sector is generally considered weak. This sector is not regulated and supervised by Bank Indonesia but by the Ministry of Cooperatives, local government or BRI. New regulations are being prepared to strengthen their performance.

Finance Companies. There are 237 finance companies (FCs) in Indonesia, most of which are engaged in the provision of consumer credit (total outstanding loans of Rp42,600 in June 2005), and to a lesser degree in the leasing, factoring and credit card business. Total assets of FC increased to Rp78,900 billion in 2004 (MOF, 2005), an increase of 58 percent over the year before. These institutions fund themselves mostly with bank loans, domestic and off-shore (close to 40 percent of their funding in 2004)[7], other types of loans (9.5 percent of funding) and by debt issuances (9 percent of funding) and capital (11 percent).

The consumer credit business run by FCs has a high performance rate (only 0.7 percent of loans were "doubtful" and 0.9 percent was classified as bad debt in 2004 down from 1.6 and 2.1 percent respectively in 2001). Consumer loans are predominantly focused

[7]Loans to FC comprised 66 percent of new bank borrowing in 2004.

on motor bike and vehicle loans. Loans for housing comprised only 0.5 percent.

FCs are at the moment not allowed to make mortgage loans. However, with the recent establishment of the Secondary Mortgage Corporation (see below) it would be feasible to allow strong FCs to move into mortgage lending since they could gain access to longer term funding through the SMF or could be assisted to securitize their mortgage portfolios. This would diversify their risk away from consumer lending and increase competition in the mortgage sector. However, the SMF is only allowed to make liquidity loans for up to three years under its current mandate, which will be too short to entice FC to enter this market.

Insurance Companies and Pension Funds. There are currently 167 insurance (both life and non-life) companies in Indonesia (down from 178 in 1999), and several social insurance and workers' social insurance funds with investments of over Rp90,000 billion in 2005. In addition, there are several public and private pension funds with investments of approximately Rp60,000 billion in 2005. The largest of these is the public pension fund Jamsostek, which represents more than 40 percent of total investments of the sector.

Table 8 shows the breakdown of the investment portfolio of the insurance companies and pension funds in Indonesia during the post crisis period of 2001 to 2003. Currently (mid 2005), close to 40 percent of the funds are invested in various time and savings deposits in commercial banks and in Government or BI Bonds. This proportion has steadily declined from a high of 70 to 80 percent during the crisis years of 1998/99, when deposits were 100 percent insured. Investments in corporate bonds, on the other hand, have increased substantially with the growth in that sector since 2002 (see Table 9 below).

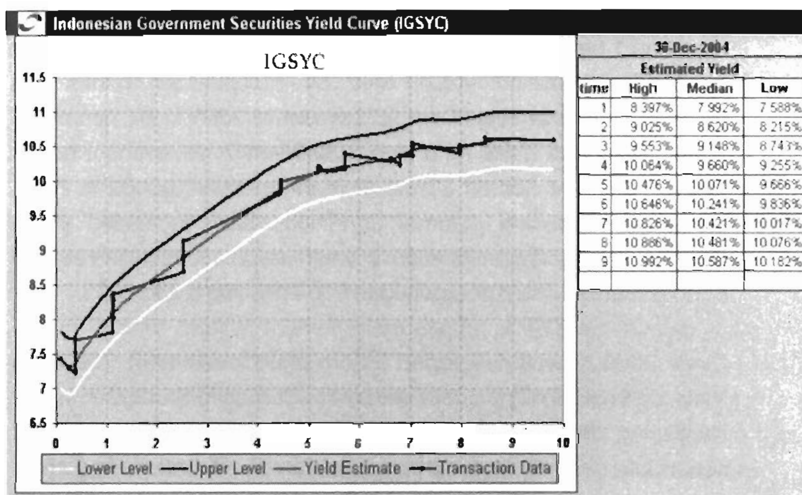
Table 8 Investment Portfolio of Insurance Companies and Pension Funds 2001-2003 (billions of Rp)

	2001		2002		2003	
	Amount	% of Total	Amount	% of Total	Amount	% of Total
Pension funds						
Total Investments	33,622	100.0	39,653	100.0	47,225	100.0
Bank deposits	23,139	68.8	27,521	69.4	26,815	56.8
BI bonds (SBI)	215	0.6	153	0.4	650	1.4
Government bonds	33	0.1	51	0.1	1,957	4.2
Corporate bonds	3,212	9.6	4,738	12.0	9,127	19.3
Shares	1,572	4.7	1,622	4.0	1,892	4.0
Mutual funds	357	1.1	503	1.3	1,702	3.6
Direct placement	2,319	6.9	2,334	5.9	2,351	5.0
Land &Buildings	2,379	7.0	2,363	5.9	1,534	3.2
Other	396	1.2	368	1.0	1,198	2.5
Insurance Co						
Total Investments	52,916	100.0	63,858	100.0	79,679	100.0
Bank deposits	31,013	58.6	37,141	58.2	35,150	44.1
BI bonds (SBI)	1,389	2.6	679	1.1	724	0.9
Bonds	4,748	9.0	9,984	15.6	21,209	26.6
Shares	1,319	2.5	2,796	4.4	4,274	5.4
Mutual Funds	3,817	7.2	1,310	2.1	3,221	4.0
Direct placement	3.870	7.3	4,003	6.3	4,752	6.0
Land &Buildings	1,200	2.3	1,882	2.9	1,981	2.5
Other	5,561	10.5	6,064	9.5	8,368	10.5
Tot Ins.&Pens. fd	**86,538**		**103,511**		**126,904**	

Source: Bank Indonesia and Ministry of Finance, 2005

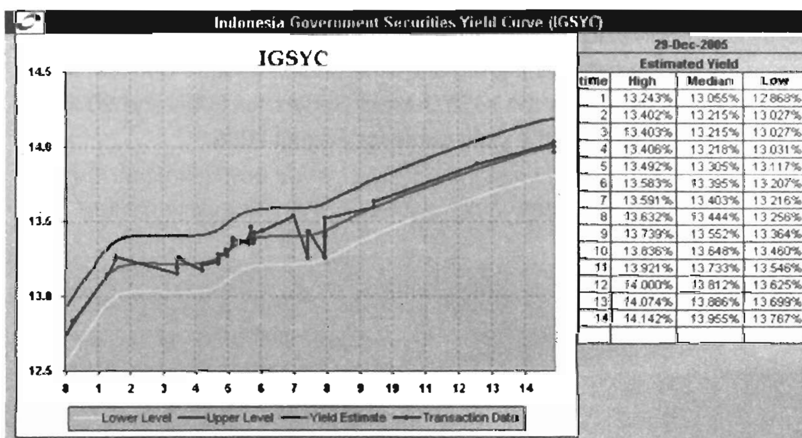
These institutions are a source of long-term funds that could play an important role in mortgage lending given the size of their investment portfolio relative to the approximately Rp12,000 billion in new mortgages that is originated per year and the total outstanding mortgage portfolio of Rp60,000 billion (see below). Discussions with Jamsostek investors showed an interest in mortgage backed

Table 10 Indonesian Government Securities' Yield Curves December 2004, 2005 and August 2005.



30-Dec-2004

Estimated Yield			
time	High	Median	Low
1	8.397%	7.992%	7.588%
2	9.025%	8.620%	8.215%
3	9.553%	9.148%	8.743%
4	10.064%	9.660%	9.255%
5	10.476%	10.071%	9.666%
6	10.646%	10.241%	9.836%
7	10.826%	10.421%	10.017%
8	10.886%	10.481%	10.076%
9	10.992%	10.587%	10.182%



29-Dec-2005

Estimated Yield			
time	High	Median	Low
1	13.243%	13.055%	12.868%
2	13.402%	13.215%	13.027%
3	13.403%	13.215%	13.027%
4	13.406%	13.218%	13.031%
5	13.492%	13.305%	13.117%
6	13.583%	13.395%	13.207%
7	13.591%	13.403%	13.216%
8	13.632%	13.444%	13.256%
9	13.739%	13.552%	13.364%
10	13.836%	13.648%	13.460%
11	13.921%	13.733%	13.546%
12	14.000%	13.812%	13.625%
13	14.074%	13.886%	13.699%
14	14.142%	13.955%	13.767%

Source: Surabaya Stock Exchange website

Not only did the yield curve flatten since December 2004 (and inverting briefly in August 2005) but yields increased dramatically as a result of changing macro-economic conditions (Bursa Efek Surabaya, 2005). Median yields for a 9 year TTM security were 10.587 percent in December 2004 and increased to 14.035 percent in August 2005 (and 13,552 percent in December 2005). These current risk free yields are an indication that yields required by investors on future mortgage-backed securities will be high relative to mortgage rates and cost of deposit funding by banks. See also Appendix 4 for the Government Bond Index and general bond market information (Bursa Efek Surabaya, website December 31, 2005).

The ***corporate bond market*** has grown rapidly since 2002, and stood at close to 14 percent of total bond market capitalization (or $55,000 billion) in August 2005 (up from 5 percent in 2002). Of the total value of *newly registered* bonds of Rp41 billion in 2004, 43 percent were corporate bonds (Bursa Efek Surabaya, 2005). The great majority -- *80 percent-- of outstanding corporate bonds has a fixed rate coupon,* 5 percent has a floating rate and 14 percent a mixed rate. Local ratings show that 62 percent of corporate bonds are rated A, while 32 percent has a B rating. Trading frequency in corporate bonds increased by 50 percent during 2004 (over 4000 transactions) since yields on corporate bonds compare favorably to low interest rates on savings accounts. Indeed, large investors such as pension funds and insurance companies increased their corporate bond investments relative to holdings in savings accounts (see Table 8 above).

The financial sector is the single largest issuer and has the highest capitalized value of corporate bonds followed by the infrastructure, utilities and transportation sector. Some reference prices of corporate bonds with different maturities of two state banks involved in mortgage lending BTN and BRI are shown in Table 11. Prices reflect the current increases in government rates and a similar uncertainty about long-term rate developments. Prices also show the relatively high cost of funding mortgages through corporate bonds compared to the costs of deposit funding.

Table 11 Reference Prices of Corporate Bonds of Selected Financial Institutions Surabaya Stock Exchange, December 29, 2005

Bond ID	Coupon	Maturity	WAP 7 days	WAP 14 days	WAP 30 days	Bid/Offer	Rating
BRI/ 500billion fixed rate bond/2004	13,5	9/Jan/2014	1.139	1.139	60.38		idA+
BTN/ 900billion/ fixed rate bond/2003	12.5	2/Oct/2008	87.293	87.293	86.519	87/87.65	idA-
BTN/ 750billion/ bond/2004	12.2	25/May/2009	0.975	0.975	55.553	86.5/87.25	idA-
BTN/ 250billion/ bond/2004	12.6	25/May/2014	50.472	70.196	77.037		idBBB+

Source: Surabaya Stock Exchange website

A ***Secondary Mortgage Corporation (SMF)*** was established by government in February 2005 by Presidential Decree No. 19/2005. The SMF will be discussed below.

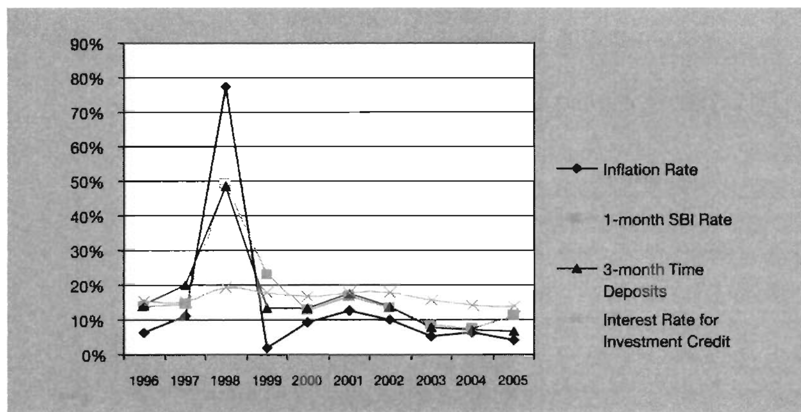
Capital markets are supervised by the capital market agency, BAPEPAM, which was established in 1976. At that time is was both the organizer and champion of capital markets and their supervisor. Its dual function was eliminated in 1991 when it became the supervisory agency with tasks similar to the US SEC. BAPEPAM will supervise the capital market issuances of the SMF, while MOF is its overall regulator and owner.

Interest rates

Most banks use the 3 months time deposit interest rate to reflect their cost of funds. Some banks use the average time deposit rate (1 to 24 months deposits). However, pricing (repricing) of the credit portfolio is done by most banks on the basis of movements in the SBI rate, and the rates charged by their competitors. Current government and SBI rates are increasing because of inflation

and increases in the US interest rate which makes the US more attractive for investment. The current (October 2005) BI reference rate is 11% and inflation is 9.06% (yoy), but both rates are expected to increase substantially when the effects are felt of further petrol subsidy cuts (inflation was 17 percent at the end of 2005).

Figure 2 Inflation and Interest Rate Movements of Selected Deposit and Credit Products from 1996 - 2005



Source: Bank Indonesia database

Figure 2 shows the interest rates of the 3 months deposit, the SBI rates and the interest rate of investment credit that closely reflects the rates for mortgage lending since 1996 (see Table 1 for actual figures). Most of the banks that were interviewed for this study had recently adjusted their interest rates on deposit and savings accounts and on their new and outstanding loans or were in the process of changing them. Mortgage portfolios had been repriced to levels of 16 to 18 percent. The typical mortgage instrument uses adjustable rate mortgages without short-term or life-time caps.

In summary, the financial system in Indonesia, while still dominated by the banking sector, is diversifying rapidly. In particular finance companies play an increasing role in credit provision. Capital markets are expanding not only in size but their equities market and corporate bond markets are growing relative to the government securities market. A newly established Secondary

Mortgage Corporation intends to facilitate access by primary lenders to long-term capital market funds. Even within the banking sector the private banks have overtaken state-owned banks in the proportion of total outstanding credit, a trend that will continue with the ongoing move to bank privatization. Bank regulation and supervision has improved and regulatory reforms of the long-term investment sector are being considered. However, the current rapid increase in inflation and uncertainties in the macro-economy have a negative, but hopefully short-term, impact on these positive financial sector developments.

C. THE HOUSING MARKET

Population

Indonesia is the fourth most populous country in the world with 217million people in 2004. The 2000 census shows that 42 percent of the population lives in urban areas. While average population growth was only 1.49 percent during the last census period (1990 to 2000) it is focused on urban areas and is particularly high in the industrial growth areas of Riau, Belitung, Banten, and Maluku Utara. Rural areas show a negative growth rate. The average growth rate for urban households was estimated at 3.5 to 3.75 percent in 2001 given an average household size of 4 persons (Hoek-Smit 2001), or an increase of approximately 800,000 urban households per year.

Table 12 Population and Household Figures 1990 -2004

	1990*	2000*	2004**
Total Population	178.5 million	205.8 million	217,9 million
Annual growth rate	1.97	1.49	1.43
Average household size	4.5	3.9	3.9
Number of households	39,5 million	52 million	54,9 million
Percentage urban	30.9%	42,2%	42-45%
Estimated new urban households/ year			800,000

* *BPS Susenas 1990, 2000*
** *BPS Socio-Economic Survey, 2004*

Housing Stock

The great majority of households occupy a non-attached dwelling unit and the total stock is approximately 54 million housing units of which approximately 24 million in urban areas. Although the overall quality of the housing stock appears to be fairly good (using the household's own assessments the BPS Housing and Settlement Survey of 2004 indicates that 95 percent of the housing stock is in good to moderate condition), there are still over 2.5 million units that require urgent replacement. The State Ministry of Housing estimates a backlog of 6 million and a requirement for new housing of more than 1 million per year if the backlog has to be removed by 2020. This is the official policy goal and an enormous challenge for the GOI. There is great awareness that reaching this goal will require a major expansion of the micro- and mortgage housing finance systems.

Home-ownership is extremely high even in urban areas (70 percent). Importantly, the great majority of owner households hold legal ownership title to the land as a result of a massive campaign to improve land titles by the Land Agency (BPN). These rights are either full freehold title or a BPN certificate. This extension of property right clarification and registration is a major improvement over just 15 years ago when approximately 80 percent of urban plots were not formally registered. A 2001 survey of low-income housing areas in 10 cities showed, however, that in traditional settlements and informal areas a much larger proportion of owner households still had no title or certificate to the land (Hoek-Smit, 2001). Land titles are not guaranteed by government, but simply provide evidence of ownership.

Table 13 Housing Characteristics 2004

	Urban	Rural
Type of dwelling tenure		
Ownership	70	89
Lease	9	1
Rent*	7	0.5
Rent free	2	1.5
Parent/relative	10	7
Other	2.5	1
Property Right to Land		
Freehold (milik)	91	96
Right to build	8	3
Right to use	1	1

Source: BPS Housing and Settlements Statistics 2004
* Mostly private rental

Other urban housing characteristics can be summarized from the BPS Housing and Settlement Survey (2004) as follows:

- Close to 80% of urban housing is single storey non-attached and only close to 1 percent is multi-storey.
- Close to 50 percent of units is between 50 -100M2 and 34 percent is between 20 – 49M2.
- 40 percent of plots are more than 70M2; 17.5 percent are between 55 – 70M2 and more than 40 percent is smaller than 55M2.
- 58 percent of households built there own house, 11 percent bought the house second hand and 8 percent bought there house from a developer.
- 41 percent inherited the land and 45 percent purchased the land separately or with the house.
- 65 percent of owner households paid for the house in cash, while 28 percent used a mortgage and 5 percent used non-mortgage credit. [8]

[8]The finding that 28 percent of urban homeowners used mortgage loans for the acquisition of their homes appears high. Naturally, this figure includes owners who have paid off their loans. There are roughly 24 million urban housing units of which 70 percent, or 16.8 million, are owner occupied. If 28 percent of these owner-occupiers used a mortgage this would mean a total of 4.7 million mortgage accounts across all 2004 homeowners. Total mortgages outstanding (mostly new since the crisis) are approximately 1 to 1.5 million. That would require that 3 million pre-crisis mortgagors still live in their homes? It might be possible, but it is likely the survey has over-represented formal sector neighborhoods. See also the section on formal land-ownership.

- Close to half of owners with a mortgage had a loan term of 11-15 years and 11 percent had loan terms between 16 and 20 years.
- Only 5 percent of households live in a new settlement, 85 percent lives in an old settlement and more than 14 percent live along river or sea banks or in disaster prone areas.
- 75 percent of houses are prone to regular flooding.
- 53 percent has no waste water disposal but 85 percent have a bathroom/ mostly a latrine.
- The great majority of houses is connected to electricity.
- Nearly 100 percent have access to "clear" water either piped or wells.
- More than 83 percent of households have TV.

The results show that self construction over time paid for by cash savings is the predominant mode of house acquisition (65 percent). The main problems related to the quality of the housing stock are lack of services and infrastructure, which causes there to be regular flooding in most neighborhoods. Indonesia has excellent past experiences with comprehensive upgrading programs of poorly serviced urban neighborhoods or kampungs. These programs, combined with a campaign to provide tenure to those who occupy land without title, have improved living conditions. They have also increased the demand and potential for micro-finance credit for home-improvement.

House Prices and Affordability

In a large and diverse country like Indonesia, it is not easy to find reliable and meaningful urban house price data that capture clearly identifiable new and secondary housing market segments. There are two sources of information on house-prices that use a similar and well-understood typology of *formal sector housing markets segments:*

- Bank Indonesia tracks quarterly new housing prices in 14 cities. It started this survey in 2002 after the crisis had shown the dangers of a lack of housing market information. The survey distinguishes large, medium and small house types and compiles an index based on a survey of housing transactions.

- Pusat Studi Properti Indonesia (PSHI), a private real estate research firm, collects information on the housing sector -- prices of new construction and some resale transactions in a limited number of markets. It differentiates between high, medium, and low income housing market segments and further breaks down the low-income segments in three types according to the source of finance used -- houses that are financed by private banks, by BTN without subsidies, and houses that receive finance subsidies.

Table 14 and 15 show the price increases as measured by these surveys. Increases in price of newly constructed formal sector single family houses were well above 10 percent between 2002 and 2003, but the BI index shows a lower rate of increase of 5 to 6 percent (y-o-y) since 2004. In 2001 and 2002 house price increases were below inflation, while for 2003 and 2004 they increased faster than inflation, but not by an alarming proportion. Both surveys show that prices of larger houses have increased less than smaller ones. This is most likely a function of greater demand for small houses relative to supply, which appears in line with income distribution and housing affordability figures given below and in Section AII.

Table 14 Bank Indonesia House Price Index in 14 Cities

	12-2002	12-2003	12-2004	2005 Q.III
Composite index	106	117	124	127
Small type index	107	123	128	134*

** The third quarter 2005 index was 130 for medium and 123 for large houses.*
Source: Bank Indonesia Residential Property Price Survey Quarter II 2005

Table 15 Average Prices of New Low-Income Houses and Percentage Increase by Type of House 2001 -2005 (millions of Rp)

	2001	2002		2003		2004		2005	
BTN Financed			%ch		%ch		%ch		%ch
21m² house/ 60m² plot	22.1	25.1	13.6%	28.1	12.0%	31.8	13.2%	35.7	12.3%
36m² house/ 90m² plot	35.6	40.3	13.2%	45.0	11.7%	51.6	14.7%	57.2	10.9%
Private Bank Financed									
36m² house/ 90m² plot	60.5	67.5	11.6%	75.2	11.4%	86.5	15.0%	98.6	14.0%
45m² house/ 105m² plot	73.4	81.7	11.3%	91.1	11.5%	105.1	15.4%	120.8	14.9%

Source: PSPI, January 2005 (2005 is an estimate by PSPI)

The cost of land is approximately 25 to 30 percent of the total cost of a formal sector new low cost house and somewhat higher for high-income houses. Land prices have increased by approximately 16% in 2001 and 2002 and 14 percent in 2004 and have contributed relatively more to house-price increases than have construction materials (see index in Table 16).

Table 16 Wholesale Price Indices (and % Increase) of Construction Materials for Residential and Non-Residential Buildings 1998 to August 2005

1998	1999	2000	2001	2002	2003	2004	2005 Aug
219	245	269	296	309	324	361	429
	11.9	9.8	10.04	4.4	4.9	11.4	18.8

Source: BPS 2005

An example of the differences in price increases across sub-markets, is provided by PSHI (2005) for different Jakarta suburbs for 2003 to 2004; price increases of the same house-types[9] were 16.6 percent in Bogor, 7.1 in Tangerang and 12.8 percent in Bekasi, reflecting differences in land prices related to locational desirability.

Assuming that the median monthly urban income for 2004 is Rp.1.2 to Rp1.5 (see Table 3), and the median price of a formal sector house is Rp.50 million (the price of a newly constructed 36M2 house on a 90M2 lot in 2004; and the estimated median price of resale properties), the urban price- to- income ratio is 3 to 3.6 for formal sector housing, which is relatively modest for emerging economies. *Housing is, therefore, relatively affordable and standards are flexible and, as has been argued in the HOMI study (Hoek-Smit, 2001) standards should in fact not be lowered. Both CPI data and PTI data show that the housing market is not overheated and that supply is in relative balance with demand.*

Table 17 shows estimates of the monthly payments for housing a median income household could afford at a payment to income ratio of 30 percent of income, and calculates the affordable loan at current nominal interest rates of 17 percent on a 15 year loan. If a 30 percent downpayment is required, urban households at the median income level could afford a Rp32 to 33 million house.

Table 17 Estimated Monthly Payment for Housing and Loan Affordability

Housing Affordability	Rural	Urban	DKI Jakarta	Urban w/o DKI
Estim. Median Income/ month/2004	712,514	1,166,500	2,106,917	1,097,122
Mnth. Payment for Housing at 30%/inc	213,755	349,500	632,075	329,140
Aff. Loan at 17%, 15 Years	13,900,000	22,710,000	41,070,000	21,387,000

Source: derived from Susenas 1999 and calculations by the author

[9]Prices were standardized in Indonesia for the range of subsidized houses under the old subsidy scheme.

If mortgage interest rates would have continued to come down from 2004 levels to let us say 13.5 percent nominal (roughly 3 percent above the risk free rate of government paper at the end of 2004), this same household would have been able to afford a house of Rp38 to 39 million (a difference more than double the current subsidy amount at that price level, see Table 26). *Affordability problems are related mostly to the high costs and lack of access to medium to long-term finance to pay for a house upfront. We come back to this issue in the section on mortgage lending below.*

Housing Production

According to the PSHI survey, formal developer produced house construction reached 160,000 units in 2004 of which roughly one third were subsidized (see Table 18). This is close to the pre-crisis number of 204,000 units (1997). During 1998 only 119,000 formal developer built units were constructed (PSPI, March 1999) and in 1999 the number fell to 41,000 units, nearly all subsidized (BI and Kimpraswil, 2005).

The total amount of mortgage credit that was issued in 2004 was close to Rp12,000 billion, mostly for new construction, and could have financed roughly between 120,000 and 240,000 housing units (depending on the average price of a financed house). This is roughly matching the number of developer produced units. Reasons for this low level of developer produced housing units are likely related to: i) Constraints in land supply that drives developers to use their land resources for high return commercial developments rather than houses affordable for the broad middle and lower middle income groups. ii) Lack of construction and mortgage finance (see below).

These figures exclude the non-single family housing units produced by developers, i.e., shop houses and apartment buildings (high end). The capitalized value of these commercial developments – close to Rp20,000 billion in 2004-- was higher than the value of all single family units produced by developers (see Table 19). The total number of individual housing units in such developments is not known however. It appears that few owner-occupants of these units used mortgage loans.

Table 18 Number of Newly Developer Built Singe Family Houses 2002-2004 (projection 2005)-

House Type	2002	2003	2004	2005
High Income	2,900	2,600	3,200	3,500
Middle Income	9,400	10,200	12,450	14,800
Low Income (Private bank financed)	35,000	42,150	46,790	48,450
Low Income (BTN financed/without subsidy)	48,080	44,020	41,500	43,900
Low Income (BTN financed/with subsidy)	25,920	32,540	55,200	82,540
Total	121,300	131,510	159,140	193,190

Source: adapted from PSPI, January 2005

These figures also exclude all individual contractor built houses, both those with a formal building permit and unauthorized ones. There is no national accumulation of data on formal permits issued for residential construction by local governments and this proportion of new construction is therefore not known. It is clear, however, that few house produced in this way use mortgage credit. Since the registration of land titles has been expanded drastically in the last decade, it can be assumed that even if construction is not officially approved or may not comply to building codes and is therefore "unauthorized or informal" most land on which units are built will likely be formally owned by the occupant or his/her relatives.

The number of new units required yearly just to house newly formed households (excluding Tsunami reconstruction and existing housing backlog) is approximately 800,000. Close to that number of housing units must be produced in order to have such modest increases in housing prices (relative to inflation). We lack the figures, however, to show how many formal and unauthorized units are produced of what price range and in what locations.

The Supply of Land for Housing

The supply of developable land is severely constrained and one of the most important reason for the low level of developer produced housing. IBRA (the government agency that acquired non-performing assets of banks recapitalized by the state after the

crisis) has divested all of its land (and other) assets, yet large tracks of urban land are held by public agencies and private developer land banks and are not coming to the market in a timely way. Housing that is affordable to the broad middle income groups and for which there would be a high demand is still considered less profitable by developers and a low priority for the use of their land. There are also significant numbers of small plots of land in urban areas that are undeveloped but serviced with secondary infrastructure and ripe for development (Lee, et.al. 2001).

This situation is made worse by the way development permits are issued by local governments and the lack of enforcement to make developers purchase land within the permit area and develop it in a timely fashion. While instituted to facilitate land development, developers are not penalized if they do not develop the land within the given period stipulated on the permit, and in fact can hold large tracks land off the market without costs to them. High costs and long delays in acquiring subdivision and building permits add to the inefficiency of the land supply systems. The result has been that much developable land in locations in need of residential development has been tied up, pushing actual development further to the outskirts of urban areas.

Housing Transactions

Most house sales are private sales without involvement of intermediaries and are not recorded. The improvement of the land registration systems has increased the recording of land –cum-house transactions, which were mostly informally conducted in the past. However, national compilation of such data is not yet available.[10]

[10]The formal resale market as represented by the five major brokers in Indonesia showed a total of 10,000 to 11,000 transactions in the resale market per year in 2003 and 2004. Most of these transactions were for top-end houses and condominiums and do not represent the entire resale market.

Table 19 Value of Commercial Developments in Jabotabek and Other Regions 1999 – 2004 (billions of Rp.)

	m²	Year							Total
		1999	2000	2001	2002	2003	2004	2005	
Shopping Centers/ Jabotabek	3,498,053	1,469.00	2,756.09	4,484.30	9,828.00	15,937.90	21,368.02	19,363.63	75,206.94
Shopping Centers/Region	3,049,634	79.20	181.20	577.90	4,152.30	13,440.37	16,538.99	13,367.96	48,337.92
Office Developments/ National	417,748	499.60	726.70	604.20	106.14	577.43	870.90	1,066.25	4,451.22
Hotel Developments/National	166,083	-	-	-	59.16	885.32	1,319.64	1,327.70	3,591.82
Shop Housing Developments/ National	-	1,096.00	1,922.00	2,220.00	3,938.00	5,582.50	6,364.05	7,812.15	28,934.70
Apartment Developments/ Jabotabek	3,107,644	271.15	797.95	915.89	1,484.00	4,064.58	7,909.72	11,859.84	27,303.13
Apartment Developments/ Region	131,304	-	-	158.40	249.40	361.82	236.24	311.19	1,317.05
Housing Developments/ National	-	1,993.00	3,495.00	4,037.00	7,129.00	8,708.00	11,571.00	15,078.00	52,011.00
Total Developments per year	-	5,408.00	9,879.00	12,998.00	26,946.00	49,558.00	66,179.00	70,187.00	241,154.00

Source: PSPI, January 2005

II. Structure of the Mortgage Industry

A. PRIMARY MORTGAGE MARKET

Mortgage Industry: Scale, Structure and Performance

Scale. Outstanding mortgage credit has more than doubled since 1997 from close to Rp20,000 billion in 1997 to more than Rp50,000 billion in mid 2005. Indeed growth in mortgage credit has exceeded growth in other types of credit. However, expressed as a percentage of GDP mortgage credit is still only 1.83 percent compared to 3.12 percent before the crisis of 1997. Also, mortgage credit comprises only 7.8 percent of total bank credit (Table 20 and Fig. 4). While this is an increase over 1997 when mortgage credit was 5 percent of total credit, it is still extremely low relative to housing demand and estimated actual housing construction (see above discussion).

For example, total new mortgage credit in 2004 is estimated to be in the order of Rp12,000 billion (Table 20), and new construction finance is estimated as roughly one third of that amount. Yet the market value of formal investments in commercial residential and shophouse developments alone stood at more than Rp26,000 billion (see Table 19) and this figure does not account for investments in all contractor built new houses. Several reasons present themselves to explain the discrepancy between the value of commercial developments and debt finance for development on the one hand and the discrepancy between new residential units being produced and the relative growth in mortgage credit.

Mismatch of debt finance for construction and value of commercial developments:

i) Developers may have bought land from IBRA at very low prices and market values of projects developed on that land are much higher than shown in debt or equity finance.
ii) Black money (taken out of the economy during the crisis), may be entering the sector from local or overseas sources.
iii) Lack of construction finance (see below) and the fact that many developers are undercapitalized has shifted the emphasis towards equity investment and banks may come into development projects as part-owners. Also, potential home-owners are asked to put down large upfront equity payments in order to finance construction of the house. There is some evidence of this happening, but it has not been quantified.

A combination of all the above factors is likely to contribute to the discrepancy.

The low level of mortgage finance relative to new house construction:

i) Middle/low income housing developments, were in the past linked to finance subsidies at fixed interest rates that included both construction and mortgage finance in the package and were geared towards developer produced housing. The state housing bank, Bank Tabungan Negara (BTN) dominated this subsidized market and added implicit subsidies by

accumulating high defaults. Private non-subsidized ARM finance for middle and lower-middle income housing, whether for developer built or individual contractor built housing, could never compete in that fairly broad market segment and never developed even though the demand was always larger than the limited supply of subsidies. Changes in the subsidy scheme that create a more level playing field are too recent and as yet too experimental to have shown effects.

ii) Informal land ownership (in the past) and informal employment and low incomes made mortgage loans inaccessible for the majority of households and the difficulty of accumulating savings for a down-payment excluded yet another group. Moreover there appears to be a cultural preference for individually constructed housing managed by the owner and financed from savings and short-term credit. However, increasing pressure on available serviced land is making this model of house construction more difficult.

iii) Banks have not developed the capacity to lend for the predominant individual house-construction process, rolling construction finance over into long-term mortgages. Also, it is difficult for financial institutions to make small mortgage loans profitable because of high transaction costs (see below) related to loan origination, credit risk management and servicing.

iv) Lastly, while government interest rates and real mortgage rates decreased gradually and made mortgage lending more profitable and less risky, increases in the CPI and in nominal interest rates have a negative impact on the expansion of long-term mortgage lending.

Each of these constraints will be discussed in more detail below.

Market Structure. Banks, whether state owned, regional or private, dominate the mortgage market since finance companies are not allowed to issue mortgage loans and pension funds and insurance companies only hold relatively small mortgage portfolios, mostly for their staff and selected members.

The crisis had a fundamental impact, not only on the structure of the banking sector in general, but on the structure of the mortgage industry. First, it caused the redistribution of mortgage credit across more and different types of banks. Before the crisis, BTN dominated the mortgage industry, holding approximately 80 percent of the mortgage accounts (then estimated at a total of roughly 1.5 million) and about half of the amount of outstanding mortgage credit. Bank Papan Sejahtera was the second largest mortgage provider, including of subsidized mortgages. Bank Papan was closed and BTN was restructured and recapitalized in the aftermath of the financial crisis. The mortgage portfolios of closed banks and the non-performing mortgage portfolio of recapitalized banks (as well as their non-performing construction and corporate loans) were transferred to IBRA, the government agency tasked with cleaning up the asset portfolios of these banks and selling them to the highest qualified bidders. Table 21 shows the relative proportion of mortgage credit held by the different types of banks since 1997.

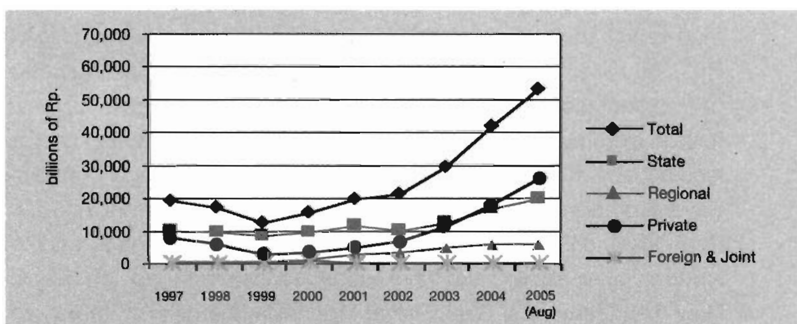
Government continues to strengthen the banking sector through improved regulation, further mergers of banks it recapitalized and selective divestment of its ownership shares. BTN has so far remained as an independent state bank, but discussions of potential mergers have continued. Changes in the ownership structure and management of banks often lead to adjustments in credit strategies, and the current mortgage market structure may therefore still see some major changes. For example, Bank Danamon, the fifth largest commercial bank in Indonesia, was one of the recapitalized banks that went aggressively after mortgage portfolios offered by IBRA in 2001 and 2002 and became a major player in the mortgage market with more than 30,000 accounts and a mortgage portfolio of Rp2,500 billion. In 2003, Singapore based Asia Financial Indonesia Consortium acquired 66 percent of Danamon's shares. Its new foreign majority owners initiated a shift to consumer oriented micro-lending and stopped further expansion of the mortgage portfolio. Several other banks such as Bank Mandiri, Bank Lippo, BCA, Bank Permuta, and Bank Niaga have continued to make mortgage lending a priority business line and have expanded their mortgage portfolios. New management of Bank Rakjat Indonesia, the main state-owned

micro-finance bank, intends to move aggressively into the mortgage market for the lower middle income segment, which is currently only served by BTN.

Most banks are expanding into consumer lending, which is the specialty area of finance companies, and large non-bank financial institutions intend to move into mortgage finance. In other words, former institutional specializations between micro- and mortgage lenders, universal banks and finance companies are increasingly blurred. The existence of the SMF may stimulate such diversification in the mortgage sector further, in particular, if finance companies would be able and allowed to move into mortgage lending.

Second, for the first time since the banking sector deregulation of 1988, private banks hold a larger share of total mortgage credit than state banks. This shift is not only a consequence of an increase in new mortgage lending by private banks but resulted from the sale of the sizable mortgage portfolios of the closed or recapitalized state banks by IBRA. BTN currently holds only a 25 percent share of the mortgage market, while the remainder is divided across several state, regional and private banks who actively compete for market share (see Table 21, Figure 3 and Appendix 2). At the end of 2004 BTN held Rp10,400 billion out of a total of Rp42,100 billion in outstanding mortgage credit. During 2004 it made Rp2643.4billion in new loans or 22 percent of the total new mortgage volume of Rp11.991.

Figure 3 Outstanding Mortgage Credit by Bank Type (Rupiah and Foreign Currency)



Source: calculated by author from BI data

Table 20 Total Banking Credit and Mortgage Credit relative to GDP 1996 – 2004 (billions of Rp)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total GDP (Current Market)*	532,568	627,321	989,119	1,119,442	1,297,608	1,684,280	1,897,800	2,045,853	2,303,031
Total Bank Credit Outstanding	292,947	378,184	487,466	225,133	269,000	307,594	365,410	437,942	553,548
Total Bank Credit as % of GDP	55.01%	60.29%	49.28%	20.11%	20.73%	18.26%	19.25%	21.41%	24.04%
Total Mortgage Credit	15,049	19,547	17,471	12,838	15,976	19,912	21,773	30,108	42,099
Total Mortgage Credit as % of GDP	2.83%	3.12%	1.77%	1.15%	1.23%	1.18%	1.15%	1.47%	1.83%

** 2000-2004 from Bank Indonesia, Aggregate of four quarters*
Source: BSP and Central Bank of Indonesia

Table 21 Percentage of Total Mortgage Credit by Bank Type 1997 - 2005

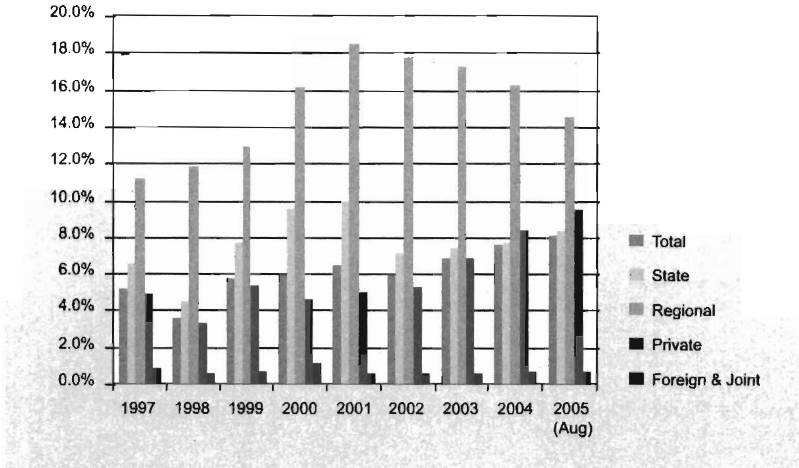
	1997	1998	1999	2000	2001	2002	2003	2004	2005
State (%)	51.35	57.36	67.50	60.99	58.44	47.60	42.51	39.88	37.72
Regional (%)	4.32	4.45	6.85	10.23	14.33	17.67	16.76	14.40	11.80
Private (%)	42.33	35.99	23.27	23.68	25.32	33.25	39.59	44.56	49.14
Foreign & Joint (%)	2.01	2.20	2.38	5.10	1.91	1.47	1.14	1.16	1.25

Source: Central Bank of Indonesia

While for most banks the mortgage portfolio is only a small proportion of the credit portfolio (see Figure 4)[11], this proportion has increased steadily since 2002, particularly in private banks. Apart from BTN, the regional banks hold the highest proportion of mortgage loans (mostly to civil servants) relative to outstanding credit. Given the generally weaker performance of regional banks the increase in long-term mortgage assets requires close attention of regulators.

[11]With the exception of BTN which has 82 percent of its total credit portfolio in mortgage credit.

Figure 4 Outstanding Mortgage Credit as Percentage of Total Outstanding Credit for different types of Banks (Rupiah and Foreign Currency)



Source: calculated by author from BI data

Performance. There is no comparative information on the scale and performance of mortgage portfolios of individual banks, nor is there a separate organization of mortgage lenders that provides information on the sector. Equally, the Bankers Association of Indonesia (PERBANAS) does not have a special subgroup of mortgage lenders. In order to describe the history and performance of the mortgage sector, we will summarize the development of BTN and the context in which it operated until the crisis and compare its current position and practices with a sample of commercial banks that hold mortgage portfolios -- Bank Mandiri, Bank Danamon, Bank Permata, Bank Rakjat Indonesia.

Overview of BTN, the specialized housing bank

The state housing bank of Indonesia, was founded in 1897 as a savings bank, and was directed in 1974 to expand into delivering subsidized housing finance to low and moderate income households. Most of BTN's lending was financed out of low-rate funds from the Central Bank. In the 1980s and 90s, until the

financial crisis in 1997, it was making from 50-100,000 subsidized fixed rate loans per year. In addition it made a small number of non-subsidized variable rate loans to higher income households. BTN was facing a financial crisis at the end of the 1980s because of poor recoveries. It improved its delinquency rate to 18% and focused its subsidized lending further downmarket. Between 1992 and the time of the crisis in 1997, it also aggressively expanded its corporate lending portfolio. The weaknesses in its capacities in this area were clearly revealed during the crisis when 100% of its corporate loans went into default and 70% by loan volume had to be transferred to the centralized bad debt agency IBRA. Total loss was over USD 1 billion. It was recapitalized and permitted to continue as a state housing bank.

In the early years after the crisis BTN became the lender of last resort for the mortgage subsidy system. It also started to do more risky lending to maintain its level of activity when the old subsidy scheme was transformed (higher LTV ratios and increasing construction lending to 30 percent of new credit in 2001), with increasing NPLs as a result. It has since refocused on its core business of lower middle income mortgage lending, both subsidized and non-subsidized and its performance has gradually improved (Table 22).

NPLs on the new and cleaned-up mortgage portfolios are within the same range as for other banks, but have increased in 2005 as a result of recent shocks in household incomes. Not surprisingly, NPLs on subsidized mortgages are higher than those on non-subsidized mortgages and increased relatively more in recent months (from 4 percent in 2004 to 6 percent in August 2005, while non-subsidized mortgages went from an NPL of 1.8 percent in 2004 to 3 percent in the same period)(BTN interview). *Net interest margins have increased and are in the 5 percent range, and are approximately 50 basis points below the banking sector's averages.*

One of the main challenges BTN faces is expanding its *funding base. It received the last BI soft loan of Rp2 trillion in 2002 (a 14 year interest only loan) and will have to depend on its own funding base when disbursements from BI cease.* BTN is predominantly

deposit funded, but its deposit base is expensive both in operating costs and in interest expenses (see Table 23). It has floated a number of bond issuances on the Surabaya Stock Exchange which received a rating of idBBB for the subordinate 10 year bonds and idBBB+ for the 5 year normal corporate bonds (see Table 11 for specifics). Such funding is expensive relative to the competitive rates on the mortgage portfolio. The establishment of a Secondary Mortgage Corporation (SMF) was partly motivated by the need to stabilize BTN's future funding position (when BI soft funding ends). *The SMF has to make sure that potential future risks in BTN's lending operation will not be transferred to government or government investors.*

With over 80 percent of its credit in mortgages, albeit mostly adjustable rate mortgages, it remains vulnerable to macro-economic volatility which causes interest rate risk and can increase credit risk. BTN is under considerable competitive pressure from other mortgage lenders with a more diverse credit portfolio and mortgage portfolios comprised of larger (less expensive) mortgage loans. It is reluctant to reprice its portfolio upward when inflation and SBI rates increase for fear of losing customers who prepay (a risk that currently affects both subsidized and non-subsidized mortgages) and take out a mortgage at a competing bank, even though prepayment penalties and other transaction costs are fairly high.

In short, the current lending environment is considerably more challenging for BTN than the pre-crisis period since it is competing in an adjustable rate mortgage environment without government support on the funding side, at least for now. Because of its improved performance discussions about privatizing BTN have become more relevant.

Table 22 BTN Performance Criteria 1996 – 2005

	1996	1997	1998	1999	2000	2001	2002	2003	2004	August 2005
Capital Adequacy Ratio (CAR)	72.20%	13.68%	-69.93%	-228.14%	8.65%	10.85%	11.39%	12.19%	16.64%	17.25%
Loan to Deposit Ratio (LDR)	91.23%	97.70%	214.10%	100.90%	48.10%	46.28%	51.31%	58.27%	67.90%	78.36%
Non Performing Loan (NPL) – Gross	9.36%	9.42%	47.99%	7.10%	3.27%	4.75%	4.76%	3.80%	3.21%	5.30%
Non Performing Loan (NPL) – Net	-	-	-	-	-	-	-	1.97%	0.22%	1.78%
Return on Asset (ROA)	1.81%	1.19%	-60.72%	-25.60%	-5.91%	0.49%	1.13%	0.82%	1.83%	1.76%
Return on Equity (ROE)	15.48%	12.09%	114.18%	-24.21%	369.99%	25.06%	31.31%	18.12%	40.93%	39.12%
Net Interest Margin (NIM)	4.01%	4.14%	-12.51%	-26.82%	-2.16%	1.24%	2.44%	3.35%	5.32%	5.25%
Profit Margin	11.98%	8.17%	523.84%	154.72%	-41.27%	3.86%	7.24%	5.04%	16.47%	16.00%

Source: BTN 2005

Comparing Mortgage Lenders – a sample

Most of the 10 large banks are now offering mortgage loans for new or resale housing or for home improvements and some are actively growing this line of business. We compare the mortgage portfolios of different types of banks engaged in mortgage lending.

- Bank Mandiri, a merged state bank, is one of the four larger mortgage lenders with an outstanding mortgage portfolio of close to Rp7,000 billion (Rp2,591 billion in outstanding mortgages and Rp4,223 in home-improvement balances) and approximately 80,000 accounts at the end of QII 2005. It has built an infrastructure capacity to issue Rp1,000 billion of mortgages per month and grew its mortgage and home-improvement portfolio by close to 300 percent (year-on-year) in 2004.

- Bank Danamon and Bank Permata are examples of universal banks with sizable mortgage portfolios of approximately Rp2,500 billion with 25,000 to 30,000 accounts. Bank Permata, which now ranks number 6 in the mortgage market, invested in the necessary infrastructure to increase mortgage lending substantially. Bank Danamon, which did the same some years ago when it bought large blocks of mortgage loans from IBRA, will no longer expand its mortgage portfolio and focuses on consumer lending.
- BRI, the state bank focused on micro-finance, has currently only a small "boutique" mortgage program for fixed income earners which it runs through the Regional Banks (which are allowed to use payroll deduction). New management intends, however, to expand into the mortgage market with a new product – an average loan of Rp25 million with a term of 10 to 15 years, which makes it compete head on with BTN's core market product.

Table 23 shows some of the differences in the interest rate spreads, average mortgage amounts for new mortgages, mortgage rates and terms, and the interest rates charged for non-secured personal loans.

Some findings of this small sample of different banks are summarized as follows:

- Apart from BTN, there are as yet no lenders who serve the market for mortgages below Rp100 million. Yet the majority of households can only afford a house below Rp50 million and the median house price is approximately Rp40 to 50 million (US$5000 to US$6000).
- Sizable rate adjustments on ARMs have been made by banks during the last couple of months which partly explain the increases in NPL ratios on mortgages. For example, the NPL for BTN's mortgage portfolio increased from 4.12 percent in 2004 to 6.16 percent in August 2005. In Bank Mandiri, NPLs on mortgages increased from below 2 percent to 2.3 percent, but these were low compared to a dramatic increase in NPLs on their corporate and commercial loans.

- There is intense rate competition amongst banks, but interest rate spreads are still high and not well analyzed. Some banks have begun to put in place more sophisticated pricing and risk assessment systems. Future SMF funding may assist in this regard.
- Spreads in the personal loan business are substantially higher (and the risks are perceived as only modestly higher) and banks are expanding their non-collateralized consumer loan portfolios including for home-improvements, car and auto loans. Also short term loans are favored in the current inflationary period.
- BTN has amongst the lowest mortgage rates in the non-subsidized market and in a segment of the market where it does not yet have much competition.
- Prepayment is a constant worry and is as high as 15 percent per month in times of rate adjustments according to several banks, even though prepayment penalties are in the order of 1 to 2 percent of the outstanding balance.
- Cross-selling is actively pursued by the larger diversified banks where mortgages are introduced as one of several financial products offered by the bank.

The adjustment of mortgage subsidies away from the funding side of the banks directly to household subsidies has not yet resulted in the participation of a larger number of lenders in the low-income mortgage market but may do so in future when credit risk management systems improve. The current maximum income level qualifying for a subsidy is Rp1.5 million and a maximum house-price of Rp42 million.

Table 23 Mortgage Portfolios & Characteristics of Selected Banks October 2005

	BTN	Mandiri	Danamon	Permata	BRI
Mortgage Portfolio (Rps billions)	Rp11/12,000	Rp7/8,000	Rp2,500	Rp2,200	Rp500
# of Accounts	400,000 to 500,000	80,000	30,000	+/- 25,000	2,500
Interest Rates – Personal loans	- SBI + 7%	24-28%	40%	-	22-43%
Interest Rates – Mortgages	16% (from 14/ 15%	16.75% (from 14.75%)	18% (from 16%)	Moving to 18% (from 16%)	>20%
Deposit Rate	8-9%	7-8% blended av. cost	10-11.5%	-	8.5%
Average Loan Size	- Non-subs. Rp50 mill - Subs. Rp30 mill.	Rp100-200mill	Rp150-200 mill	Rp100 mill upwards	- Rp200 mill. - new mortg. prod. Rp25 mill.
Loan-to-Value (LTV)	- Non-subs. 80% - Subs. 90%	70-80%	Based on risk: - low risk 70-80% - high risk 40-50%	- Up to 90%/ high IR - 70-80% standard IR	
Payment-to-Income Ratio (PIR) before tax	35%	40% -2 inc.hh 30% -1 inc.hh	35%	-	
Typical mortgage loan term	- Non-subs 10-15 yrs - Subs. 15 yrs	15 yrs.	Av. 8-9 yrs Max. 15 yrs	15 yrs	10 yrs.

Source: Author?s Interviews with banks

Some conclusions can be drawn from this analysis of the performance of the industry:

- Recent trends in NPLs and profit margins resulting from current macro-economic shocks are a strong reminder of the critical importance of macro-economic stability for the mortgage sector.
- Policy measures have to be focus on the worrisome lack of access to loans below Rp100 million, e.g., assistance in credit and interest rate risk management, and alleviating

high transaction costs of making small loans (see discussion below), stimulating participation of finance-companies to increase competition.

- The lack of information on borrower's credit situation and performance beyond the bad-debt list maintained by BI and the lack of market wide information on house prices and price trends by geographical area does not allow a refined analysis of credit and collateral risk and causes interest spreads to be higher and LTV ratios to be lower than necessary.
- Standardization/infrastructure for mortgage underwriting, origination and servicing systems has just been developed in some banks and will likely begin to pay off in lowering transaction costs when these banks go to scale. Lower transaction costs may allow an increase in the proportion of smaller loans to be issued.
- There is a growing awareness that any mortgage based type of capital market funding will require standardized underwriting, origination and servicing systems. The SMF may assist in improving standardization of instruments, procedures and systems across banks.
- While regional banks were not included in this sample, their intended expansion in more risky subsidy programs needs special attention.

Mortgage Products

Instruments. Adjustable mortgage instruments are the only type of mortgage loans generated in the non-subsidized market. There are no caps on interest rate adjustments. Rates are adjusted at the discretion of the lender and are not linked to a cost of funds index. However, movements in the SBI rate are universally used to guide mortgage rate adjustments. Some banks use the SBI rate as a true index for the pricing and adjustment of short-tem consumer loans, e.g., BTN uses SBI plus 7 percent for is personal loan product.

Some banks have experimented with a 1 year fixed rate period after which the mortgage is moved to an adjustable rate regime. These loans are making a loss in the current inflationary environment and new origination has been stopped. However, the single focus on

non-capped ARMs makes long-term mortgage lending extremely sensitive and vulnerable to short-term market rate fluctuations as is evident in the current inflationary environment. This concern could be alleviated to some degree by increased access to longer term funding.

The only single rate Fixed Rate Mortgages (20 years) are the old subsidized portfolios funded by soft loans form Bank Indonesia. This subsidy program has been eliminated and replaced by a subsidy that buys-down the interest rates or provides an upfront grant to individual households. While the upfront subsidy is linked to an adjustable rate loan, the buy-down is linked to a prescribed multiple accrual fixed rate mortgage regime and leaves, therefore, interest rate risk with the lender. BTN has preferred these buy-down subsidies becasue it binds the borrower to the institution and limits prepayment. However, this portfolio is exposed to high interest rate risk given the current increasing interest rates if the Ministry of Housing does not allow rates to increase on those subsidized mortgages. The reason for fixing the rate regime of these multiple accrual mortgage loans was a technical one (lack of capacity in the banks to calculate such regimes) rather than a principle one (see below).

There is also a concern that borrowers do not understand the implications of the adjustable rate mortgage regime well enough, particularly those borrowers acquiring a subsidized mortgage loan, since these carried fixed rates for the life of the loan in the past. Consumer education is not required or encouraged and should be regulated and facilitated.

Loan Conditions. Most mortgages are made for 8, 10 or 15 year terms with an average LTV of 75 to 80 percent. LTV ratios range between 90 and 50 percent and are often negotiated on the bases of the perceived risk of the property. In case a consumer needs a higher than average LTV ratio because of savings constraints, the interest rate on the loan is increased. While these risk pricing tools are fairly rudimentary, they can only be improved when more comprehensive housing market and borrower information will become available, and foreclosure procedures are further improved (see below).

Mortgage interest rates. Table 23 shows the range of mortgage rates charged across types of banks. The current rates vary from 16 percent to 18 percent for a 15 year loan. Most banks adjusted their rates upward to current levels during the months of September / October 2005. Mortgage rates steadily declined from approximately 20 percent in 2001 to 14 to 15 percent by the end of 2004. In 1998, during the crisis, rates peaked at 45 to 60 percent and mortgage lending, other than subsidized lending, stopped.

Mortgage Functions

Mortgage loan distribution channels. Indonesia is well banked and since more universal banks offer mortgage products access to such products has expanded. BTN has a fairly extensive and valuable branch network focused in urban areas. It has approximately 45 branches and 35 sub-branches and there are several hundred cash outlets and ATM machines. The branch network is, however, costly even with the recent restructuring. The large universal banks have more extensive branch networks covering most main urban centers (e.g., Bank Mandiri with 20 to 30 percent market share in various banking areas, has more than 800 branches, more than 2500 ATMs). Several larger banks, including Mandiri, have connected all branches through the internet in real time, which make it possible to have headquarters carry certain mortgage functions that cannot be done in the branches. However, the geography of Indonesia makes universal coverage difficult. If BRI would expand its mortgage offerings and would bring its major branch network (more than 4000) to bear on expanding mortgage credit or other housing finance products, the coverage of the population would be extensive.

On the consumer side, ATM machines are increasingly used in urban areas (e.g., Bank Mandiri has close to 300,000 daily ATM transactions), but they are not yet used for mortgage payments, nor are electronic transactions and nearly all mortgage related transactions are paper-based.

Level of unbundling. Banks conduct most of the functions related to mortgage lending; they originate, fund and service the loans. However, appraisals are sometimes done externally, in particular

for main development projects. The only other part of the mortgage "food chain" that is unbundled is fire and life insurance which is commissioned to specialized insurance firms. There is one state owned credit insurance company (Askrindo) that has focused on Small-Scale-Enterprise credit and which is currently looking into establishing insurance for micro-credit for housing with a subsidy form the Ministry of Housing.

Transaction costs for housing units purchased with a mortgage loan

The transaction costs incurred by a residential buyer of a property are high in Indonesia. In most new moderate housing sales the bank and developer are the only parties involved with the customer and they coordinate title transfer and insurance with outside agencies. Whether this increases efficiency or, on the contrary increases costs, is not clear. It does facilitate the property transfer and loan origination process for the customer. BTN in particular has the ability to obtain titles and do the underwriting for large housing developments.

The example of BTN is indicative of the types and magnitude of transaction costs. It differentiates the upfront costs for subsidized and non-subsidized housing as shown in Table 24.

Table 24 Upfront Transaction Cost to be Paid by the Borrower (BTN)

Upfront charges	Subsidy package	Non-subsidized loan
Administrative fee (incl stamp duty)	0.5% of loan amount	1% of loan amount
Notary fee	Rp150,000	Rp250,000
Home-owners insurance (3d party)	Rp300,000 or 1% of sales price	1% of sales price
Life insurance (3d party)	Rp600,000	Dependent on age
Appraisal (3d party)	Rp100,000 (for development)	Rp200,000 (for development)
Land titling fee	Included in price	Rp1 million
Dedicated savings account (duration of amortization period)	Rp500,000	>1 monthly installment

Source: Author's Interview with BTN-October2005

The total upfront amount is in the order of Rp2.5 to 3million in fees and required savings. For a median income household these transaction costs alone are 2 to 3 times the monthly income. On top of these upfront costs, a downpayment of 10 or 20 percent is required (e.g., Rp3 million for a subsidized house and Rp10 million for a median priced house of Rp50 million).

There are no additional taxes involved in this transaction. VAT taxes on building materials and house sales are 10 percent and 15 percent respectively (see discussion below). The latter tax is shared between buyer and developer. These taxes are added to the sales price (and therefore increase those fees expressed as proportion of the price or loan amount).

Construction credits to developers

There is a shortage of construction finance. Nearly all construction loans defaulted during the financial crisis and even after the crisis the defaults on construction loans were extremely high. In 2002 BI sent a circular to all banks to caution them against getting involved in construction lending.

One of the consequences of the lack of construction finance is that developers are shifting towards using more owner equity in development projects (including by banks). In the housing sector it has given rise to the use of a presale system whereby the developer demands upfront payments for a large proportion of the sale price from future owners. Such system focuses transactions on those who can save or access personal loans to pay upfront. Since consumer loans are considerably more expensive than mortgage loans this system is on the whole less efficient and will hinder expansion to moderate income groups.

BTN increased its construction lending from Rp416 billion (or just over 5 percent of its credit portfolio) in 2000 to Rp1,438 billion (or over 11 percent of its credit) in 2004. Most of that growth happened in 2001. However, 30 percent of construction loans went into default. BTN has since decreased the growth in construction credit. The lack of construction finance makes low-income housing

development particularly difficult, however. For that reason BTN planned to provide a "new construction loan product" for developers of subsidized housing projects in 2004– a one year fixed rate construction loan that would be rolled over into mortgages for individual borrowers. They did not launch it because of rising inflation and interest rates. However, new systems of construction finance need to be explored with some urgency in particular for residential construction.

Credits for rental housing

The rental market is small and most new rental housing is supplied by the private informal market. There has been no commercial private sector rental development since 2002 (PSPI 2005) and the only formal commercial rental developments are undertaken by Perumnas (a state-owned developer) and some Local Governments. They are predominantly financed from own sources (often through regional banks). BTN and private banks typically do not lend for rental property development. The Ministry of Housing has committed a study of alternative systems to finance private rental housing.

Regulatory framework[12]

Mortgage lending, i.e., credit secured by a lien on real property, is regulated adequately in the mortgage law (Udang Udang Hak Tanggungan) No.4/1996 and several related government circulars.

Mortgage liens are routinely used not just for mortgage loans but to secure micro-loans made by banks as well (for example, Bank Rakjat Indonesia, requires a mortgage lien as surety for its micro-credit where-ever feasible), even though no foreclosure and sale of the underlying asset is ever carried out in those cases.

Savings accounts, for a specified amount related to the size of the loan and for the duration of the loan, are required as a form of

[12]This section is based on an update of Lee et al, 2005.

surety by several lenders. However, potential borrowers cannot pledge their pension savings accumulated in their pension funds as collateral for a loan.

The law does not limit the type of mortgage instruments used by lenders nor is there a legal requirement to use specific reference rates or caps on interest rates. Prepayment of mortgages is allowed and so is the use of pre-payment penalties (see above). The right to prepay has influenced the type of mortgage subsidy instrument BTN prefers. By using a buy-down, the customer may stay with the bank longer, while prepayment is more frequent when an upfront grant is used.

Long-term mortgage lending is mostly confined to banks, since Finance Companies are not permitted to engage in long-term mortgage lending. Large non-bank financial institutions such as insurance companies and pension funds are permitted to provide long-term mortgage loans and some have recently expanded that area mostly to provide mortgages to their members; however, their total proportion of mortgage and real estate investment is bound by regulation (currently at 10 percent of total investments).

Banks are supervised and regulated by Bank Indonesia, while FC and pension funds / insurance companies fall under the regulatory umbrella of the Ministry of Finance (MOF). This split may lead to inefficiencies when non-bank financial institutions would move into mortgage lending.

The mortgage sector does currently not receive specialized regulatory attention. The same CAR requirements (12 percent minimum) and NPL provisioning rules apply for all banks whether there assets are composed mostly of mortgage loans such as BTN or not. Reserve requirements for mortgages have been lowered in 2002 from 100 percent to 50 percent, which is in line with international standards.

BI is, however, aware of the special needs of the industry particularly since the establishment of the SMF. Since 2002 BI

has collected separate information on mortgage credit by type of financial institution and it has promised support in the areas of standardization, credit information to lenders and the development of a credit bureau and consumer education/ information in mortgage lending. This latter area is currently left to the individual lender.

Mortgage lending is not singled out for special taxation or tax benefits. Of course, tax on financial services and VAT apply to all housing related transactions. In the case of housing, this leads to many instances of double taxation which in turn increase the price of housing and may hinder the development of secondary mortgage transactions. On the real side both building materials and the sale of finished houses are subject to VAT (10 and 15 percent respectively). And on the credit side stamp-duty is paid on the mortgage credit contract and VAT will likely be applied in case of sale of the asset in a secondary market transaction. If the asset remains on the books of the financial institution and a debt instruments is issued against it no VAT will apply. This latter area is being discussed with government by the legal team of the SMF. These double taxation issues need to be addressed before new subsidies in the form of guarantees or tax breaks, are being considered for secondary mortgage market instruments.

Collateral efficiency[13]

Property Titles. The great majority of urban home-owners now hold title to their land, either in the form of Hak Millik (freehold) or by way of a certificate of BPN. The registration system does, however, not guarantee titles and, therefore, the possibility of latent claims, fraudulent practices and unpredictability of court decisions remain an issue. Many improvements have been made in streamlining forms of title evidence, Deed of Mortgage and Sales Purchase Deed and in registration requirements and process at the local level. Procedures are being improved by the National Land Agency who trains the local registries. The costs of titling are still high for many people, i.e., for a moderate property the titling costs are approximately Rp1 million.

[13]This section is based on interviews with Erica Soeroto, updating Merill and Soeroto, 2001.

Foreclosure. The mortgage law which was discussed above deals adequately with foreclosure in case of default. It was adapted from a 1848 Dutch Law, and its main weakness is that in case the occupant of a foreclosed property refuses to vacate the premises, eviction requires a court order, giving ultimate power to the chief of court. This has caused severe delays in the ultimate sale of the property in case of foreclosure.

The law also requires that the property be sold by auction in case of foreclosure, either private auction of through the government auction agency. In recent years this process has improved considerably. When private auction is allowed (e.g., by private banks) the entire foreclosure process can take as little as three months. When the courts have to be involved it often takes nine months. The advantage of using the court route is that the occupant can be ordered to vacate the premises.

Foreclosure costs vary for the different methods of auctioning and are difficult to assess since court involvement often means that informal payments have to be made.

Appraisals. The appraisal profession is self-regulated by two professional organizations who qualify their members. Financial authorities are not involved. Many banks have in-house appraisers but in case of large complex properties they hire outside appraisal firms or individual appraisers for second or even third opinions. The 2001 HOMI study found the methods used by the appraisal profession lacking. Too often the value of properties is based on "costs" or developer's sale prices rather than on real (resale) value.

Consumer credit information systems. Apart from the banks own records and the "bad debt" records of BI, there is no general information system on consumer credit. The bank relies on signed affidavits by borrowers that state their indebtedness and payment records. Absence of credit information makes borrowing more expensive for the customer since banks use blocked savings accounts and low LTV ratios to protect against credit risk.

Several studies have been made of the feasibility of establishing a credit bureau. It appears difficult, however, to convince all lenders to contribute information to a central bureau. Eventually, some push from BI may be necessary to achieve this. Without sound credit information, it will remain difficult to assess credit risk and hence price the risk upfront. Mortgage insurance, which may become more important when mortgages are used as a basis to acquire capital market funding, will be difficult to develop or will be more expensive without credit information.[14]

B. FUNDING SOURCES AND SECONDARY MORTGAGE MARKET

Current funding sources

Most funding of bank credit is done through deposit and savings accounts. Table 23 shows that the average rates paid on deposits in a non-representative sample of banks ranges from 7 to 11.5 percent. There is currently a shift from time-deposits to savings and checking accounts because depositors want a shorter transaction time in an environment of rising interest rates. This shift has an impact on the liquidity position of the banks and their duration position. As a consequence some banks have moved towards personal and working credit as shown in a flattening of mortgage credit expansion, and may cause a return to increased investment in government bonds (which have a current yield of 20 percent compared to 17 and 18 percent mortgage rates). These trends may reverse next year if inflation decreases, but they show the volatile nature of the funding base for mortgages and the impact on supply. In addition, there is some uncertainty about the impact of imminent changes in the deposit guarantee system on the growth and stability of the deposit base which may have a negative effect on the stability of the funding base.

[14]Based on historical records of pre-crisis mortgage portfolios a mortgage insurance expert made preliminary estimates of the price of mortgage insurance in Indonesia, based on partial coverage of the loan amount. With a 20 percent down-payment and a 30 percent MI coverage of the outstanding balance, upfront one time premiums would be in the order of 7.5 percent of the loan amount (Hoek-Smit 2001).

Funding other than deposit-based funding is limited and expensive. Several banks, including BTN, have issued corporate bonds (See Table 11). Such funding is costly relative to mortgage rates and deposit funding.

No mortgage bonds or securities have been issued in Indonesia to date. BTN had an assessment done for a mortgage bond issuance covered by part of its mortgage portfolio in the early years after the crisis when the subsidy scheme was under revision. However, the over-collateralization required as credit enhancement made the deal too expensive.

Indonesian Secondary Mortgage Corporation

Concerns about the funding mismatch in relation to long-term mortgage lending and limited access to alternative sources of funds by the banks (particularly in the case of BTN) gave rise to the establishment of a Secondary Mortgage Corporation.

The SMF was approved by government and parliament on July 22, 2005 as a fully government owned limited liability Co. under the Ministry of Finance. It was capitalized with Rp1 trillion. Its full capitalization is permitted to reach Rp4 trillion over time and MOF prefers to seek outside (and particularly multilateral) investors for all or part of the remaining investment. The CEO and directors were named by MOF and so was the Board of Directors. MOF is also the supervisor/ regulator. Technical assistance to the new institution will initially be provided by the Asian Development Bank and USAID.

The mission of the SMF is broad – i) engage as a secondary housing finance facility with banks and other financial institutions that provide home-ownership credits, ii) raise funds from the public to provide secondary housing financing by issuing long-term and short-term obligations, iii) other activities that support both these missions. Equally broad are the possible activities it may engage in; i) purchase financial assets linked to mortgage cash flows or leasing contracts, ii) issue mortgage backed securities and/or promissory notes, iii) other activities such as providing mechanisms to improve

credit quality (credit enhancement), engaging in training and education of the housing finance sector, and establishing housing finance data and information systems. However, SMF loans to mortgage lenders may not exceed *a term of three years,* at least initially. This may move its focus towards securitization even if that is more expensive.

The legal framework for all such activities appears to be in place; the mortgage law adequately deals with the sale of mortgages to an SPV or SMF and the capital market law (supervised and enforced by BAPEPAM, the Capital Markets Commission) regulates the sale of securities from SPV/SMF to investors. However, no mortgage securitization or mortgage bond issuance has ever been carried out in Indonesia and the first SMF transactions will be test cases for their efficiency. The precise nature of the capital market products or mortgage backed loans that the SMF will develop is not yet determined and will be the focus of the technical assistance it will receive in the coming months.

The SMF may extend its financial services to commercial banks and non-bank financial institutions. In particular, for Finance Companies such funding base may facilitate a move into long-term credit if regulatory change will allow them to do so. *However, loan-terms for liquidity funding will need to be expanded beyond the currently allowed three years.*

Current financial and fiscal sector fundamentals are, however, not inducive to secondary mortgage financing for banks:

- Banks are still very liquid and do not need additional third party funds.
- With government bond yields at 20 percent mortgages are simply not profitable.
- Without special guarantees that reduce the cost of funds raised by the SMF, or enhance the yield of its mortgage securities, the cost of funds to the banks will be high relative to mortgage rates and relative to deposit-based funding of mortgages. However, mortgage bonds or securities may yield a better rate than corporate bonds of individual banks if the quality of the underlying assets is high.

- True sale of mortgages is taxed by a 15 to 20 percent VAT, which may annul any advantage of securitization such as the reduction of reserve requirements (50 percent on mortgages) and the elimination of interest rate risk (which remains fairly limited because of the use of ARMs, but will become more relevant when banks want to move to part FRMs).

However, if liquidity positions in banks will become tighter and when the current macro-economic turbulence subsides, the extra liquidity and streamlined procedures to access capital market funding that a SMF can provide, may become more attractive and may assist to increase the volume of mortgage lending.

The business plan for SMF for the early years may include two types of activities:

i) Providing financial services at a fee: a) Securitize part of BTN's portfolio mostly as a pilot to see what legal and implementation issues need to be resolved, where and what type of credit enhancement should be provided by the SMF, what structure of securitization package is best suited and obtains the best rating. b) Work with finance companies and their regulator to develop appropriate liquidity funding that will bring high performing FCs into mortgage lending.

ii) Building up the infrastructure necessary to make the real estate and housing finance sector ready to develop investment grade assets that are attractive for long-term investors: The SMF could champion critical improvements in the following areas:
    - Standardization of underwriting procedures and documentation, and loan instruments
    - Credit risk management and control
        a. The establishment of a credit bureau to improve information on borrowers
        b. Development of an initial credit scoring systems for the loans it accepts
        c. Development of mortgage insurance products
        d. Continued improvements of foreclosure systems

- Information Systems on the Mortgage and Financial sectors[15]
  e. Mortgage credit information by sector, type of house, value, location, type of financial institution
  f. Mortgage credit information by type of instrument, term, interest rate, prepayment, data on portfolio performance, NPLs by type of financial institution
- Exploring alternative secondary market debt and equity products and related credit enhancement systems.

C. MICRO-FINANCE LENDING FOR HOUSING

Most banks will not make mortgage loans to urban households with incomes much below the 60th percentile of the income distribution or to households with non-fixed incomes as their main source (roughly 75 percent of the labor force) at least in the shorter term. Also, because of high transaction costs mortgage loans below Rp25 million (US$2,500) are considered unfeasible by most commercial banks. Micro-finance institutions of all types (banks, credit unions, cooperatives, rotating savings institutions) are needed to provide both a vehicle for savings and non-mortgage credit for housing, and Indonesia has many such institutions (see above).

While commercial microfinance is widely available in Indonesia and is known to be used for home-improvements quite extensively (BRI interview), it has not been focused on housing. Special savings and credit products need to be developed to facilitate home improvement, home expansion, including for development of rental rooms, and new construction conducted on an incremental basis, i.e., loans with appropriate loan terms of up to 5 years that can be sequentially applied, feasible collateral and savings requirements.

[15] If the Ministry of Housing does not develop an Information Systems on the Housing Sector, the SMF may initiate such information system jointly with the Office of Statistics, including: # Housing starts and value by region and urban area, other RE starts and value, construction costs, land costs.

However, until now, micro-finance for housing was mostly tied to housing projects. Credit is not provided on a commercial basis in such projects, but is considered part of the housing project and the participating MFI institutions and their credit policies remain weak. For example, Cobild, a donor funded community-based MFH system operated through the housing ministry and, typically, it did not survive the end of the project that funded it. Repayments remained a problem since households considered the credit part of the government project and there were no effective mechanisms to sanction non-payment. Such credit programs bring the wrong message to those who wish to strengthen the institutional structure of MFIs and provide commercially based credit.

The infrastructure is, however, available to move to a more commercial housing oriented micro-finance system. Micro-credit in Indonesia does not necessarily mean that lending is non-secured. As mentioned above, households are often asked to provide the title to the property as "collateral" to the loan (a standard practice at BRI), even though the house will never be sold in case of default. It is rather used to provide an additional incentive to repay, but has not brought down the cost of credit. However, it is a relatively small step for micro-lenders such as BRI to move into the small mortgage credit or non-secured short term housing credit business.

The drawback of using non-secured lending for housing remains its high costs. Interest rates on MF credit typically range from 28 to 40 percent, and even personal loans for motorbikes and vehicles (which are the security by the property) come at interest rates in the high twenties. Such rates make these loans less feasible for new housing.

Nevertheless, smaller, shorter and non-property secured loan products for housing are important to develop. The HOMI project proposed several actions to prepare the MFI sector to play a role in housing:

- Build capacity through the micro-finance network or another training center.

- Change the way government and donors subsidize borrowers through the provision of cheap funds to micro-finance institutions for below-market on-lending to borrowers. Rather, subsidize the housing asset directly while strengthening the commercial base of MFIs.
- Establish a liquidity window for housing micro-finance, since the non-bank micro-finance lenders do not have access to adequate funds for MFH. At the same time, Indonesia's network of low income lenders is well positioned to enhance savings generation and this should not be discouraged. Such a liquidity window may be established as part of the SMF in order to keep institutional costs down. Such model is currently implemented in Mexico.

D. GOVERNMENT SUBSIDIZED CREDIT PROGRAMS AND DISTRIBUTION CHANNELS

The Old Interest Rate Subsidy

The corner stone of the GOI housing policy was the KPR interest rate subsidy for loans for specific house-types. Under the system lenders, predominantly BTN (see above), received subsidized liquidity credit from Bank Indonesia for part of the loan amount and on-lent at fixed, below-market interest rates to qualifying households. The interest rates charged to borrowers and the proportion of liquidity credit to lenders varied per cost of unit. BTN was also the administrator of the program.

All subsidized lending was associated with specific housing developments, and the prices charged on those houses captured some of those subsidies (the typical interest rate subsidy was worth about 50% of the amount of the loan and the amount of the loan averaged about 80% of the value of the house).

The scheme provided between 50,000-100,000 subsidies per year from 1980-1997. Its PV costs were about Rp4.5 million per subsidy in 2001 (about USD 450), on an average loan of Rp20 million at 15% against a 20% market rate. The total costs in 2001 were approximately Rp500 billion or about 0.03% of GDP. To this amount

needs to be added the sum of the inefficiencies related to lending through a state enterprise, plus the long-term costs of loan losses due to poor recoveries and entry into market-competitive sectors. Based on experience from 1980 to 1999, these costs could be more than Rp500 billion per year. This implies that the total explicit and implicit annual cost of the scheme may be about Rp1,000 billion or 0.06% of GDP per year (Hoek-Smit and Diamond, 2005).

Table 25 Nominal Value of Subsidized Mortgages and Total Number of Units Subsidized 1997-2003

	1997	1998	1999	2000	2001	2002	2003	Average
Total Nominal Subsidized Mortgages in Rp billion.	Rp1,429	Rp1,158	Rp427	Rp1,353	Rp564	Rp667	Rp359	Rp851
Total Number of Subsidized Units	175,659	130,677	41,717	97,057	39,613	39,979	16,578	77,326

Source: Central Bank of Indonesia and Ministry of Housing

The system remained unchanged for at least 20 years until the economic and financial crisis of 1997. However, the 1997 collapse was just the final straw for a system that had become untenable and had an increasingly negative impact on housing market and housing finance sector development. After the crisis, and as part of the IMF agreement, BI's liquidity funding for KPR subsidies was ceased and MOF had to carry the subsidy on its RDI budget. Several adjustments of the subsidy programs were tried out during 2001 and 2002, but it was phased out by 2004. BTN still has BI liquidity funding to compensate it for the remainder of the amortization period left on the subsidized mortgages on its book.

The New Finance-linked Subsidy Programs. The new subsidy programs introduced in 2004/2005 are of two types; one program subsidizes the moderate income mortgage borrower and the other intends to provide housing infrastructure and loan guarantees for micro loans for low-income households. These subsidies can be disbursed through all qualifying lenders. However, the loan guarantee component on the latter program is still being worked out. BTN is no longer the administrator of the new program.

The mortgage subsidy program has two options, an upfront subsidy and a buy-down on interest payments. Down-payments for both schemes are 15 percent for the top income group and 10 percent for the other groups. The maximum qualifying income level is Rp1.5 million per month which is around the median urban income and, as was noted above, a household at this income level will mostly not qualify for a mortgage loan without a subsidy. The lowest income group will only qualify for micro-credit for housing.

Table 26 New Housing Subsidy Scheme: Income Groups, House Prices, Subsidy Amounts

Income Groups	Max House Price	Max Subs. Amount
Rp1.5mill – 900,00	Rp42 mill	Rp3 mill
Rp900,000 – 500,000	Rp30 mill	Rp4 mill
Rp500,000 – 350,000	Rp17 mill	Rp5 mill

Source: Ministry of Housing 2005

The buy-down program runs for 4, 6, or 10 years on a 15 year loan depending on the income group. The main issue with the buy-down is that the multiple accrual interest rate regimes are fixed for the duration of the buy-down period and the lender therefore takes the interest rate loss when interest rates go up and reaps the benefit when interest rates go down (although recipients may refinance when the rate differential is negative). This feature is a weakness in the program and is supposed to be phased out when lenders can develop the technology to calculate the interest rate deduction on adjustable rate loans. However, the constraint of having a maximum buy-down subsidy amount in a variable rate environment will remain a design challenge.

About 70 percent of the new subsidies pledged in 2004 were taken up by BTN, and half had been implemented by August 2005. The Regional Banks (BPDs) have pledged most of the others but have not been able to implement them due to lack of funds. When the scheme is better known, lenders who want to move towards the below Rp50 million mortgage level may find the scheme of interest, particularly. the upfront down payment scheme. BRI is one such

Bank. In order to facilitate this move, government may consider providing some (smaller) subsidy incentives for housing units priced somewhat higher than the current cut off point of Rp42 million, but let us say Rp75 million, in order to gradually attract more lenders to the lower middle income market.

While the actual PV costs of the old and new scheme are not much different, the hidden costs of inefficiencies should be much less in the new scheme. It will also be much more attractive to banks other than BTN.

The Civil Servant Tax Fund

There is another subsidy scheme that needs brief mentioning. Civil Servants are taxed a small and progressive charge on their wages as a contribution to the Bapartarum fund. This fund is used to provide down-payment support to civil servants who buy a house and obtain a mortgage (mostly subsidized). The top income groups do not qualify for the scheme. Since the great majority of civil servants do not qualify for a mortgage, the subsidy still tends to be regressive. The subsidy amount is also very small and given the overlap with the new subsidy scheme it is no longer necessary.

E. CONCLUSION AND RECOMMENDATIONS

The mortgage sector was thoroughly disrupted by the financial crisis which hit Indonesia in 1998. Not only did the crisis stop non-subsidized mortgage lending, it also fundamentally altered the structure of the mortgage industry. The dominance of the Government Housing Bank (BTN) was undone when other banks bought mortgage portfolios from the government agency that was tasked with buying and than selling assets from closed banks and non-performing loans from banks that were recapitalized. Banks also began to make new mortgage loans when the macro-economic environment stabilized in 2003 and 2004. This expansionary trend has flattened in recent months because of rising inflation (expected to reach 17 percent by year's end) and government interest rates. As a consequence, nominal mortgage rates increased by 2 percent on average between the end of 2004 and October 2005, NPLs on

mortgage portfolios increased and appetite for mortgage lending and borrowing decreased. In addition, this trend causes long-term investors to move their deposits to shorter-term holdings which in turn influences lender's attitude towards expansion of mortgage portfolios. These developments show the critical importance of macro-economic stability for housing finance sector development.

It is, however, expected that growth in the sector will resume when macro-economic stability returns during the next year. The liquidity in the banking system is still high and when government rates go down mortgage credit expansion would become attractive again since mortgage portfolios proved to be the most stable and well performing of credit portfolios both during the 1997/98 crisis and during the recent inflationary period. When mortgage rates come down demand is likely to pick up as well, depending on adjustments in real incomes. Also, some important changes were made after the crisis that will assist such recovery:

- **The banking sector has been strengthened and is better supervised,** and sustainable deposit insurance has been established and although not as generous as during the post-crisis year it will continue to stabilize the major funding base of the banking sector.
- **More banks, private and state-owned, have invested in building up the infrastructure for mortgage lending** and have created a competitive environment; the subsidized liquidity funding to the State Housing Bank, BTN, was phased out and BTN only holds and originates approximately 25 percent of total mortgage debt.
- **Improvements have been made in the legal environment for mortgage lending;** more households have ownership title to their land and foreclosure time has shortened.
- **There is a new more efficient and transparent subsidy scheme** that qualifies households at the margin of current mortgage lending and is available to all lenders.
- **A Secondary Mortgage Corporation has been established** as a catalyst to access capital market funding and allow a gradual move towards partly fixed mortgage instruments or capped

ARMs, and to develop measures to improve the credit quality of mortgage portfolios. While rate structures and high liquidity in the banking sector limit its attractiveness as a liquidity provider at the moment, it will be able to develop a pilot securitization deal for BTN and iron out legal and administrative issues in the process. I also may be able to attract finance companies into the mortgage sector and hence open up currently underserved market segments and increase competition in the mortgage market which is now dominated by the banking sector.

There remain serious gaps and weaknesses in the mortgage system that need to be addressed for it to continue to deepen and expand down-market:

- **Credit risk remains high partly as a consequence of the lack of credit information, and credit risk management mechanisms.**

  Recommended actions: i) BI to facilitate the establishment of a credit bureau, ii) MOF and SMF to take action to establish public/private mortgage insurance, iii) BI to regulate consumer protection and the requirement for consumer education, iv) BI and SMF to develop borrower education tools.
- **Lack of access to mortgage credit for those households who are creditworthy and can afford a mortgage loan, but whom the market is not yet serving.** The top 30 percent of the income distribution will not have trouble accessing a mortgage loan, certainly households that have a main breadwinner in formal employment. Credit risk and high transaction costs relative to loan amount and fees hinder lenders from moving down-market. The current subsidy programs may expand access to mortgage loans to the 40th percentile of the income distribution (the subsidy program can cover approximately 12.5 percent of demand for new houses with its current scale), but that leaves a large gap of creditworthy households not yet deemed mortgageable. Lack of finance to buy more affordable houses in the resale market further weakens upward mobility in the formal housing market. Some lenders may fill that gap, but may need some support.

Recommended actions: i) the Ministry of Housing and MOF/BI to explore ways to tie requirements for saving for housing over a period of time to subsidized loans to establish lender confidence and increase owner equity particularly for borrowers who have non-fixed incomes, ii) the expansion of (small) upfront subsidies to a level of income closer to the current margin of banks' willingness to lend (for houses of Rp75 million and below); if mortgage insurance is to be developed a subsidy for this group of borrowers at the margin could focus on the payment of the insurance premium to improve both lender confidence and borrower access to loans, iii) consumer education programs and consumer support systems to focus on this group specifically, iv) allowing part of the subsidy programs to be used for existing housing.

- **Inadequate housing market information creates inefficiencies.** BI has made a beginning to track house prices in 14 markets, but more comprehensive information is needed.

  Recommended actions: the Ministry of Housing and/or the SMF set up an integrated housing data base that includes price and appraisal information, information on building permits issued and housing transactions completed for different types of houses, consolidated information on housing finance, etc.

- **Successful operation of the Secondary Mortgage Corporation (SMF) requires clarification of tax rules and adjustments of the limit on its lending term.**

  Recommended actions: i) tax regulations be clarified to avoid double taxation on securitization activities; ii) MOF to explore the extension of the term for liquidity lending by SMF beyond the current three year limit.

- **Finance Companies can play a role in medium term mortgage lending with the availability of liquidity funding from SMF,** which could increase competition in the mortgage sector and improve the diversification of risk for the FCs.

  Recommended action: MOF to explore lifting the regulation for certain categories of Financial Companies that prevent their expansion into mortgage lending.

Other improvements are required in areas that hinder the flow of affordable (below Rp75 million) mortgageable properties to the market:

- **The lack of supply of serviced land and tedious permitting procedures** make it unprofitable for developers to use available land resources for middle and lower-middle income houses.

  Recommended actions: the enforcement of the permit system, measures to release public land for residential development in suitable locations, improvements in the process and reduction of upfront and hidden costs to gain development and building approvals.
- **The lack of construction finance** provided by banks related to poor past performance causes developers to focus on projects where equity investments rather than debt can finance construction, and make contractor built houses dependent on owner funding.

  Recommended actions: i) Bank Indonesia (BI) to develop a circular with guidelines on prudent construction lending; ii) Bank Indonesia to explore the establishment of special guarantees for construction lending (e.g., jointly with international development and investment agencies), although these could be expensive given the poor track record of such lending, iii) explore the establishment of an independent, fee-based housing quality guarantee program for new residential construction to ease the burden on lenders to conduct in-depth technical appraisals for moderate income housing and increase confidence to invest in this market segment, iv) eliminate the double VAT taxation on home sales for moderate income housing that impact affordability of developer built homes.

To complete the housing finance system for all types of households, access to shorter term, non mortgage based housing finance options need to be expanded. Irrespective of the exact numbers of households that can access a regular mortgage loan with or without a subsidy, at least 40 percent or more than 300,000 of the total new households formed annually will not qualify for such loans because of low or uncertain incomes or low collateral quality.

- **There is a need to focus specifically on expansion of smaller, medium term housing loans to finance new and existing homes and home-improvements** for this category of households. Several banks and possibly some Finance Companies and micro-lending institutions may target that market. A new subsidy program is being developed that intends to stimulate the expansion of this sector through the provision of guarantees for part of the loan. But there is as yet reluctance by insurance companies to buy into the scheme.

  Recommended actions: i) provide training in housing micro-finance and technical support to cooperatives and other such lenders which are technically weak, ii) provide liquidity support to micro-finance providers; such a function may be conducted by the SMF since it requires similar types of analyses as required for liquidity funding for finance companies and banks, iii) explore alternative risk guarantee subsidies for micro-finance for housing in the form of closed escrow accounts for missed payments, which may improve lender confidence. When such micro-lending for housing becomes better known as a separate product, and the risks are better understood, it may be easier to develop credit insurance products.

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APPENDIX 1

Monthly Household Income Distribution Based on Consumption, derived from BPS Susenas, 1999

Percentiles	Rural Household	Urban Household	DKI Jakarta Household	Urban w/o DKI Household
10th percentiles	238,000	355,600	661,900	343,800
20th percentiles	315,100	474,500	846,700	452,000
30th percentiles	372,300	577,600	1,037,800	551,000
40th percentiles	426,600	680,000	1,238,800	644,800
50th percentiles	**486,800**	**797,200**	**1,439,900**	**749,400**
60th percentiles	556,300	952,500	1,711,300	879,300
70th percentiles	640,100	1,183,600	2,022,000	1,071,100
80th percentiles	757,800	1,447,500	2,500,000	1,345,700
90th percentiles	972,200	2,169,700		1,817,900

Source: Hoek-Smit 2001

APPENDIX 2

Outstanding Mortgage Credit by Bank Type (Rupiah and Foreign Currency) Billions of Rp

	Total	Total Change	State	Regional	Private	Foreign & Joint
1997	19547		10037	844	8274	392
1998	17471	-2076	10021	778	6288	384
1999	12838	-4633	8666	878	2988	306
2000	15976	3138	9744	1634	3783	815
2001	19912	3936	11637	2853	5042	380
2002	21773	1861	10365	3848	7240	320
2003	30108	8335	12798	5047	11921	342
2004	42099	11991	16788	6063	18758	490
2005 (Aug)	53494	11395	20180	6357	26289	668

Source: Central Bank of Indonesia

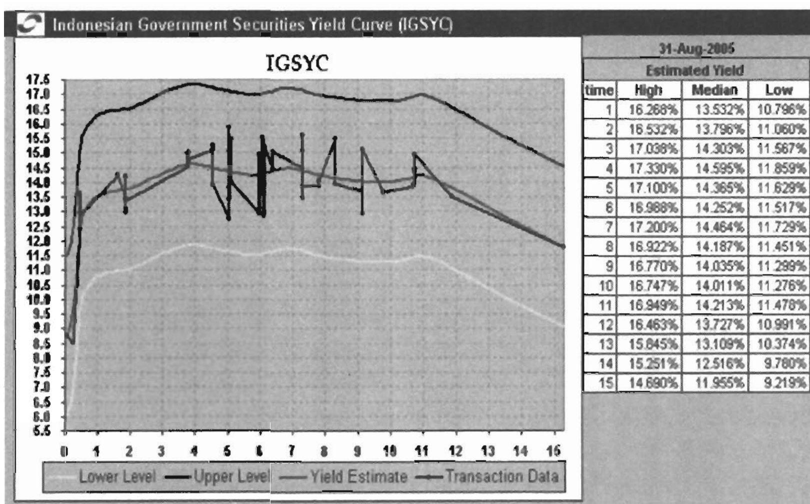
APPENDIX 3

Composition, Actual Credit and Credit Position of BTN

	2000		2001		2002		2003		2004		2005	
	Rupiah	%	Rupiah	%	Rupiah	%	Rupiah	%	Rupiah	%	Rupiah	%
New Credit	1,824,069	100.00%	2,344,897	100.00%	2,975,439	100.00%	3,332,911	100.00%	3,984,426	100.00%	3,533,336	100.00%
Subsidized Mortgage	1,352,631	74.15%	564,116	24.06%	438,395	14.73%	722,039	21.66%	1,268,025	31.82%	978,756	27.70%
Unsubsidized Mortgage	68,613	3.76%	881,007	48.30%	1,289,651	43.34%	1,433,089	43.00%	1,375,401	34.52%	1,223,323	34.62%
Construction Mortgage	136,559	7.49%	552,343	30.28%	669,578	22.50%	602,487	18.08%	451,579	11.33%	473,353	13.40%
Multi-Purpose	228,994	12.55%	279,708	15.33%	540,452	18.16%	543,270	16.30%	816,629	20.50%	721,163	20.41%
Consumer Credit	37,272	2.04%	67,723	3.71%	37,363	1.26%	32,026	0.96%	72,792	1.83%	136,741	3.87%
Outstanding Credit	7,674,042	100.00%	8,411,916	100.00%	10,210,983	100.00%	11,160,966	100.00%	12,608,978	100.00%	14,192,768	100.00%
Subsidized Mortgage	5,891,648	76.77%	5,631,578	66.95%	5,430,661	53.18%	5,376,171	48.17%	5,832,504	46.26%	6,263,172	44.13%
Unsubsidized Mortgage	1,029,819	13.42%	1,641,164	19.51%	2,637,098	25.83%	3,730,396	33.42%	4,504,673	35.73%	5,252,361	37.01%
Construction Mortgage	416,679	5.43%	778,977	9.26%	1,141,754	11.18%	1,372,310	12.30%	1,438,004	11.40%	1,644,078	11.58%
Multi-Purpose	226,497	2.95%	288,728	3.43%	438,937	4.30%	519,257	4.65%	648,402	5.14%	791,915	5.58%
Consumer Credit	109,399	1.43%	71,469	85.00%	562,533	5.51%	162,832	1.46%	188,395	1.47%	241,242	1.70%

Source:BTN 2005, PSPI, December 2004

APPENDIX 4 Bond Market



31-Aug-2005

Estimated Yield			
time	High	Median	Low
1	16.268%	13.532%	10.796%
2	16.532%	13.796%	11.060%
3	17.038%	14.303%	11.567%
4	17.330%	14.595%	11.859%
5	17.100%	14.365%	11.628%
6	16.988%	14.252%	11.517%
7	17.200%	14.464%	11.729%
8	16.922%	14.187%	11.451%
9	16.770%	14.035%	11.299%
10	16.747%	14.011%	11.276%
11	16.949%	14.213%	11.478%
12	16.463%	13.727%	10.991%
13	15.845%	13.109%	10.374%
14	15.251%	12.516%	9.780%
15	14.690%	11.955%	9.219%

Indonesia Government Bond Index
Thursday, December 29, 2005

	Clean Price	Change	Yield	Change	Total Return	Change
All Govt Bonds	91.508	0.177	**13.389**	-0.042	91.873	0.177
<= TTM < 5	93.994	0.019	**13.225**	-0.014	91.948	0.018
5 <= TTM < 7	90.653	0.105	**13.461**	-0.027	92.433	0.107
TTM >= 7	88.897	0.466	**13.542**	-0.096	91.328	0.478

BondIndex-20051229.csv

Source: Surabaya Stock Exchange website

Bond Market

Statistics Data as of August 2005

	2005		2004		2003		2002		2001	
	IDR	USD	IDR	USD	IDR	USD	IDR	USD	IDR	USD
Listed Issues (series) :										
Corporate Bond	264	2	243	2	180	2	111	0	98	0
Government Bond	50	0	48	0	52	0	51	0	25	0
Government Tradeable	50	0	48	0	52	0	51	0	25	0
New Listing :										
Corporate Bond	47	0	81	0	80	2	12	0	15	0
Government Bond	6	0	3	0	3	0	27	0	0	0
Number of listed bond issuer (companies)	106	2	107	2	92	2	55	0	54	0
Trading Volume (IDR in billion, USD in million) :										
Corporate Bond	18,010	4	15,776	1	13,511	6	6,092	0	1,115	0
Government Bond	464,432	0	512,989	0	314,059	0	130,787	0	66,222	0
Daily Average :										
Corporate Bond	97	0	65	0	56	0	25	0	5	0
Government Bond	2,510	0	2,129	0	1,292	0	534	0	269	0
Market Capitalization (IDR in billion, USD in million)										
Corporate Bond	59,523	105	58,791	105	45,390	105	21,520	0	18,831	0
Government Bond	406,398	0	399,304	0	390,482	0	397,967	0	64,654	0
Frequency of Reporting										
Corporate Bond	3,858	3	4,569	1	2,701	7	2,077	0	403	0
Government Bond	21,358	0	26,955	0	12,339	0	4,031	0	1,169	0

SSX Bond Index					
High	1,891.737	0.000	1,317.563	768.787	537.531
Low	1,660.698	0.000	883.401	532.132	437.364
Close	1,866.382	0.000	1,317.563	768.787	531.175

Source: Surabaya Stock Exchange website

MORTGAGE SECURITIES IN EMERGING MARKETS

Financial Sector Operations and Policy Department
The World Bank

by
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Abstract

Despite its recognized economic and social importance, housing finance often remains under-developed in emerging economies. Residential lending remains often small, poorly accessible and depository-based. Lenders remain vulnerable to significant credit, liquidity and interest rate risks. As a result, housing finance is relatively expensive and often rationed. The importance of developing robust systems of housing finance is paramount as emerging economy governments struggle to cope with population growth, rapid urbanization, and rising expectations from a growing middle class.

The capital markets in many economies can provide an attractive and potentially large source of long term funding for housing, and solutions to better allocate part of the risks. The advent of institutional investors is creating large and rapidly growing pools of funds that may facilitate the development of mortgage-related securities. Despite such a strong appeal, there are significant barriers to the development of mortgage securities in emerging markets. Their success is dependent on many factors, starting with a strong legal and regulatory framework and liberalized financial sector and including a developed primary mortgage market. The experience in developing mortgage securities in emerging markets has been mixed. This paper reviews the experience of introducing mortgage securities in emerging markets and explores the policy issues related to this theme.

The organization of the paper is as follows: First, we review the rationales for introducing mortgage securities to fund housing. Second, we list the many pre-requisites that underlie successful introduction. Third, we explore the role that government can play in developing these instruments, from both a theoretical and functional perspective. Fourth, we examine the experience of issuing mortgage securities in emerging markets through short case studies of their use. From this examination we then summarize the lessons learned from these experiences, both in general and with specific reference to the proper role of government. Finally, we offer observations on the way forward to increase the use of mortgage securities in emerging markets.

Mortgage Securities in Emerging Markets

I. Overview

A. Purpose and Objectives of Study

Despite its recognized economic and social importance, housing finance often remains under-developed in emerging economies. Residential lending is typically small, poorly accessible and depository-based. Lenders remain vulnerable to significant credit, liquidity and interest rate risks. As a result, housing finance is relatively expensive and often rationed. The importance of developing robust systems of housing finance is paramount as emerging economy governments struggle to cope with population growth, rapid urbanization, and rising expectations from a growing middle class.

The capital markets in many economies provide an attractive and potentially large source of long term funding for housing. Pension and insurance reform has created large and rapidly growing pools of funds. The advent of institutional investors has given rise to skills necessary to manage the complex risks associated with housing finance. The creation of mortgage-related securities (bonds, pass-throughs and more complex structured finance instruments) provide the multiple instruments by which housing finance providers can access these important sources of funds, better manage and allocate part of their risks.

The use of mortgage-related securities to fund housing has a long and rich history in the developed world. Mortgage bonds were first introduced in Europe in the late 18th century and are a major component of housing finance today [EMF, 2002]. Mortgage pass-through securities were introduced in the US in the early 1970s and along with more complex structured finance instruments now fund more than 50% of outstanding debt in that country [Lea, 1999]. Today, mortgage-related securities have been issued in almost all European and developed Pacific Rim countries.

There have been numerous attempts to develop mortgage securities to secure longer-term funding for housing in emerging economies. The view has been that such instruments can help lenders more efficiently mobilize domestic savings for housing, much as they do in the developed world. In addition, mortgage securities are also pursued to develop and diversify fixed-income markets as a supplement to government bonds for institutional investors.

Despite the strong appeal of financing housing through the capital markets, there are significant barriers to the development of mortgage securities in emerging markets. Their success is dependent on many factors, starting with a strong legal and regulatory framework and liberalized financial sector and including a developed primary mortgage market. Perhaps not surprisingly, the experience in developing mortgage securities in emerging markets has been mixed. This paper will review the experience of introducing mortgage securities in emerging markets and explore the various policy issues related to this theme.

The organization of the paper is as follows: First, we review the rationales for introducing mortgage securities to fund housing; Second, we list the many pre-requisites that underlie successful introduction; Third, we explore the role that government can play in developing these instruments, from both a theoretical and functional perspective. Fourth, we examine the experience of issuing mortgage securities in emerging markets through short case studies of their use. From this examination we then summarize the lessons learned from these experiences, both in general and with specific reference to the proper role of government. Finally, we offer observations on the way forward to increase the use of mortgage securities in emerging markets.

The note will also discuss the various forms of state related support (guarantees, liquidity support, mandatory investment, tax breaks, and issuing privileges) that have been offered in order to secure the credibility and affordability of nascent mortgage securities, but that may also raise significant concerns about contingent liabilities and market distortions. The regulatory dimension of mortgage securities

and securitization companies is an important determinant of their success and will be addressed as well.

B. Summary of Findings

Despite numerous attempts, there have been limited successes in introducing mortgage securities in emerging markets at a significant scale. There are two major reasons for this result. First, the infrastructure requirements for mortgage security issuance are demanding, time consuming and costly. As discussed below, there are complex legal and regulatory pre-requisites for mortgage security issuance. It takes time and significant government support to develop the proper legal and regulatory infrastructure. This infrastructure also adds to the cost of funding through securities issuance, often making it uneconomic.

There are also challenging primary market requirements. Although not inconceivable, it is highly unlikely that mortgage securities can be successfully issued in countries with weak and under-developed primary mortgage markets. There must be a modicum of standardization in mortgage instruments, documents and underwriting, reasonable standards of servicing on the part of lenders and issuers and professional standards of property appraisal. Capital market funding can provide a strong incentive to improve primary market standards in these areas but there can be no substitute for a certain degree of market development preceding introduction of new funding vehicles.

Even in countries with reasonably well-developed primary markets there has been spotty success introducing mortgage securities. A major reason has been a lack of issuer need for capital market funding. Lenders seeking to access the capital markets through mortgage securities do so in order to better manage capital and risk and to lower cost and diversify funding sources. In most circumstances, the cost of wholesale funding through mortgage securities is higher than retail funding, at least in terms of the relative cost of the debt. If lenders are not capital or liquidity constrained they may view mortgage securities as excessively

costly and complex. Alternatively, some lenders confronted with serious financial constraints and therefore strongly motivated have managed to overcome the obstacles against the development of securitization.

In some cases, the mortgage security design has perhaps been overly complex for the environment. Mortgage securities can be complex or simple products or structures (mortgage bonds, agency bonds, securitization, structured finance etc.), differently stripping and pricing the related credit and/or market risks. The use of particular instruments needs to be in line with the standards and prerequisites of investors and the underlying legal infrastructure, as well as the funding and residual risk exposure needs of primary lenders. Institutional models should be adjusted to the development stage of financial and mortgage markets. Multiple legal and regulatory challenges must to be addressed, in particular in civil code countries.

Governments have been active in trying to stimulate issuance of mortgage securities in emerging markets. One lesson learned is that government involvement is not a guarantee of success. There must be an underlying market need for capital market funding and investor demand for mortgage securities. Government's most important role is as a facilitator, removing obstacles to issuance and investment, and strengthening the legal and regulatory environment surrounding housing finance. In a number of countries, institutions with characteristics similar to the government-sponsored enterprises in the US have been created. Although the jury is still out as to their potential role and importance, in most cases they have had at best a modest impact. Policy makers must be aware of the potential risks and distortions to the system that such institutions present. A level playing field and sunset clauses for such government support are important considerations.

Does the limited success to date mean that mortgage securities are not relevant for emerging markets? By no means do we ascribe to this conclusion. Mortgage securities are the vehicle to tap capital markets for funds for housing and can improve the accessibility

and affordability of housing and allow lenders to better manage the complex risks of housing finance. In markets with demonstrable need with appropriate instruments and institutions, mortgage securities can make a real contribution to the finance of housing. We believe that the use of such instruments will grow over time as housing demand increases, as lenders become more capital and liquidity constrained and as investors become more familiar with their risks.

It is important to note that in many emerging economies, interest rate risk associated with housing finance is mostly if not entirely borne by the borrower. In volatile economies it is likely that this restrains housing demand and poses a systemic risk to the system. Institutional investors are often better able to manage such risk reflecting their ability to invest in proper models and expertise and access markets to diversify and manage the risk. Thus we believe mortgage security issuance in emerging economies will to some degree parallel the introduction of more fixed rate lending options.

II. Types of Mortgage Securities

What do we mean by mortgage security? There are a number of different types of instruments that can be used to tap the capital markets. In this paper we focus on 5 generic types.

a. Whole Loan Sales: Although not a security, the sale of whole loans can be an important way for primary lenders to raise funds and manage risk. Whole loan sales involve the sale of mortgages, either individually or more commonly in pools, to other lenders or investors. Examples of whole loan sales include the sale of pools in their entirety, participation or recourse basis, by savings and loan institutions in the US in the 1960s and 1970s.[1] Whole loans may be sold through brokers, relationships (e.g., the seller delivers loans on a regular basis to the buyer)) or wholesalers who aggregate loans from a variety of sources and sell them to investors.

b. Agency Bonds: These are bonds issued by agencies specialized in mortgage finance at a secondary (i.e., not the loan origination) level. Issuers include liquidity facilities which refinance primary market

lenders (discussed below) and [the retained portfolio activities of] the mortgage GSEs in the US.[2] Their bonds are not specifically backed by mortgage loans but the assets of the issuers are almost entirely mortgages or loans backed by mortgages. The bonds are obligations of the issuers and can be straight or callable.

c. Mortgage Bonds: These are bonds that are issuer obligations and issued against a mortgage collateral pool. Investors have a priority claim against the collateral in the event of issuer bankruptcy. The issuer may be a specialized mortgage bank, as is the case in Denmark, Germany and Sweden, a commercial bank as is the case of Chile, Czech Republic or Spain, or a centralized issuer as is the case of France or Switzerland. The collateral pool may consist of all of the qualified assets of the issuer, as is the case with the German Pfandbriefe, a specified pool as in the case of US savings and loans and the recent issue by Halifax Bank of Scotland in the UK, or individual loans as in Chile and Denmark (the individual bonds are aggregated into large series). The bonds may be straight (non-amortizing) or pass-through (in which mortgage principal is "passed through" to investors as received from borrowers).

d. Mortgage Pass-through Securities: Pass-throughs (PTs) are securities issued against a specific collateral pool subject to cash flow matching. The balance on the PT is always equal to the balance on the mortgages in the pool and the cash flows received from borrowers are passed through to investors, with a delay and deduction for servicing and guarantee fees. Pass-throughs are typically not the liability of the issuer and feature credit enhancement through a variety of techniques described below. They may be issued by lenders or conduit institutions.[3] The best known PTs are the securities guaranteed by Ginnie Mae and those issued by Fannie Mae and Freddie Mac in the US.[4]

e. Mortgage Pay-through Securities: Pay throughs are multiple securities issued against a single collateral pool. They may be closed end, wherein there is a fixed collateral pool and all securities are issued at the outset of the transaction, or open end in which the collateral pool and securities can be increased over time (subject to constraints). These securities modify cash flows between borrowers and investors to meet the needs or requirements of investors. Examples of pay through securities include mortgage strips in which separate securities that are backed from either the principal and interest from a mortgage pool are sold, and collateralized mortgage obligations (CMOs) in which a number of securities that repay principal sequentially are issued. Most mortgage security issuance by banks in developed and emerging markets are pay-through structures.

III. Why Are Mortgage Securities Important?

Mortgage securities can perform a number of valuable functions in emerging economies. Their introduction and use can improve housing affordability, increase the flow of funds to the housing sector and better allocate the risks inherent in housing finance.

In economies with pools of contractual savings funds, mortgage securities can tap new funds for housing. Institutional investors (pension, insurance funds) with long term liabilities are potentially important sources of funds for housing as they can manage the liquidity risk of housing loans more effectively than short-funded depository institutions. Although in some countries, these investors are also involved in loan origination and servicing, it is not their core mission or competency. Efficiencies can be gained through passive investment in mortgage securities by institutional investors, allowing depositories and specialist mortgage companies perform the other functions. An

[3]Conduits are centralized institutions that purchase loans from lenders and issue mortgage securities. Fannie Mae and Freddie Mac have conduit functions and there are over 20 major private conduits in the US as well.
[4]For more detail on mortgage security characteristics, see Fabozzi 1997, 2001.

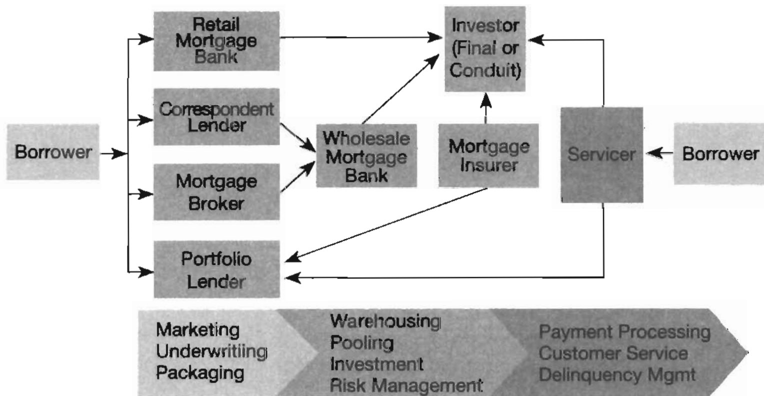
increase in the supply of funds can, all other things equal, reduce the relative cost of mortgage finance and improve accessibility to finance by the population.

Funding through the capital markets through issuance of mortgage securities can increase the liquidity of mortgages, thereby reducing the risk for originators and the risk premium charged by lenders. The ability to dispose of an asset within a reasonable time and value, a crucial factor to mobilize long term resources, is a service that capital markets, as opposed to banking systems, can provide. A frequently expressed reluctance of primary market financial institutions to offer housing loans is a lack of long term funds.[5] Access to the long term funds mobilized by institutional investors can reduce the liquidity risk of making long term housing loans, increasing their affordability and improving the access to funds for home buyers.

A third rationale for introducing mortgage securities is to increase competition in primary markets. The development of capital market funding sources frees lenders from having to develop expensive retail funding sources (e.g., branch networks) to mobilize funds. Securitization for example can allow small, thinly capitalized lenders who specialize in mortgage origination and servicing to enter the market. These lenders can increase competition in the market and can lower margins and introduce product and technology innovation into the market. The experience of Australia in the 1990s provides dramatic evidence of the power of capital-market funded lenders to change a market. The market entry of wholesale funded specialist lenders led to a reduction of 200 basis points in mortgage spreads during the 1994-1996 time period [Gill, 1997].

[5]There is a degree of speciousness to this argument, however. In most countries, depository institutions have a core of long term deposits. Although the contracts may be short term, they are typically rolled over and can fund long term housing loans. An institution can provide a significant percentage of its loans for housing while accepting only a modest amount of liquidity risk. This statement frequently masks other reasons for not providing housing loans including high transactions costs, high perceived credit risk etc.).

Increasing competition and specialization can in turn increase efficiency in the housing finance system. Greater specialization can lead to cost-savings and reduce spreads. The phenomenon of unbundling (Figure 1) has been associated with development of secondary mortgage markets. As the functional components of the mortgage process are unbundled, specialists emerge and obtain market share through scale economies in processing, access to information and technology and risk management.



An additional virtue of capital market funding is that it can engender the lengthening of the maturity of loans. Lenders with short term liabilities often offer shorter term mortgages. Origination of long term housing loans can improve affordability particularly in low interest rate environments.

Capital market funding can also help smooth housing cycles. Lenders relying on deposits may be subject to periodic outflows due to economic downturns or widening differentials between deposit and alternative investment rates (e.g., if deposit rates are regulated). Access to alternative sources of funds through the capital markets may allow lenders to keep providing housing finance throughout the cycle.

IV. What Are the Pre-requisites for Issuing Mortgage Securities?

First and foremost, there must be a demonstrable market need for the type of funding offered by the capital markets. It is almost always the case that capital market (wholesale) funding is more expensive than retail (typically deposit) funding on a debt-only, non-risk adjusted basis.[6] Why would a lender look to the capital markets for funding? There are several reasons:

1. The lender may be capital constrained (at least on the margin). In such circumstances, the all-in costs of wholesale funding (through asset sale) may be less than retail funding taking into account the high expense of equity capital. In this case, the capital savings afforded by securitization (if the lender can get the assets off balance sheet for risk-based capital purposes) can more than make up for the higher cost of debt. From a balance sheet and regulatory capital management perspective, however, the lower risk weight of residential mortgages may lead the lender to securitize other classes of assets (e.g., consumer loans with a 100% risk weight rather than mortgage loans with a 50% risk weight (or lower under Basel II).
2. The lender may be liquidity constrained. Taking into account a liquidity risk premium, wholesale funding may be cheaper than retail, particularly on the margin where the alternative to wholesale funding is raising additional funds through retail sources which may entail pricing up the stock of outstanding deposits (buying out the base). Lenders may want to diversify their funding sources as well. Even if wholesale funding is currently more expensive than retail, a lender may wish to create a wholesale funding channel to better manage liquidity and funding risk in the future. The more liquid the lender, however, the less likely they are going to ascribe a value to the liquidity premium of mortgages.

[6]That is before consideration of the operating costs of raising funds through branch deposits. These costs are often ignored or understated, as lenders may view them as fixed or allocate them to other activities of the branch. The transaction costs of wholesale funding need also to be taken into account.

3. The lender may have cash flow risk management needs. For example, it may wish to offer products the characteristics of which are difficult to manage via traditional retail means, such as a medium or long term fixed rate mortgage. On-balance sheet funding of such loans entails significant cash flow risk, both interest rate risk if not match funded and prepayment risk if the borrower has that option. Lenders offering reviewable rate ARMs (a common emerging market mortgage instrument) will have less need to fund these through wholesale sources as they entail virtually no interest rate or prepayment risk. The countries with the greater proportion of funding coming from the wholesale markets (Denmark, Germany, US) have high proportions of mortgage loans with extended fixed interest periods [EMF, MOW 2003]. Lenders may also wish to issue securities to manage liquidity risk. This risk is best judged from a portfolio perspective and may not be significant until mortgage assets constitute a significant portion of total assets.

Second, there must be a demonstrable investor demand for mortgage-related securities. Specifically there must be a class of investors with an appetite and capacity for securities backed by mortgages. In certain circumstances, the demand may come from other lenders. If there is a geographic mismatch, for example, some lenders may be asset rich and others liability rich (historically the case in the large US market). The development of a secondary mortgage market can facilitate the movement of funds between regions. More likely, the demand will come from institutional investors such as insurance companies or pension funds. These investors will have long term liabilities and thus seek longer term assets to match their cash flow and investment needs. The task is to get these investors to fund housing through purchase of mortgage securities (solving the institutional mismatch).

When will investors be interested in mortgage-related securities? There are several pre¬requisites:

1. Mortgage securities must offer attractive risk-adjusted returns. In most cases, institutional investors will look to mortgage securities as an alternative to government bonds that provide a benchmark yield as they typically represent a default-risk free, liquid investment alternative. Investors will seek a premium over government bond

yields to reflect credit risk, liquidity risk and transactions costs of purchasing and managing the assets. The premium required by investors may be reduced if credit enhancement (either by third parties or through structuring) is credible and if there is some market liquidity (e.g., if there are market makers, a function often served by broker dealers, committed to trade at posted prices with acceptable bid-offer spreads). Likewise mortgage securities can be an alternative to corporate bonds, offering greater security reflecting their collateral backing.

2. Investors must have a capacity for mortgage-related securities. In markets in which governments are excessively issuing debt, the capacity of institutional investors to purchase mortgage securities may be limited or non-existent (i.e., the government may crowd out other issuers). Capacity may also be related to the liability mix of the investors. If investors have short duration liabilities, they will seek short duration assets as a match. Investors may prefer short duration assets in volatile environments to minimize the price risk in their portfolios.
3. Investors must be able to invest in mortgage-related securities. This is an infrastructure development issue. Investors must have the legislative and regulatory authority to invest in such assets, and the regulatory treatment (e.g., for capital adequacy, liquidity and asset allocation purposes, eligibility to technical reserves) must be well defined. Their regulatory framework -like a minimum performance benchmark- may also force them to prefer secure, shorter-term and liquid securities.

Even if there are willing issuers and investors, there are a number of infrastructure requirements underlying the development of mortgage capital markets. Most important are the legal pre-requisites. Without going into detail regarding each of the requirements we can state that issuance will depend on:

1. An adequate legal, tax and accounting framework for securitization and secured bond issuance. The accounting and tax treatment of mortgage securities for both issuers and investors must be clear and complete. Adequate disclosure of information on the collateral and the issuer is necessary to assess risk.

2. Facilities for lien registration: Mortgage securities are backed by mortgage loans. There must be an accurate and timely recording of the lender's interest in the collateral. Recording of liens must involve modest cost as well.
3. Ability to enforce liens: Because investors can be last resort bearers of the credit risk attached to underlying mortgages, the enforceability of the lender's security interest is a major determinant of the attractiveness of mortgage-related securities. If liens are not enforceable, there is little to distinguish mortgage loans from unsecured debt (only, perhaps, a belief that the likelihood of default on an owner-occupied dwelling is less than that of a consumer debt). Lack of enforceability causes mortgage lending to not be perceived as safe a field of activity in many developing countries as in mature markets.
4. Ability to transfer (assign) security interest: In the case of securitization, there is a transfer of the lender's beneficial interest to the investor. The legal system must recognize and record the transfer and it should involve only a modest cost. In the case of mortgage bonds, the ability to transfer beneficial interest is important in the event of bankruptcy of the issuer.
5. Protection of investors against bankruptcy of originator or servicer. The credibility of the legal provisions ensuring bondholders that the collateral backing their assets would stay out of the reach of other creditors in case of insolvency proceedings is of the essence. For securitization purposes, the concept of a special purpose vehicle or other construct that isolates the collateral pool from the issuer/servicer is essential to obtain off-balance sheet accounting and capital treatment for the issuer. The concept of a bankruptcy remote vehicle is critical for the development of securitisation and is often lacking in developing country law.

There are a number of primary market pre-requisites as well. These include:

1. Standardization of documents and underwriting practices: The more standardized are the products, documents and underwriting practices, the lower the transactions cost of due diligence and credit enhancement costs in the case of securitization. This constraint is less stringent for mortgage bonds, which shift the emphasis of

standardization from the loans to the securities, but it is essential that mortgage bond legal frameworks define clear quality lending requirements. Standardization contributes to liquidity and thus lower yield premiums on mortgage securities.

2. High quality servicing and collection: Investors in mortgage securities depend on external agents to collect and remit payments and deal with arrears. A secondary mortgage market is more likely to develop and the relative cost of funds is likely to be lower if investors have confidence of in the ability of issuers to perform this function, the greater likelihood of market development and the lower the relative cost of funds.
3. Professional standards of property appraisal: Investors must be confident in the value of the collateral underlying the lien.

V. What Role Can Government Play in Developing Mortgage Securities in Emerging Markets?

A. Theoretical Considerations

All formal sector financial intermediation exists with the support of some government intervention. At one extreme, the government may intervene only through the maintenance of a legal system capable of enforcing private contracts. At the other extreme, the government may own and operate the housing finance system or even the entire financial system. Most countries operate in between these two extremes, usually with a blend of policies that reflects the traditions and circumstances of that country.

The clear trend in financial sector policy is to treat housing finance as part of the broader financial markets, and not as special circuits of credit allocation. In this context, the major polices affecting housing finance are those that affect the operation of banking systems and financial markets. Housing finance should be seen within the broader purview of financial sector liberalization. If the banking system and financial markets have not been substantially liberalized, attempts to create a capital market funding system may be ineffective or counterproductive (e.g., increasing the distortions associated with directed credit, and/or improperly concentrating the risks related to housing finance into the hands of the state).

Within this domain, however, it is recognized that housing lending has special characteristics. It is a major form of secured or collateralized lending. The relative efficiency of housing finance from a primary market basis depends critically on the legal infrastructure supporting the security of collateral and lender access to it. It is no accident that those countries enjoying the highest level of development of their housing finance systems, as defined in terms of the relative availability of mortgage credit and its relative cost are those countries with the legal systems in which property rights are strongly enforced. Thus, a necessary government involvement to generate capital market funding of housing is creation and maintenance of a strong legal system supporting collateralized lending.

Government clearly has an enabling role to play in creating mortgage capital markets. Government can and should act to remove onerous laws, taxes and regulations that preclude or disadvantage mortgage securities, and reflect in regulatory regimes the safety that mortgage securities can provide reflecting their collateralization. For example, stamp duties on securities registration can inhibit issuance (e.g., in India where in some states they are as high as 12 percent). The requirement that borrowers consent to a transfer of ownership adds to the cost and disadvantages mortgage securitization. The trade tax in Germany has been a significant disadvantage for securitization. It is particularly important for legislators and regulators to create sound and thorough guidelines for the creation and bankruptcy remoteness of special purpose vehicles (SPVs) and mortgage bonds. Securitization requires that the SPV have full rights over transferred assets and the proceeds from their liquidation, as well as the decision to liquidate them. Mortgage bond investors must have indisputable priority rights to the collateral which should not be part of the general bankruptcy estate in the event of issuer's bankruptcy, and ideally a priority right over the other assets comprising of the estate in case the of a deficiency in the cover pool.

Government may seek to stimulate mortgage capital market development to improve the allocation of risk in the financial system. Two risks that are somewhat unique to housing finance because of its long term nature are liquidity risk and cash flow risk.

Liquidity risk refers to the risk that money will be needed before it is due. Liquidity risk can arise due to the long term nature of mortgage loans. Individual mortgages may not be readily marketable (converted into cash). A lender faced with short-term and unstable sources of funds (e.g., deposits, short term bank loans) may not make mortgages due to the risk that it cannot meet cash outflow needs by selling its loans. Illiquid assets that cannot be pledged as collateral for short term borrowing also increase liquidity risk.

Liquidity risk is not unique to housing finance but rather a broader financial sector stability issue. In modern financial markets, central banks provide the ultimate back-stop against liquidity risk. In addition, deposit insurance reduces the likelihood of massive withdrawals from depository institutions. However, the long term nature of mortgage securities suggests that the risk is greater than for other types of finance and is frequently cited as a reason why banks won't provide housing finance in emerging markets. A relatively easy way for government to improve the liquidity of mortgage assets is to accept mortgage securities as collateral at the discount window (open market transactions with adjusted haircuts). But governments may also wish to support more directly and rapidly the development of mortgage capital markets as a way to tap long term funds and help lenders manage the maturity mismatch.

Cash flow risk is an issue for lending institutions with liabilities with characteristics that do not match the characteristics of their assets. As the savings and loans in the U.S. learned, there is substantial interest rate risk associated with making long term fixed rate mortgages funded by short-term (essentially variable rate) deposits. While variable rate mortgages reduce the interest rate risk for lenders, they increase it for borrowers, which may lead to high rates of default in volatile economies. Lenders may avoid investing in certain types of mortgages (e.g., long term, fixed rate prepayable loans) due to their inability to manage the interest rate or prepayment risk of the asset – in particular if there are no hedging instruments available. Capital market funding can facilitate a reallocation of cash flow risk if investors can be found with funding

characteristics similar to those of the mortgage contracts and/or the capabilities to manage the risks of complex instruments like mortgages.[7]

Developing mortgage capital markets can foster financial market and economic stability. Lenders subject to significant liquidity risk may ration the availability and terms of mortgages, which in turn may lead to cycles in housing construction and economic activity. Lenders subject to interest rate risk may pose a danger to safety and soundness of the financial system. For both reasons, the government may wish to stimulate capital market funding if it achieves a more desirable allocation of risk.

A true secondary market for mortgage loans based on securitization may improve the allocation of mortgage credit risk by diversifying it across geographic areas. Traditionally, American mortgage lenders operated on a narrowly defined geographic basis, lending only to those clients and in those markets in which they could efficiently gather information on borrowers and properties. This geographic focus, which was enshrined in the charters of savings and loans in the U.S. until the early 1980s, exposes lenders to concentration risk that can be diversified through lending in a wider geographic area.[8] Geographic diversification can be obtained through operating across markets that are not correlated or are inversely correlated with each other. Alternatively, it can be obtained through the sale and purchase of loans between institutions located in different market areas.

[7]Management of this risk (or the inability to do so) is frequently referred to as an institutional mismatch, that is a mismatch between the holders of long-term funds (institutional investors) and the users of long term funds (mortgage lenders).

[8]Geographically restricted institutions may also be subject to periodic funds shortages if the local demand for credit exceeds the local supply of savings. Conversely, they may find themselves with an excess supply of funds if local loan demand is weak. Correcting a geographic mismatch between capital surplus and deficit regions is another rationale for the encouragement of capital market funding of housing. This rationale is less important if lenders operate on a nationwide basis.

If mortgage capital markets are desirable, will they not develop on their own? If sufficient legal and regulatory frameworks as well as institutional investors exist, lenders can issue bonds or mortgage-backed securities or sell pools of whole loans to obtain long term funds and re-allocate the risks inherent in mortgage lending. But the fact that such funding is available does not necessarily mean it will be used. Lenders may not issue mortgage securities or sell loans due to the higher cost associated with wholesale finance. The higher cost may reflect the transactions cost of issuing bonds or securities or selling whole loans, and/or the perceived credit-worthiness of the issuer and the collateral.[9]

The issuance of mortgage securities involves significant transactions costs in the form of legal, regulatory, investment banking, rating agency and other fees. These costs are typically fixed fees, invariant to the size of the issue. If the volume of loans to be financed is small, the transactions costs may render the financing uneconomic. In addition, small size securities are less liquid and investors charge a liquidity premium to invest in them. Lenders may reduce these costs by creating a jointly owned facility (liquidity facility or conduit) to pool assets and issue larger securities, spreading the transactions cost over a larger base and creating more liquid securities.

Investor credit risk concerns are a major potential obstacle to the creation of mortgage capital markets in emerging markets. Investors may not be comfortable with the credit quality (e.g., if foreclosure is weak or non-existent or if the performance of mortgage markets has been affected by a crisis) or the issuer (e.g., a newly created entity, whether a primary lender or secondary facility, a small lending institution or one with a weak capital base as in the case of banks coming out of a financial sector crisis). It also takes time before investors can value the novelty and complexity of such securities. The state may then provide a guarantee - or preferably sell it for a limited period of time - to

[9]In some markets, lenders may not be able to pass along higher funding costs to borrowers due to the political sensitivity of housing loans. Alternatively there may be a dominant depository lender that sets prices in the market based on retail rather than wholesale funding benchmarks.

enhance qualified mortgage securities in order to create trust of investors, or reduce the resulting cost of funds notably for social housing finance (e.g., Colombia since 2002). This position may be justified if reforms are under way to improve the lending and capital market infrastructure and issuer credibility.

Generally speaking, mortgage capital markets are not the proper solution for weak legal protection of property rights and mortgage lending. Investors will rightly be skeptical of securities backed by mortgages and demand hefty premiums or shun them altogether. Shifting the risk to the government without addressing the fundamental legal issues creates a moral hazard, which can lead to excessively risky lending.

Even if mortgages are viewed as good quality assets, the underwriting of credit risk can be expensive. Individual mortgages are small value assets that are relatively expensive to underwrite because investors must obtain information on both the borrower and the property. In addition, investors are subject to information asymmetries, which can increase the cost of underwriting credit risk, and in the limit preclude institutional investment.

Mortgage credit risk is best managed at the local level. Lenders operating on a local basis can gather information and monitor borrowers and properties more cost effectively than lenders operating at a distance. Capital market investors are at an inherent disadvantage in managing mortgage credit risk due to their lack of retail outlets and access to local information. Thus they must depend on agents (the lenders) to properly underwrite and service mortgage investments. In so doing, they are exposed to agency risk, which is the risk that a divergence of interest will cause an intermediary to behave in a manner other than that expected. The monitoring of these agents creates costs for the investor, which may preclude their investment.

The high costs of underwriting and monitoring credit and agency risk are major deterrents to capital market funding of housing. Thus, in order to invest in housing, capital market investors demand

structures (e.g., mortgage bonds or securities) that substantially reduce or eliminate these risks. In developed financial systems, institutions such as mortgage and bond insurers and senior-subordinated securities structures have evolved as private market solutions to the managing these risks (credit enhancement).[10] Rating agencies can assess and monitor the performance of lenders and third party credit enhancers and thus improve the information flow as well.

In many emerging economies, by contrast to more developed economies, the perception and reality of mortgage credit risk are high – notably because of catastrophic elements related to past or future severe macro economic shocks, de-capitalized banks, ineffective legal protections (foreclosure, title), regulatory capriciousness and market distortions. The potential for such events is reflected through the level of credit enhancement expected by MBS investors (frequently more than 10%). This credibility issue reduces the attractiveness of any securitization solution, as issuers view such structuring solutions as excessively costly (and offering them no capital relief), and there may not be any private third-party enhancement solution (for the same reasons of missing pre-requisites or small and nascent markets). In addition, many emerging countries cannot rely on the presence of several external rating agencies disposing of sufficient expertise and proper methodologies to rate mortgage securities (often creating a chicken and egg problem about the scale security issuance and the presence of rating agencies). In such cases, government involvement to reduce perceived credit risk (e.g., through public default insurance fund or public securitization conduit) can accelerate access to capital markets funding for housing lenders.

[10] In a senior-subordinated structure, two primary classes of securities are created – a senior class and a subordinated class. The subordinated class functions as the credit enhancement for the senior class because, should any defaults on the underlying mortgages occur, payments that would otherwise be made to the subordinated class are diverted to the senior class to the extent required to make the scheduled interest and principal payments. Accordingly, the majority of the credit risk is concentrated in the subordinated class.

When considering such involvement, a government should ask the following questions:

1. Does the demand for government involvement reflect the non-existence of or limited capacity for private market solutions (e.g., mortgage insurance, payment guarantees provided by private financial institutions) or simply a desire on the part of lenders for cheaper financing but unlikely to increase the flow of funds to housing?
2. Can a public institution or guarantee program effectively manage and price the risks it takes? Will it have the incentives, autonomy and capital to operate effectively without creating a large contingent liability for government?
3. Once created, is there a mechanism for eventual privatization or sunset so that the government does not crowd out the private sector?
4. Is there a clear and narrowly defined mission with clear accountability for the managers of the institution?

Although both economic and political rationales for government involvement to stimulate mortgage capital market development exist, it is important to note that such involvement comes at a cost. Shifting risk to the government creates additional costs to monitor agents and reduce the potential for excessively risky lending and adverse selection. Government guarantees may be mis-priced for political reasons and government-supported institutions can exploit their monopoly status. Thus the costs and benefits of all interventions need to be carefully weighed.

There is no distributional rationale for government involvement in capital market funding. To attract institutional investors, mortgages must be market priced. If the funds for subsidizing mortgage borrowers come from savers or private investors, they will not supply sufficient capital to meet demand. As a result, the institutions will have to resort to non-price rationing of mortgage credit during periods of rising demand. Their lending activities will crowd out other intermediaries from the market and potentially distort capital allocation. Affordability issues can be better addressed through mortgage design and direct borrower income or down-payment support.

In sum, the rationale for government involvement in developing the capital market funding of mortgages depends on the ability and relative cost of managing the various risks of mortgage investment, which in turn depends on the existence of institutions and markets to manage these risks. In general, the more developed is the financial system the more likely it is that the private sector can efficiently manage risk and allocate long term resources to housing. The fact that private markets are constantly evolving also suggests that the institutions and incentives created by government for one set of market conditions may not continue to be needed in a different set of conditions. Thus the issue of the life cycle of government involvement needs to be addressed.

B. Functions

If a government seeks to simulate development of mortgage capital markets, there are a number of ways to proceed. These include creating new public institutions, providing guarantees for the securities issued by private sector institutions, and providing investor and/or issuer incentives for mortgage securities [Lea, 1999]. In general, government involvement should be targeted, transparent, budgeted and temporary.

Institutions: Government may play an important role in catalyzing the capital market funding of housing through the creation and support of institutions that address market needs or policy objectives. Thus, a government-sponsored mortgage insurer can accomplish a geographic diversification of credit risk and provide credit enhancement to facilitate institutional investment in mortgage securities. In countries where the primary market is geographically segmented, capital market investors, as well as nationwide mortgage lenders, have a major advantage in managing mortgage credit risk, the ability to diversify the risk across geographic areas.

A centralized secondary market institution (either a bond issuing facility or a conduit) can reduce the relative cost of security issues by developing economies of scale in bond issuance and liquidity in its securities. The SMI can provide guarantees of ultimate

and/or timely payment of principal and interest increasing the attractiveness of the securities.

These institutions can reduce the cost of credit risk assessment, as the investor only has to underwrite the intermediary or insurer and not a large number of primary market entities or individual loans.[11] In principle, they also reduce the level of the credit risk taken by investors through monitoring the primary market lenders. Such institutions may be created by the private sector but may lack the necessary credibility, particularly in underdeveloped capital markets where investors are primarily in government securities.

The government can create or sponsor an intermediary or insurer as a way to jump start the market. In theory, a fully owned government institution is controllable with a known cost that should be budgeted.[12] A disadvantage to government ownership, however, is the difficulty in many markets of finding the talent necessary to create and run the institution, particularly if government salaries are significantly below those of the private sector. Government-owned institutions may be more susceptible to political pressures that increase risk or cost.

An alternative is sponsorship of a privately owned institution. An advantage to government sponsorship is the ability to attract and pay for people with the skills to create the institution, manage risk and run it efficiently. The disadvantage of government sponsorship is the inherent conflict of interest between the profit maximizing motives of management and owners and the social mission of the institution. These types of institutions can socialize the risk while

[11]The fact that capital market investors may be unwilling to accept credit or agency risk does not mean that specialized government-backed institutions have to accept such risks themselves. For example, a liquidity facility that makes loans to primary market lenders and funds itself through bond issuance may guarantee its bonds against default but not accept mortgage default risk from its borrowers (i.e., by lending on an over-collateralized basis or purchasing on recourse). Alternatively it may seek re-insurance through the global capital markets. The issue is the confidence investors have in the guarantees of the institution.

[12]The government can reduce its credit risk exposure and create proper incentives for lenders by requiring credit enhancement through subordination, recourse, joint and several liability etc.

privatizing the profit. A question that policy makers need to ask is whether the government's involvement is permanent or temporary. Almost by definition, government owned or sponsored institutions are monopolies with an advantage from their government backing. The danger is that such institutions grow into economic behemoths that dominate their markets, as is the case with Fannie Mae and Freddie Mac in the US [Stanton 2002].

Guarantees: An alternative to creating a public institution is to provide guarantees for private sector security issuers to facilitate investor acceptance.[13] Government guarantees of private sector issues can be targeted, removed once the market is established and can promote competition in the market if offered to all lenders. The disadvantages of guarantees are the potential for fraud and associated high agency costs of monitoring and the lack of economies of scale in securities issuance. Guarantee schemes should be actuarially priced and on the government's budget.

Market Liquidity Support: The lack of market liquidity can be a self-perpetuating impediment due to the following vicious circle: Few investors accept to buy the new securities for fear of being unable to resell them if needed. But the very absence of a wide, diversified array of investors undermines secondary trading. There are several specific ways government can help overcome this initial paralysis and improve liquidity in mortgage securities markets [Ladekarl, 2001]. These include: 1) Central bank support of a repo market by accepting mortgage securities as collateral in its repo transactions; 2) provision of guarantees that will help develop a private repo market; or 3) creation of a contingent government fund that would stand ready to buy mortgage securities in the secondary market.

[13]The Ginnie Mae program in the US is an example of government guarantees on securities issued by private lenders. Ginnie Mae provides a timely payment guarantee on mortgage-backed securities backed by government-insured loans issued by banks, savings institutions and mortgage companies. In emerging economies, such programs of guarantees have been implemented in Colombia since 2002. They are actuarially priced on a risk-adjusted base, and sold to potential issuers of mortgage securities (banks, securitization companies) but limited to enhance securities that refinance social housing loans. Other programs of guarantees for private MBS issuers are also being implemented by SHF in Mexico.

Of these options, the central bank support of a repo market appears less risky than the other alternatives. If possible, it is preferable not to have the government guarantee mortgage securities and thus take on their numerous other risks for liquidity reasons. Likewise the government should not buy and hold such securities. Government also has a major disadvantage as a market maker in the potential to be adversely selected.

Investor Incentives: Governments may provide incentives to investors by exempting mortgage security interest from taxes (e.g., mortgage bonds in the Czech Republic) or reducing the capital requirements for holding them (e.g., risk weights on Fannie Mae and Freddie Mac securities held by banks are 20% as compared to 50% for whole loans).

The risk weights may reflect a lower risk (i.e., privileged access to collateral for mortgage bonds, seniority in structured finance) or simply be an incentive to invest. While such subsidies do increase the attractiveness of the security, they are often regressive, can distort bond markets and provide incentives to mortgage lenders to just swap their mortgage loans into hold mortgage-backed-securities without leveraging the liquidity proceeds into a new production of mortgage loans (e.g., the "buy and hold" behavior observed in Colombia).

As shown in the Table, both the US and Europe have provided for special treatment for certain classes of mortgage securities that are viewed as low risk.

Prudential Treatment of Mortgage Securities for institutional investors in the European Union and in the USA.

1) EU (Article 22-4 of the Units for Collective Investment in Transferable Securities) Member states may raise the ordinary limit of 5% of a UCITS assets in securities of a single one issuer up to 25% in the case of bonds (i) issued by credit institutions, (ii) that are subject by law to special public supervision, (iii) designed to protect bond holders. Eligible are the bonds the proceeds of which are invested in assets that are capable of covering claims attached to them and that would be used, in the event of the issuer's default, on a priority basis for the repayment of the bonds.

   The criteria set out by the UCITS Directive have been used for further special status granted to mortgage bonds:
   - Investments of insurance companies
   - Eligibility to the European Central Bank System repurchase transactions for monetary policy purpose in the Euro zone
   - Reduced weighting (10% instead of 20%) for banks capital adequacy calculation
     In addition, mortgage bonds are eligible collateral for payment systems flows in some countries.

2) USA (Secondary Mortgage Market Enhancement Act of 1984). In 1984, The SMMEA was passed in order to promote the development of private mortgage backed securities, which was hampered by the lack of privileges accorded to "Agency" securities under many laws statutes (e.g., Employee Retirement Income Security Act of 1974, state blue sky laws regarding the primary offer and sale of securities, statutory limitations to the investment of institutional investors...). SMMEA extended some of these privileged treatments to the highest (two top grades) private MBS backed by first mortgages on residential real estate. An important provision was the exemption from state registration requirements -, the Act preempted state laws regarding the investment of state regulated insurance companies and pension funds into qualifying mortgage-related securities, which are deemed to be equivalent to securities issued or guaranteed by the federal government. Up to then, even AAA rated MBS were not legal investment for institutional investors in more than 30 states. Also, since 1983, private MBS can be used as collateral for margin credit in inter broker-dealer securities transactions.

Issuer Incentives: Issuers are sometimes given incentives to foster their development or encourage them to issue securities. For example, Fannie Mae and Freddie Mac do not pay state and local income tax and do not have to register their securities with the Securities and Exchange Commission, reducing issuance cost. Generally, issuer incentives are not well targeted and often captured as additional profits. The US GSE incentives are archaic for such large and profitable institutions but remain in place because of claims that they lower mortgage rates.

VI. What Has Been the Experience in Emerging Markets?

A. What Has Been Tried and Where?

There have been many examples of individual transactions by banks or creation of institutions as securities issuers in emerging markets. These transactions range from simple mortgage bonds to complex pay through securities. There have also been a number of mortgage securities issuing institutions created in emerging markets.

Mortgage Bonds	Pass-Through Securities	Structured Finance	Conduits	Liquidity Facilities
Chile Colombia Poland Czech Republic Hungary Bulgaria	Hong Kong	Colombia Argentina Chile Mexico South Africa Korea Philippines Trinidad Panama India	Argentina Brazil Colombia Hong Kong Korea Thailand	Malaysia Trinidad South Africa India Jordan

While there are interesting stories to tell in each country, we have selected several for discussion as representing various approaches to developing capital market finance.

B. Case Studies

1. Latin America a) Argentina

Banco Hipotecario (BH) is the former state housing bank of Argentina. It has been a pioneer in the issuance of mortgage-backed securities in Latin America. BH is a partially government-owned bank with budgetary and administrative autonomy. Its retail funding operations were suspended in 1990 in the aftermath of the hyper-inflation and it was re¬chartered and restructured as a wholesale bank providing medium and long term financing for construction and home loans. The bank was partially privatized in 1997 and resumed retail operations soon thereafter. BN issued its first mortgage-backed securities in October 1996 with 4 additional transactions through February 2001 totaling more than $615 million[14].

BH worked with the government to enact a securitization law in 1996 that created the framework for domestic issuance. However, it ultimately chose to issue most of its securities internationally in order to tap new funding sources.

Initially a wholly-owned government bank and after 1999 a partially privatized institution, BH's issues were not guaranteed by the government. The typical structure was a senior-subordinated collateralized mortgage obligation with additional credit enhancement from a reserve fund and excess spread account. The BH transactions were notable in several respects: 1) they were sold in the US proving that securities backed by Argentine mortgages could attract international investors without government backing[15]; 2) they broke the sovereign ceiling showing that structuring could deliver higher

[14]Banco Hipotecario, 2002. The last issue was by Banco de Crédito y Securitización S.A. (BACS), a joint venture between BN, its controlling shareholder IRSA Inversiones y Representaciones SA and the IFC. All the mortgages backing the BACS transaction were purchased from BN.

[15]The international dimension of BH's issues has to be put into perspective by the fact that, although denominated in US dollars, they were in part targeting Argentinean investors with dollar holdings (the securities were governed by Argentinean law)

ratings than the country of collateral origin; 3) the BHN IV issue was the first MBS to carry political risk insurance provided by Zurich US [Zurich 2000].

Although expensive in terms of yield and degree of credit enhancement, BH regarded the program as a successful way to raise funds. As the leading mortgage originator in Argentina, it had a demand for funds that far outstripped its retail funding capabilities. The lack of a long term bond market in Argentina led BN to issue most of the bonds internationally.

The events subsequent to the Argentine government default and devaluation have been quite adverse for these securities.[16] Argentina's default and soon-to-follow devaluation were accompanied by a variety of unorthodox measures designed to cushion the blow of the devaluation to the system. According to Fitch Ratings, the effects of the initial devaluation could have been absorbed by the credit enhancement within the structure; however, the immediate pesofication of the mortgages proved to be devastating. Similar to all Argentine financial institution assets, the payment terms of the underlying mortgage were re-denominated into pesos. It caused an immediate peso-dollar mismatch for these transactions. Credit enhancement declined by 30% overnight and then by more than 50% once the peso floated freely.

The final blow was the pesofication of the rated bonds. The debt payments made to investors were below the dollar amount necessary to meet timely payments of interest on the original terms and the securities were downgraded to 'D'. In addition, their performance was impacted by mandatory delays within the foreclosure process of 180 days and transfer and convertibility restrictions on the payments of principal.

[16]Fitch Ratings 2002

BHN IV and BACS transactions included political risk insurance for the interest payments. However, the transfer and convertibility protection insurance provided no protection to investors against legal risks and the potential for a deterioration in credit quality due to government actions.

b) Chilean mortgage bonds

The way mortgage bonds became both the main housing finance vehicle and a major instrument of the capital market is a textbook case of coordination and sequencing of interrelated policy measures.

The Chilean mortgage bond system was borne out of a financial crisis in which the primary mortgage lenders, the Banco del Estado and a network of Savings and Loans (SINAPS) collapsed due to a massive deposit run in 1976/1977- the first casualties of the ill-controlled deregulation that was a major reason of the general financial crisis in 1982.

To collect capital for housing in lieu of the defunct savings deposit based system, an old debt instrument was re-activated: the "Letras de Credito Hipotecario", the actual usage of which had been abandoned in the 1930s crisis. This time, letras were directly conceived as an indexed bond, able to keep the real value of invested capital – although they legally may be denominated in Pesos. The indexation mechanism had been renovated in 1967 with the creation of a new index, the "Unitad de Fomento" (UF) that had become a widely recognized and accepted account unit.

From the outset, LCH were denominated in UF. This was the first step of a well balanced sequence of financial policy decisions. Absent a significant capital market at that time, the government provided in an initial phase the bulk of required investment, through a dedicated credit facility of the Central Bank. This facility lasted until 1980. At the end of 1980, a major reform was introduced: the creation of a fully funded pension system based on mandatory contributions of wage earners to

individual retirement accounts. As a derivative of this system, life insurance companies also developed to sell annuities to the retirees. Pension funds grew to represent about 55% of the GDP, and life insurance companies 17%, by 2000.

This development was the main driver of the expansion of LCH and the extension of their maturity to 25 years. Although there are no guidelines that expressly direct institutional investors to purchase letras – other than a high global ceiling of 50% of the portfolio in the case of pension funds - they were de facto strongly induced to do so by the lack of alternative vehicles: with LCH, an appropriate tool was available to address the particular requirements of pension fund management. Specifically,

- Pension Funds were only invest in tradable securities and were barred to buy stocks until 1985
- Government budget has regularly shown surpluses in Chile – its balance has stayed positive since 1986 with an exception of 1999
- Securities bought by institutional investors must be rated by at least two agencies.

Therefore, although LCH share in pension funds portfolios has been declining from about 50% in 1985 to less than 15% recently, the continuous growth of pension funds, which hold more than half of the outstanding letras (life insurance companies about 12%) has resulted in the deepening of the letras market. Today approximately 70 percent of mortgage funding comes from the letras market. For more detail on the Chilean mortgage bonds see Hassler, 2002.

c) Colombia

Titularizadora Colombiana (TC) was created in July 2001 as a securitization company. According to the December 1999 law that reformed the overall housing finance system in crisis, such companies may be created as non-credit institutions to securitize housing loans. Their main purpose is to raise long-term funds from the capital markets, manage the significant

cash flow risks of mortgages and provide equity relief to the primary mortgage lenders. TC is regulated and supervised by the Securities Commission. Its capitalization (Peso 70 trillion e.g. USD 25 million) came from private investors including the dominant mortgage lending banks and the International Finance Corporation. The company receives no explicit or implicit support from the government. In the past, some banks had also individually issued MBS but the TC can perform this function under better conditions of size, liquidity, risk management and specialization.

TC was created in response to the severe crisis to which the mortgage markets have been exposed since 1998. Specialized savings and loans and borrowers were hit by interest rate shocks, rising unemployment and depressed housing prices. The situation was worsened by a risky system of indexed credit products, and a culture of non-payment fueled by a judiciary reaction against lenders. Despite several policy and regulatory measures, the industry has not been fully restored to soundness[17].

The ex-savings and loans turned into commercial banks remain vulnerable to market and credit risks. In that context, the issuance of mortgage securities has been an immediate operational priority to improve this distressed sector.

Within its first two years, the company issued four securities ("TIPs") for a total of Peso 1.82 trillion ($ 650 million) or 13% of the outstanding residential mortgage debt. TC aims to reach a 38% market share by the end of 2006. Most private and public mortgage lending institutions have already used TC to securitize part of their mortgage portfolios. TIPs are structured with senior and subordinated tranches. Senior tranches are designed to receive a domestic AAA external rating thanks to a combination of internal credit enhancement (junior tranches,

[17]More than 20% of the portfolio is still non-performing, although provisioning and prudential capital has been steadily rising.

reserve fund) and external through guarantees sold by IFC and the state (for securitized social housing loans).

So far, TC has not been providing its own institutional guarantee to the senior securities but has been holding a small amount of subordinated tranches. Investors can opt for various maturities (mostly 5, 10, 15 years). The loans and securities are UVR-indexed fixed real rate credits. Its first issues were backed by well-performing, low LTV seasoned housing loans. The performance of pools has been good but prepayment rates are high. The interest of domestic bond market investors for such MBS has been growing.

A public agency - Fogafin - has been managing since 2002 a fund that sells to issuers a guarantee for the full timely payment of eligible mortgage securities (both MBS and mortgage bonds) issued by banks, fiduciaries, and securitization companies, provided that they fund only social housing credits (VIS loans). The quality of securities is then enhanced to the level of public debt thus reducing the funding cost of VIS loans that are capped by law at UVR + 11%). FOGAFIN has developed eligibility standards and charges an actuarially-based premium. The fund has access to budgetary support (US$200 million) if needed. This program is expected to be temporary.

Eligible mortgage securities can be repo'd at the Central Bank with haircuts through a public fund (FRECH) managed by the central bank. The function of FRECH is to increase liquidity in the capital markets. New capital adequacy rules will soon be implemented for banks holding mortgage loans or various tranches of mortgage securities according to the actual exposure to risk, as well as to the securitization company to avoid any possible capital arbitrage. The TC has been preparing a new MBS specially structured to securitize non-performing mortgage loans.

The securitization companies are aided by a large income tax exemption granted to all MBS investors (for securities issued

until 2006). This regressive subsidy artificially reduces the cost of funds through securitization (TIP yields show negative spreads by 200-300 basis points but at a considerable fiscal cost without any social targeting. This feature has also led some banks to just buy and hold MBS for tax arbitrage, and may more generally distort the development of fixed income markets. TC has been active trying to diversify its range of institutional investors to various mutual and investment funds, but has not yet actually mobilized the long-term savings of pension funds that cannot capture this tax benefit.

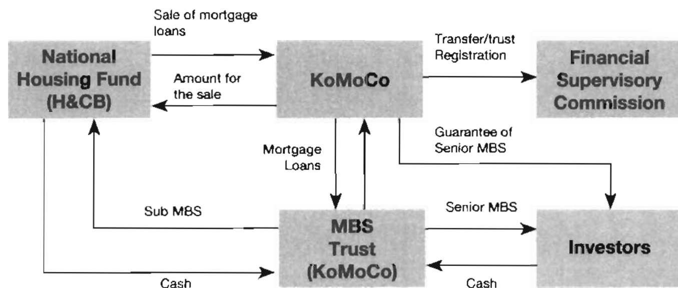
The housing finance law and subsequent regulations have also allowed banks to directly issue mortgage bonds. These are bonds issued by banks using general mortgage pools as collateral (through a privilege over the bank's bankruptcy over a determined cover pool of eligible assets). This type of secure and on balance sheet funding tool has been tried only once to refinance new mortgage loans, and could be further developed.

2. Asia a) Korea

The Korea Mortgage Corporation (KoMoCo) was set up as a joint venture by the Ministry of Construction and Transportation (MOCT), the Housing and Construction Bank, Kookmin Bank, Korea Exchange Bank and Samsung Life Insurance Co. at the end of 1999. In 2000, the International Finance Corporation (IFC) and Merrill Lynch became foreign investors in KoMoCo. Along with the equity investment, these foreign investors brought technical assistance to KoMoCo from Countrywide International Consulting Services and Fannie Mae in the areas of business, operations and technology development.

KoMoCo's mission was to securitize the National Housing Fund (NHF) loans as well as private sector mortgages originated by commercial banks and other special finance companies. KoMoCo's bonds are not guaranteed by the Korean government, but are still considered a safe instrument due to the government involvement (i.e., an implicit guarantee).

Komoco has completed 9 transactions, 7 collateralized by NHF loans1 1 collateralized by Samsung Insurance loans and one collateralized by National Agricultural Cooperative Federation loans, bringing total securities issued to more than 3 trillion won ($2.5 billion) through August-2003 [www.komoco.co.kr]. The non-NHF securities represent only 1.1% of total issuance. KoMoCo's securities are structured as callable and non-callable bonds with senior and subordinated tranches. The structure of KoMoCo's MBS deals is shown below.



The bonds are not true pass-throughs and the government retains the credit risk through purchase of the subordinate bonds by the NHF. KoMoCo holds the junior bonds on the NACF loans and Samsung purchased the junior bonds on its transaction. Komoco has been successful in extending the maturity of fixed income securities in the Korean market. Komoco has issued bonds with a maturity of 15 years and 59% of its MBS are long-term securities with a maturity of more than five years, and 78% are those with a maturity of more than three years [You, 2004].

To date KoMoCo has not been a commercial success, however, in large part because there is no demand for wholesale funds in the Korean market. The mortgage market is dominated by Kookmin Bank and the NHF which account for over 85% of mortgage debt outstanding. The NHF loans are subsidized and the government absorbs the yield difference between the mortgages and bonds through its subordinate

security. Kookmin is a large, liquid bank that does not need wholesale funding – which is true for the other large banks in Korea as well. KoMoCo could provide a funding outlet for small mortgage companies but is hampered by a restriction against holding loans on its balance sheet or purchasing loans from lenders without an extensive performance history.

In order to stimulate the development of the MBS market, the Korean government made a number of significant changes to the market in 2002 [You 2004]. The MBS Company Act was amended to extend the payment guarantee limit to 30 times (from 20 times) equity capital and a BIS risk weight of 20% now applies to MBS issued in accordance with the Act. Lower taxation now applies to interest and dividends from MBS. In addition, securitized loans are exempted from acquisition and registration taxes. Furthermore, interest on long-term mortgage loans of more than 10 years is tax deductible.

The government also decided to restructure Komoco from a private corporation to a government-owned agency at the end of 2003. The new entity, the Korean National Mortgage Corporation, will be wholly owned by the government and have greater powers than Komoco, including the ability to hold loans on its balance sheet to form larger MBS pools. A major reason for the change is to improve the funding cost through securitization as an incentive for lenders to make longer term loans (the maturity profile of Korean mortgages has shortened considerably in recent years).

b) Hong Kong

The Hong Kong Mortgage Corporation [HKMC] was established in March 1997 to reduce real estate asset concentration in the banking system in Hong Kong and to stimulate the development of a mortgage capital market. Since 1998, the size of its retained mortgage portfolio has grown at an annual compound rate of 25.6% to the current amount of HK$28.3 billion [$ 3.6 billion], which is close to 5% of the residential mortgage loan market [HKMC Annual Report 2002].

HKMC was designed to operate as a conduit, purchasing mortgages from qualified lenders funded through the issuance of pass-through MBS. To date, most of its funding has come through corporate bond (discount and medium term notes) issuance with the loans remaining on its balance sheet. At the end of December 2002, the Corporation had 73 issues of debt securities outstanding. The outstanding amount of HK$28.6 billion accounts for 7% of the market other than the Exchange Fund Bills and Notes. The corporation issues MBS as part of a "back-to-back" program in which lenders exchange pools of mortgage loans for HKMC-guaranteed pass-throughs, thus obtaining regulatory capital relief (50% to 20%).

HKMC has expanded the variety of instruments in the Hong Kong capital market. It has successfully introduced long term MBS, a reverse floating rate bond, a CMO and multi-currency bonds in the Hong Kong bond market. However, it has not been successful in establishing a deep MBS market, in large part due to the short term bias of Hong Kong's institutional investors and the increased liquidity of the banking system.

HKMC has been impacted by the turn down of the HK economy since the onset of the Asian financial crisis. The commercial banks have been reluctant to sell mortgages to HKMC for two reasons: excess liquidity makes wholesale funding unnecessary and the banks have used this liquidity to engage in a price war for retail mortgages, making wholesale funding unattractive economically. In order to address this problem, the Corporation decided in December 2000 to expand the scope of Approved Sellers to include Government housing agencies, other public bodies and property developers. Successful execution of this strategy enabled the HKMC to achieve a record mortgage purchase amount of HK$14.4 billion in 2002, exceeding both the HK$13.2 billion achieved in 2001 and the target of HK$13.5 billion set for 2002. These activities, however, mean that HKMC has become primarily a government funding mechanism as opposed to a catalyst for private mortgage capital market development.

HKMC has pioneered the introduction of mortgage insurance to the Hong Kong market, thus performing a role as a catalyst for innovation. In 2002, 9 percent of new loans carried mortgage insurance. The mortgage insurance program is offered by the HKMC and re-insured by private mortgage insurance companies (United Guaranty Insurance and PMI Mortgage Insurance). The program has facilitated an increase in maximum LTVs (up to 90%) and average loan size. The newly created HOME Program addresses the problem of negative equity in Hong Kong. It provides insurance to cover losses in excess of 90% and up to 140% of the value of the property, allowing banks to convert a negative equity mortgage into a positive equity mortgage. The HKMC, as the primary insurer, disperses the credit exposure through reinsurance arrangement, backed by the issuance of credit-linked notes.

c) **Malaysia**

Cagamas Berhad was created in 1987 following a recession and liquidity crunch that restricted credit for housing, particularly for moderate income households. The purpose of Cagamas was to provide more liquidity to mortgage lenders, reduce market risks, assist social housing finance, sustain construction sector, and develop private fixed-income markets.

Cagamas purchases mortgage loans (the principal balance outstanding) from mortgage originators, with full recourse to the primary lenders, at a fixed or floating rate for 3 to 7 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. The debt is amortized independently of the mortgages.

Cagamas is the largest non-government issuer of debt in Malaysia. Its securities are rated AAA by the Malaysian Rating Agency and subject to only a 10% risk weight for bank investors. As of the end of 2002, Cagamas had outstanding

debt securities exceeding 24.9 billion Ringgit (approximately $6.6 billion) [Cagamas Berhad, 2002].

As a liquidity facility, Cagamas' market share fluctuates with market conditions. At the peak in 1997 at the height of the Asian financial crisis it financed 41% of new mortgages. The market share has fallen sharply to 18% as banks became more liquid and asset short.

Twenty percent of Cagamas' shares are owned by the Central Bank with 74 commercial banks and finance companies holding the remaining shares. The Deputy Chairman of the Central Bank chairs the Cagamas Board. Cagamas has been profitable throughout its existence with return on equity in the mid-to late 1990s exceeding 30%. Its ROE has dropped sharply in recent years and was 13.6% in 2002 reflecting the fall in assets and margin.

Cagamas has successfully pioneered a number of products in the market including fixed and variable rate, longer maturities, recourse and non-recourse, Islamic debt, and leasing/ commercial property lending. It expects to begin purchasing loans without recourse and issuing pass-through securities in the near future, but this next stage of development has been encountering difficulties mostly caused by the reluctance of liquid primary lending institutions to sell their most profitable mortgage assets, and recent increased capacity to proceed directly with their own securitization.

Cagamas receives a number of significant privileges from the Malaysian government, without which its refinancing activities would not have been perceived as sufficiently attractive for primary lenders. Loans sold to Cagamas are not subject to the Central Bank reserve requirements. Its securities are eligible as liquid assets (banks and finance companies must keep an additional 10% of assets in liquid form). Cagamas securities carry a risk weighting of 10%, compared with a 50% rating for housing loans, for investing credit institutions.

3. E. Europe and Middle East

a) Hungary

A legal framework for mortgage bonds was created by a June 1997 Act. Mortgage lending has been expanding extremely rapidly since then, and the usage of mortgage bonds followed pace. By June 30, 2003, the residential mortgage loans outstanding amount reached € 4.2 Bln (housing finance grew from 1.3 % GDP in 1998 to 6.6 % in 2002), and the volume of mortgage bonds reached € 1.9 Bln.

The main features of the framework are as follows:

- mortgage bonds can only be issued by mortgage banks, the business of which is narrowly specialized;
- the quality of collateralized portfolios is achieved through a classical set of provisions: loan-to-value ratio for loans funded through mortgage bonds limited to 60% (absolute limit for each loan of 70%), valuation rules, strengthened mortgage rights enforcement, cover principle evidenced by a cover register, possibility of substitute collateral but only on government credit and within a 20% limit, special supervision and existence of an asset supervisor trustee;
- mortgage bondholders can execute forced sale of the cover assets. In bankruptcy proceedings, if their claims are not entirely covered by the collateral, they will have a "super-priority" that makes them supersede unsecured creditors on other assets until the deficiency is compensated;
- mortgage banks may exclude the early repayment of the loans by the mortgagors.

There are three mortgage banks and the main one, FHB bank is state owned. They are direct lenders and can also refinance commercial banks engaged in this line of business. They are induced to do so by a generous – even after an adjustment downwards in June 2003 – subsidy scheme that benefits loans funded by mortgage bonds. This scheme results in low lending rates for loans under € 380,000 at 5% or 6%, lower than the

Treasury bond yield of around 7%, by subsidizing the cost of funding, and, at the same time, ensuring large intermediation margins to the participating institutions. Furthermore, the effective yield on mortgage bonds is lowered by an exemption of the withholding tax (15%) to which holders of other bonds, including government paper, are subject. This scheme come on top of other housing assistance systems, including a direct demand subsidy and income tax relief for interest paid on mortgage loans.

This accumulation of government assistance is neither efficient nor sustainable. The subsidy is not targeted and does not leverage private sector spending or other government programs. Artificially lowering interest rates is a sure recipe for stunting the provision of finance by the private sector, which in its turn is susceptible of lobbying for additional government support, until the strain on public finance compels a reversal in the spending policy without having established substitute financial sources.

b) Jordan

The Government of Jordan with support of World Bank implemented a liquidity facility. the Jordan Mortgage Refinance Company – or JMRC - in 1997 to provide funding solutions to the liquidity and market risks of commercial banks entering housing finance. The institution was created to replace a subsidized Housing Bank. This latter's law was amended to create a level playing field in housing finance for all banks.

Banks may obtain fixed-rate term (generally between 3 and 5 years) loans from JMRC (that can be automatically re-priced, renewed to minimize the liquidity risk arising from longer maturity mortgage loans). The loans are over collateralized. As collateral, banks pledge underlying mortgages that must meet JMRC's prudential eligibility standards, including a maximum loan-to-value ratio of 80%. JMRC's funds came from (i) an initial subordinated line of credit from the World Bank, and (ii) mostly the issuance of domestic bonds. JMRC has been instrumental

in expanding the range of fixed-income securities in Jordan, as a regular issuer of simple, secure and attractive private bonds for banks and institutional investors. Its larger and centralized issuance function has permitted a greater number of newly competing mortgage lenders to access sustainable funding resources from bond markets.

The JMRC is a financial company with a mixed capital composition including several private banks, the Central Bank of Jordan, the Social Security Corporation, and the Housing and Urban Development Corporation. It has not yet fully addressed the resulting issues of corporate governance and implicit government sponsorship.

At the end of 2002, JMRC had outstanding refinance loans to banks of nearly JD 57 million representing over 30% of all eligible mortgage loans. JMRC had outstanding bonds of approximately JD 53 million (US$ 37.8 million), whose original yields were between 100 and 200 basis points below other corporate bonds, reflecting the view by investors that JMRC bonds are highly secure and treated as such through investment regulations (low risk-weighting, eligible as reserves).

JMRC's recent operations have slowed as in a declining-rate environment banks tend to rely on alternative variable-rate sources of funds, knowing that if for some reason they should need more liquidity, they can turn back to JMRC. This latter has been playing a catalyst role as of an accessible source of refinancing that gives banks a level of comfort to enter the housing finance arena.

The stock of market-rate mortgage loans increased from JD 100 million in 1997 to JD 336 million at end 2001. The number of lenders active in mortgage lending has increased to ten. Banks require smaller down payments from borrowers (as low as 20% or 10% compared to 50% or more before). Several lenders have made arrangements with developers to provide financing to end purchasers. Maturities of housing loans have

more than doubled and are now generally between 12 and 15 years, with some lenders offering up to 20 years. Mortgage rates have declined from 14%-15% down to 9%-10%. In addition, JMRC plays an essential funding role to leverage a targeted and fiscally sustainable program of interest rate subsidies (also note the end of the housing bank subsidies). All these changes have greatly improved the affordability of housing loans.

The next challenge relates to further improving the accessibility of housing finance services to lower-middle income households. This implies developing loans with fixed rates for a longer period of time, the placement of longer-term bonds, the creation of a refinancing window for Islamic housing debt, improvement of the various subsidies schemes, and the development of securitization along with better credit risk management tools (including improved mortgage insurance products, strengthened foreclosure proceedings, and credit information systems).

C. Where Are the Successes?

1. What constitutes success?

In our view, success requires repeat issuance of standardized securities, a significant share of funding for housing coming from the capital market and secondary trading in security instruments. Only with sustained issuance will the benefits of improved accessibility and affordability of housing finance be realized. Repeat issuance is necessary to improve investor acceptance, bringing new investors to the market and lowering liquidity premiums. It can reduce and spread the one off transactions cost of security issuance over a broader base and obtain the interest of market makers, regulators, rating agencies and other entities that can spur market development.

Another measure of success is whether the introduction of a new instrument and/or institution produces a significant and positive change in the finance of housing within a country. For example, if the introduction of a facility brings new lenders

in the market and increases the supply of funds it may be judged a success even if its volume of business is modest. If introduction of mortgage securities improves the structure of loans, by lengthening the term or increasing the LTV, it may also be judged a success. A successful mortgage capital market will also feature carefully tailored and targeted government support. A large volume of issuance reflecting an excessive subsidy or unmanageable risk exposure for the government should not be viewed as a success.

2. Examples of success

By our criteria there are two solid examples of successful introduction of mortgage securities in emerging markets: Mortgage Bonds in Chile and bond issuance by Cagamas in Malaysia. There are also several promising recent developments (Colombia, Jordan) that if sustained will also constitute a success.[18]

In both cases of success, there has been sustained issuance of mortgage securities and they finance a significant part of the mortgage market (20% in Malaysia, 70% in Chile). Chilean mortgage bonds are the major fixed income instrument and enjoy widespread acceptance without having ever received government guarantees. Cagamas has been successful in getting new lenders into the market and lengthening the term of mortgage loans. Cagamas has pioneered the securities funding of Islamic loans, which may be a role model in Jordan and other Islamic countries. Cagamas has been profitable throughout its existence and has successfully weathered a severe turndown in the domestic economy and property market.

[18]Although not reviewed in this paper, the The Home Mortgage Bank of Trinidad (HMB) may also be considered a success. HMB was created in 1985 along similar lines as Cagamas. It has a similar structure and pre-requisites as Cagamas. Recently it evolved through MBS issuance and introduction of primary mortgage insurance. The recent issuance of MBS in Morocco appears as well to be very promising.

Both Cagamas and Chilean lenders issue bonds, and the development of their lending activity did not require more complex mortgage security structures[19]. Cagamas issues "agency" debt, unsecured obligations of the corporation but in effect backed by their mortgage loan portfolios. Chilean mortgage bonds are general obligations of the issuer backed by preferential access to the collateral. As "pass-through" structures they are more complex than straight debt but considerably simpler than most mortgage securities. These results suggest that simpler structures may be more likely to be successful than the more complicated securitization models in emerging markets.

The role of the government has been important in the relative success of these initiatives. Both Chile and Malaysia have strong legal and regulatory systems – a necessary prerequisite for success as noted above. Chile is an important example of a limited role of government. The government provided liquidity support for the market upon its creation but ended the support once the market was established. It provides regulatory oversight of the market and investors but there are no subsidies or unusual treatment of the bonds for issuers or investors. The government is a minority owner of Cagamas. It puts up a portion of the initial equity, providing comfort for private sector investors. This support gives the institution a small funding advantage as the government is either implicitly guaranteeing the securities. A strong central bank board presence keeps the institution focused on its public policy objectives. Cagamas' loans and the bonds also receive favored regulatory treatment

Government ownership has drawbacks as well. Even if the government is a minority shareholder it wields majority influence when it comes to public policy initiatives. This can lead to inappropriate lending programs or investment as is

[19]Securitization has taken off in Chile in the last couple of years, but mostly as a natural evolution of "Mutuos Hipotecarios Endosables " carried out by specialized originators

the case with many housing banks. This may be evident in the shift of HKMC towards the finance of government-originated loans – a development that bears watching. Cagamas is also a monopoly provider of service. After nearly 20 years of successful operation it may be that the institution could be privatized (without its regulatory advantages) or phased out in favor of direct lender bond issuance.

Two other institutions, JRMC (Jordan) and TC (Colombia), have had promising beginnings but it is too early to judge them to be successful. They have both have funded a substantial portion of the outstanding mortgage debt [30% and 13% respectively]. However, in the case of Jordan, the amounts are still small and in the case of Colombia the issues represent a crisis-induced restructuring of existing balance sheets and not new lending. JRMC has encouraged more banks to lend and facilitated a lengthening of loan maturities. The test for both will be whether they can sustain their initial success. TC will be successful if it can continue purchasing and securitizing loans after removal of the significant tax subsidy.

By some criteria, Argentina could be considered a success. BN was successful in tapping of international markets, though less so the domestic market and showed how structuring could improve the marketability of mortgage loans. However, BN only concluded 5 transactions before the devaluation crisis and therefore did not have the opportunity to show that it was a sustainable model. Although BN securities were not guaranteed by the government it was exempt from the gross proceeds tax on the sale of mortgages. Its experience demonstrates the risks of hard currency funding/lending.

HKMC may be considered by some a success reflecting its creation of a mortgage-backed securities market and introduction of mortgage insurance. Commercial banks had issued MBS prior to the creation of HKMC. The rationale for creation of HKMC was concern over the concentration of real estate loans on bank balance sheets and the desire for

standardization and liquidity in the market. In order to provide a competitive alternative to on-balance sheet funding, it was deemed necessary for HKMC to have a government guarantee. The Asian financial crisis undermined the policy rationale and the large banks have questioned the on-going need for a government-backed conduit. HKMC has not purchased loans from smaller mortgage companies, citing their lack of experience, and thus has not stimulated very much competition in the market. It has turned to purchase of government agency originated loans and loans originated by developers. For the former category it functions mainly as a funding arm for the government, like KoMoCo. For the latter it is arguably displacing (more expensive) private sector credit.

HKMC has introduced mortgage insurance with US private mortgage insurers currently providing reinsurance. However, the structure of the program appears counterintuitive. The Hong Kong property market is large relative to the size of the economy and strongly influenced by public policy (e.g., public land sales). A proper public policy function should be to provide systemic risk reinsurance for private mortgage insurers.

There have been numerous less successful attempts at developing mortgage capital markets as well. Many fail to generate an on-going flow of business [e.g., securities issued by Colombia CAVs, Cibrasec in Brazil, Agency for Mortgage Finance in Russia, Secondary Mortgage Corp. in Thailand, MBS issued by Philippine banks] and cannot be regarded as successful (from a business perspective), at least to date. There are various reasons for this lack of success including lack of investor acceptance, weak legal/regulatory framework, overly expensive funding option. All the cases listed above have tried more complex security designs, usually pay-through structures. These instruments may be too complex for the markets in which they were introduced. There are a number of countries still in a take off phase, including India, Mexico and South Africa. In these cases, there have been pilot issues after many long years of development. It remains to be seen whether they will be successful.

VII. Conclusions

1) Lessons Learned

a) You can't skip the basics

A country must have a sufficient legal, regulatory and primary market infrastructure in place before mortgage securities will take hold. A good framework is a necessary not a sufficient condition.

The sheer difficulty of developing infrastructure is one reason why has there been an only limited success in introducing mortgage securities in emerging markets. The legal and regulatory complexity of mortgage securities and specialized institutions are formidable and even sophisticated developed economies (e.g., the Germans still don't have the right tax structure). It is the case that many pieces of the puzzle have to be put into place before a picture emerges and in a number of countries, the introduction of mortgage securities is still a work in progress.

It would be easy if setting up an appropriate legal and regulatory framework were sufficient to establish a market. This is far from being the case. Many countries have devised a framework for securitization or mortgage bonds, but the time lapse between the creation of the legal infrastructure and the actual development of regular issues can be very long – between 4 and 10 years. The development of a satisfactory legal framework for mortgage securities is also often complex and time consuming (often requiring further amendments), notably in civil code legislative environments where the concept of a trust may be missing as a convenient, flexible and bankruptcy-remote special vehicle to issue mortgage backed securities.

In rare cases, technical flaws in the framework explain the difficulty (ex: Chile securitization law in 1999 where SPVs had to buy portfolios before issuing securities). More often, exogenous obstacles stunt the actual use of a framework, however well designed. For instance, in Poland the length of the

lien registration process – up to two years in some jurisdictions, where the courts, in charge of the registration in the land book, are overloaded appears to be a strong impediment to the issue of mortgage bonds[20]. In India, the extension of securitization is hindered by the level of stamp duties on the assignment of financial assets (between 3% and 14% in many the states).

The most difficult obstacles to overcome are often the ones that are anchored in the market conditions. For MBS, a major hindrance is the lack of a "market" for credit risk. In most emerging economies, there are no insurers, or guarantors, nor investors ready to take over the risk from the lenders. In this case, MBS sellers must use internal credit enhancement tools, which are necessarily very expensive if high ratings are sought. Also in the case of pass-through instruments, there are often few investors willing to buy the prepayment options embedded in the loans, which are very difficult to value in the absence of historical data and uncertainties about the borrowers' behavior[21]. In many emerging markets, it is still difficult to lay off cash flow risk. Investors will not accept long term instruments or prepayment risk. Many issuers and investors do not have the necessary systems and capabilities to manage amortization and prepayment.

A simple and fundamental factor that can suspend the growth of mortgage securities is the lack of development of the primary market itself. Although the lack of long term funding is an issue that can impede development, the growth path starts with the

[20]From 2000, when mortgage banks started operating , and 2002 only $60 million were issued

[21]The acceptance of the prepayment option on the Chilean mortgage bonds has a high price: the option is valued as a pure financial call, although it cannot be exercised independently from the repayments of the loans, and despite a low propensity of borrowers to actually take advantage of the prepayment facility.

lending activity – even in the case of specialized institutions, created to remedy the lack of interest of commercial banks[22]. For different type of reasons – building up of a portfolio, name recognition, time needed to arrange issues, and in the case of securitisation high issuance expenses, the volume of loans must first reach a critical mass before making efficient use of capital market instruments. It is unrealistic to expect to issue mortgage securities as long as overall market lending remains below a certain threshold.

b) **There must be a market demand**

Potential issuers in many countries have not perceived a need for creating or issuing mortgage securities. The need for securitization has been low as capital ratios have been improving in most countries, implying less need for off-balance sheet finance., Today, most depositories are liquid and not in need of significant new sources of funds. In most markets, deposit funding is significantly cheaper than capital market funding providing a further obstacle to capital market funding.

The structure of mortgage markets is also an obstacle in some countries. If a market is dominated by a few large, liquid depository institutions, it will be difficult to create a successful mortgage securities market. The large lenders, who may ration mortgage funds, do not need the funding and can price new competitors using wholesale funding out of the market. These lenders do not need mortgage securities to manage cash flow risk either as their main mortgage instrument is an ARM that can match fund with deposits.

There must also be a demand for such securities by investors. In part this is an infrastructure issue. They must have the

[22]It is a basic rule that specialized institutions rely on capital market for their funding, but at the start of their activity they typically use their equity and/or bridge financing from banks before tapping the capital market. The lack of bridge funding as slowed development of a private secondary market in Korea. Specialist mortgage companies have entered the market and successfully issued mortgage pay through securities. They have been very small scale and thus expensive, however. The mortgage companies have not been able to get significant amounts of reasonably priced warehouse funding limited their ability to aggregate loans for larger pools

authority to invest and be able to realize the benefits of a low risk investment through risk based capital treatment, reserve eligibility etc. In addition, investors must understand and be able to manage the complex risks of mortgage securities. This requires a combination of disclosure and education at the least. Importantly it requires a commitment on the part of issuers for regular issuance, as liquidity is a major characteristic in demand by investors. Government must play a role by leaving sufficient space for issuance. Excessive government debt issuance crowds out mortgage securities and does not give them a chance to take hold.

c) Simple may be better than complex

It is notable by our measure of success that simpler instruments and institutional designs have been more successful. Some of most successful examples of mortgage capital market development came from bond issuance. These instruments are relatively simple – with credit enhancement from the balance sheet of the issuer. The more successful institution designs have been liquidity facilities rather than conduits.

It is a simple fact that there are limits to the complexity that can be imposed on emerging markets [Pollock, 1994]. While there may be great appeal to securitisation (and conduits that issue such securities), their complexity raises the cost of issuance and reduces investor demand. The instrument and institution has to be tailored to the needs of the markets. Instrument development (both bonds and MBS) must be adjusted to both constraints faced by lenders and investors. This suggests the use of simpler product variants, mortgage insurance and guarantees to facilitate investor acceptance and designs that will work in the current context. It is perhaps best to think of mortgage securities in an evolutionary context – starting with simple designs that do not tax the infrastructure or investor capabilities and introducing more complex designs as the market develops. Of course, it ultimately depends on the market – complexity can be good if it meets the specific needs of investors but can undermine liquidity and development of a secondary market.

It can be observed that there may be an excessive focus on institutional creation in advance of other fundamentals. Simply creating a secondary market institution will not create a market. For example in Russia there has been a considerable technical assistance investment in the creation of the Agency for Mortgage Lending. The creation of this institution in 1997 preceded the drafting of a mortgage law and development of a primary market, as well as of the needed legal and regulatory framework for mortgage securities. Not surprisingly, it has done no commercial business. However, now that a comprehensive package of legal and regulatory reforms affecting both primary and secondary mortgage markets is actively considered, the role and activities of the Agency may become more significant.

Development efforts in many emerging countries have focused on institution development, particularly conduits with government involvement. In many cases they may be ahead of their time (or solutions in search of a problem). Governments and technical assistance providers may need to spend more time and resources spent in infrastructure development to allow individual issues of mortgage bonds and securities before investing in institutions.

d) Different instruments are best suited to different contexts

Although there may appear to be logical succession between mortgage bonds, a much older and a simpler instrument, and mortgage-backed securities, the two instruments meet in fact different needs. There is no linkage in the timing of their respective development, and ideally, both instruments should be simultaneously available in a diversified market.

The core differences between the pure, simplified models[23] can be summarized as follows:

[23]Boundaries are being blurred, on the one hand by less-than full fledged securitization deals whereby originators retain a significant part of the credit risk, and sometimes the financial risks (limits set to the transfer of early repayments to investors), and on the other hand by the growing number of structured mortgage bonds

- The main potential achievements of securitization are:
  - a rating enhancement due to the ability to disconnect the exposure on the mortgage loan portfolios from the exposure to the originators
  - the complete transfer of financial risks
  - the freeing-up of economic or regulatory capital
  - a reduction in the cost of hedging the credit risk on the borrowers as a result in its diversification in larger pools.

  However, the cost of such achievements is high, even independent of transaction expenses:
  - the externalization of the credit risk implies an agency risk and cost for monitoring the underwriting and servicing of the loan. In addition, the cushioning of the risk requires the calibration of protection structures in order to obtain a significant rating enhancement
  - the pricing of the prepayment option passed to capital market investors requires a premium typically calculated on costly worst cases scenarios
  - Except for US agency issues, MBS, especially in the form of customized tranches, are illiquid securities. The reasons for this lie with a lack of standardization, valuation complexities, or the lack of proper information.
- The relative advantages of mortgage bonds are symmetrical. They are in principle cheaper than MBS for the issuer on several accounts:
  - the protection against issuer insolvency is embedded in the law, and does not require special credit enhancement structures;
  - mortgage bonds are simple, standardized securities that are easy to value and to trade as they are often disconnected from the profile of the loans;
  - mortgage bonds are relatively liquid securities, a feature reflected in their issuance spreads.

The counterparts for these advantages are the absence of capital relief and a lesser rating improvement than in the case of MBS.

This summarized comparison leads to a mapping of the contexts where each instrument appears mostly appropriate -in a somewhat simplified manner.

The value of mortgage securities appear to be highest in the following cases:

- When lending institutions lack capital or the capability to properly mange financial risks or provide credible credit enhancement. It is on such a background that securitization developed in the USA, and that securitization frameworks were established in Latin America in the mid 1990s. In such a context, it is likely that the benefit of the rating improvement on the issuing conditions exceed the cost inherent to the structure;
- For narrowly specialized lenders that lack the capacity for sound asset-liability management or credit risk diversification either because of the concentration of their activity or because of the absence of hedging instruments in the financial markets;

Mortgage bonds, on the other hand, work well in the following situations:

- Relatively stable banking systems, where lending institutions enjoy a fairly good image among institutional investors and are not excessively capital constrained;
- Lending institutions that have numerous lines of business that generate, to some extent, a diversification across their different portfolios and thus stronger perceived credit quality;
- Deposit-taking institutions that need to replicate the cash flow characteristics of mortgage loans with embedded prepayment options by blending funding sources of different duration;

- Institutions with nationwide or regional distribution that are able to create internally a mutualization of risks through different geographical areas.

These considerations lead to suggest that, in an emerging mortgage market, mortgage bonds are likely to be used by commercial banks, contrary to the way they historically developed in Europe. Specialist mortgage banks, while simpler and more transparent institutions to evaluate and regulate, may not be as viable in a liberalized financial system.

e) Government can play a constructive role but its involvement is not a guarantee of success

The success stories in our analysis all had important support of the government. As emphasized repeatedly through this text, a strong legal and regulatory infrastructure can and must be provided by the government. It is no accident that the most successful developing and developed market examples of mortgage security issuance are those countries with the strongest infrastructure.

In both Malaysia and Jordan, the government provided critical support in the form of seed capital (investing in a mortgage securities issuer) and incentives through the regulatory treatment of the products and securities. In Chile the government temporarily acted (for 2 years) as the main investor of mortgage bonds to help jump start the market, and through its concurrent effort of creating institutional investors. Government support in Colombia took the form of tax incentives for investors and a temporary program of priced state guarantees. All of these initiatives allowed institutions to come to market with more favorable financing terms than can be done by private sector institutions alone. Government can also develop a secondary market in mortgage securities through liquidity support and required reserve eligibility. Providing guidance on disclosure and standardization are additional important roles for government.

Credit enhancement through a government guarantee can be an important way to catalyze a market. It is difficult to get investors to accept (or price) the complex risks of mortgage securities. A government guarantee, whether implicit through ownership or explicit, eliminates one risk allowing investors to focus on the others. But guarantees are dangerous as the government can be adversely selected and end up with large contingent liabilities. Also, government support can create a monopoly that dominates a market and generates excess returns for its shareholders. Thus, a sunset provision should be considered in conjunction with government guarantees or financial support.[24]

One way to control the risk to government inherent in providing guarantees is to involve the private sector in a first loss position. In theory, the risks can be better managed by the private sector as they have an incentive to properly manage and price risk in order to maximize the value of the franchise. Inevitably, however, this approach creates economic rents for the institutions benefiting from the guarantee and can lead to greater risk for government (e.g., through leveraging the guarantee) if not properly regulated and supervised.

A critical function for government is to build the proper regulatory framework. There must there be proper safety and soundness regulation of issuers, the framework must clearly define the structures, treatment of issuers (e.g., true sale) and investors (authority and incentive to invest. Proper tax treatment is critical in developing mortgage securitisation. First and foremost, there should not be double taxation of conduit or SPV issuance. There should not be excessive stamp duty or taxes on the registration of securities or their transfer. In addition, regulation must eliminate artificial arbitrages.

[24]An example of an ex ante sunset is the government guarantee given to Caisse de Refinancement de Hypotecaire which was withdrawn on schedule after 3 years. Sallie Mae (the Student Loan Marketing Association) successfully dropped its government status in 1996.

Selecting the right options for a given context may speed up the process. Selecting a model based on simplicity, type and number of primary market players, regional experiences, capital market infrastructure and legal and regulatory infrastructure is key to market development. Blind replication of practices prevailing on developed markets should be avoided. Investors should be integrated in the preparation of policy choices, skills and capacities are a sensitive factor for the acceptance of instruments.

2) The Way Forward

The track record of mortgage securities issuance in emerging markets has been spotty. Although there have been some clear success stories, there have been even more unsuccessful attempts. In many cases, despite a strong theoretical rationale for their introduction, the timing has not been right. In some cases, the primary market infrastructure was not sufficiently advanced and in others, the legal/regulatory infrastructure was not well developed. And in other cases, there was simply no demand for the tool by its supposed beneficiaries.

Should we get discouraged by this record? We do not think so. Introducing capital market finance in emerging markets is a complex, time consuming process. The development path is slow (new concepts, new tools, new business, needs of skill, etc.). Being slow does not mean unsuccessful. In many countries, efforts to create mortgage securities can be considered works in progress.

On the brighter side, as economies improve and demand for funds picks up, many banks may become more capital and/or liquidity constrained and look to the capital markets for funding. If so, then the demand for wholesale funding through mortgage securities will increase. This implies that countries should continue building capital market infrastructure.

If the development of mortgage securities imposes considerable efforts to meet these multiple prerequisites, the process often includes many useful reforms to improve the structure, standards

and performance of primary mortgage markets. This dynamic process may take time, but often pays off at earlier stages at the level of primary mortgage markets, even if mortgage securities have not reached yet the desired sizeable scale effects from the funding perspective.

Mortgage instrument design is an important ingredient in the use of capital market funding as well. ARMs transfer most if not all interest rate risk to borrowers and may be unsuitable for volatile emerging markets. The introduction of FRMs is important for financial system stability.[25] Even in a universal bank or portfolio lenders models FRMs need to be funded in the capital markets. Efforts to create mortgage capital markets should include a product development component focusing on FRMs.

Government can play an important catalytic role in the creation of mortgage securities. But they should be careful to not create institutions in advance of market need. Building a proper infrastructure does not sound as compelling as creating the next Fannie Mae – but for many countries in the emerging world it is a better game plan. A major factor of efficiency, which is too often overlooked in the shadow of productivity and economies of scale, is the reduction of uncertainty for market players. Uncertainty has a cost, as the conditions for enhancing the credit quality of mortgage portfolios when borrowers default cannot be accurately assessed. It is the responsibility of governments to design a legal and regulatory framework so that clear and explicit provisions govern the status of mortgage securities- especially true sale conditions for MBS, protection against insolvency in case of mortgage bonds -, thus securing the investors' commitments and limiting the risk premiums or cushions that are otherwise required.

[25]The fixed rate mortgages to which are referring are shorter term than the 15-30 year FRMs found in the US. The prepayment risk inherent in the US design can exacerbate volatility in the financial system and requires sophisticated investors and risk management tools.

In conclusion, the many benefits that mortgage securities can create for emerging economies justifies continued effort in their development. The recent experience in introducing such securities provides many important lessons for countries seeking to go down this path. In this paper, we have tried to provide an overview of the benefits, pitfalls and experience in emerging markets. Hopefully these lessons will help prepare policy makers to deal with this complex and rewarding aspect of housing finance.

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HOUSING FINANCE IN MEXICO: EVOLUTION, STRATEGY AND CHALLENGES AHEAD

Indonesia Seminar:
Housing Finance in Mexico

October, 2007

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Mexico key figures & facts

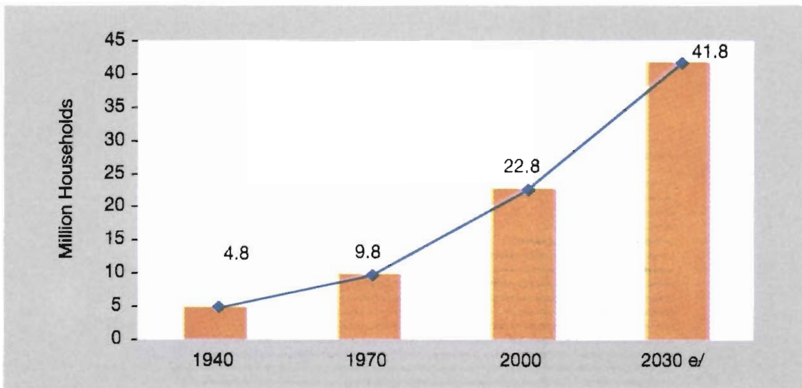
- Population of 103 million, forming 26.1 million households.
- Population growth rate of 1.9%, and life expectancy of 75.3 years.
- 76% of households are in urban and semi-urban areas.
- Per capita GNI (PPP methodology) of USD $9,590 in 2004.
- 46% of households in the informal sector.*/
- Approximately 20% of population holds a checking or savings account.
- Mortgage Portfolio / GDP of 11.1% in 2004

*/ Informal household defined as that in which no single member is a wage earner in a firm that contributes to social security systems.

Over the next 25 years, the number of households will grow at an annual rate of 2%.

From 2000 to 2030 the number of households in Mexico will grow 83%. These favorable population dynamics is coupled with annual per capita income of approximately USD $9,500*

Number of Households in Mexico

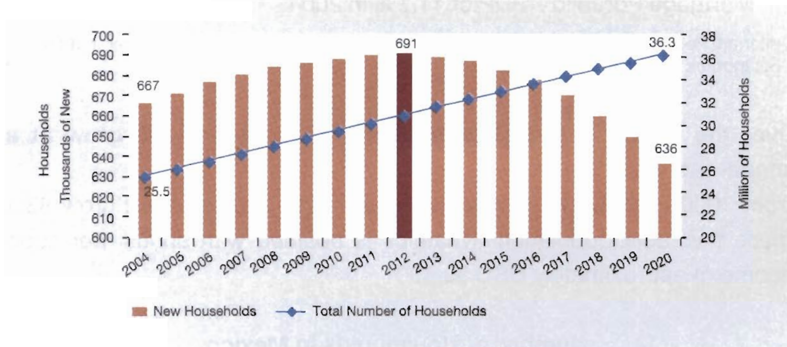


/ PPP Methodology*

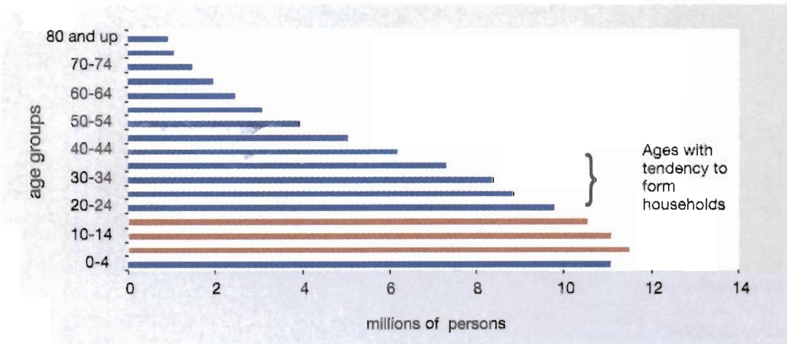
Source:CONAPO

Demographics show the largest number of household formation over the next seven years

According to official estimates, 672,018 new households were formed during 2005 throughout the country. This figure will rise up until 2012, when 691,242 new households will be formed.



Source: Conapo

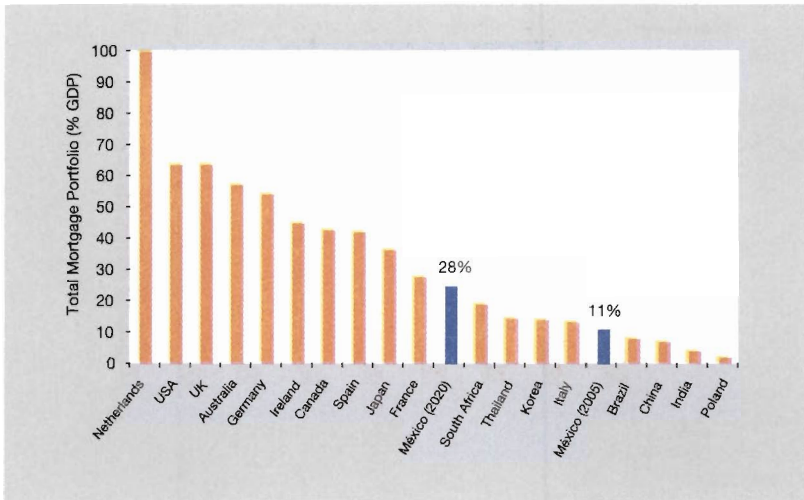


Source: Conapo

Even under conservative assumptions, Mortgage Portfolio/GDP will grow from 11.1% to 27.7% of GDP over the next 15 years

This growth comes from population dynamics coupled with a conservative scenario of disposable income growth for Mexican families.

Mortgage Portfolio / GDP of Selected Countries

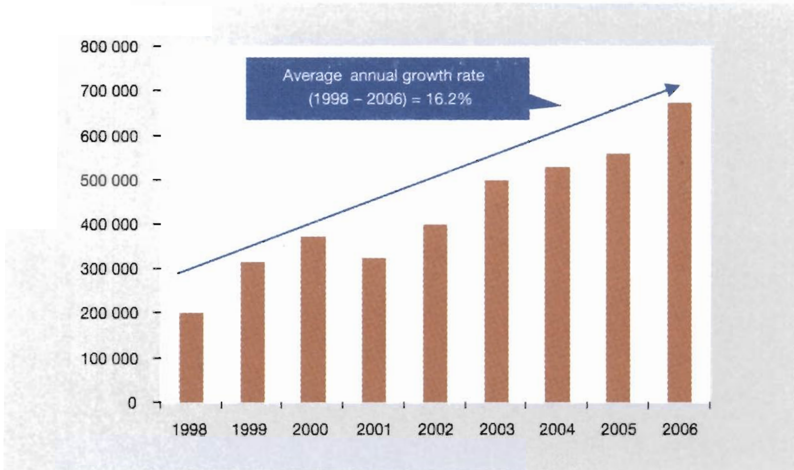


Source: IMF, World Economic Outlook September 2004, Central Bank of South Africa, CMHC (Canada), SSKI (India), Komoco (Korea), GHB (Thailand), China On-Line, SHF (M?xico), Michael Lea.

Figures for Korea, Thailand, Brazil, Poland, China, India and South Africa correspond to 2001.

Mexico has experienced an important housing boom over the past five years

One of the main reasons the recent housing boom has been possible is the continuous growth of the mortgage industry.

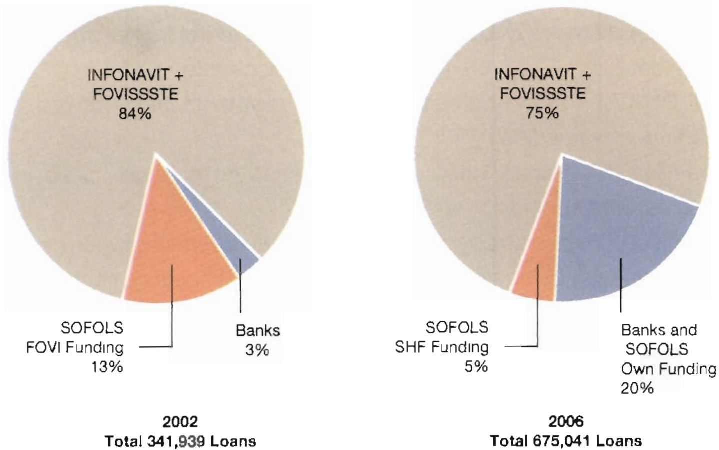


Source:CONAVI

The industry is still dominated by the two Federal Housing Funds, INFONAVIT and FOVISSSTE.

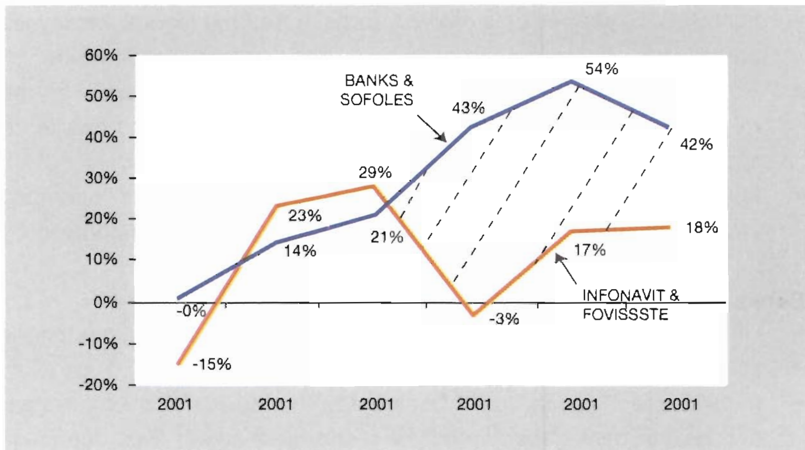
About ¾ of loan originations still do not involve a private intermediary undertaking at least part of the risk inherent in the transaction. SHF has greatly diminished its importance as the funding source for mortgages originated by private intermediaries.

Mortgages by Financing Source



But the market share of private intermediaries -banks and sofoles- is growing at a fast pace.

Yearly Rate of Growth of Mortgage Loans Originated by the Federal Housing Funds and the Private Intermediaries



Source:CONAVI

INFONAVIT

- The board of directors is represented by workers, employers and the Federal Government.
- INFONAVIT receives on a monthly basis, 5% of the formal private sector workers payroll, and credits to personal accounts.
- INFONAVIT loans, interest rates and payments are indexed to the minimum wage (MW)*.
- INFONAVIT interest rates are not market rates, there is an implicit interest rate subsidy on all its lending.
- INFONAVIT relies on payroll deduction for its collections when borrowers are employed by firms in the private sector. Collection mechanisms for unemployed borrowers or those migrating to the public or the informal sectors still need to improve.
- Average dollar amount of their loans: $22,000

* *MW= usd$ 134.5 per month*

FOVISSSTE

- Similar objective and sources of funding than INFONAVIT, FOVISSSTE is a wage-based housing fund for federal employees, and is the institution in charge of providing housing financing to over two million of federal government employees.
- The board of directors is represented by different government agencies and by ISSSTE (the public pension fund for federal employees).
- FOVISSSTE receives on a monthly basis, 5% of the federal employees payroll, and also collects through a pay-roll deduction mechanism.
- FOVISSSTE loans, like those of INFONAVIT, are indexed to the minimum wage and pay lower than market interest rates; however to a greater extent.
- FOVISSSTE lags behind INFONAVIT on revamping its operating procedures, particularly regarding the servicing of the loan portfolio.

Banks

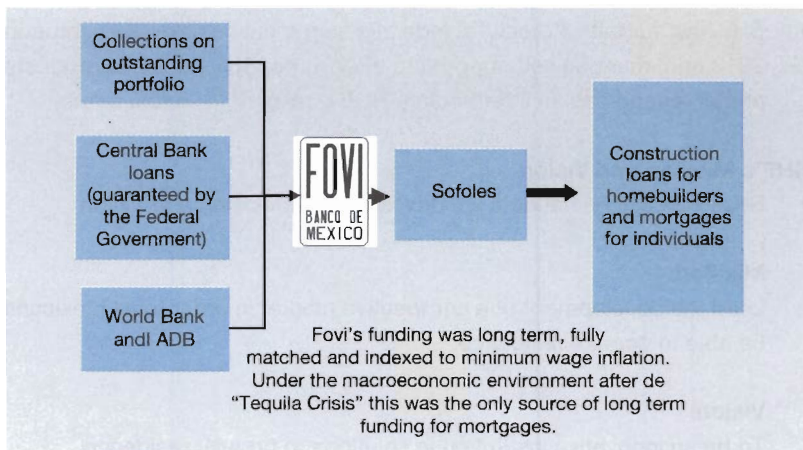
- Until 1994, banks were the only private intermediaries doing mortgages in Mexico.
- In 1995, the "Tequila Crisis" bankrupted the Mexican banking system and private banks abandoned the mortgage market. Past-due loans became rampant, specially in the mortgage portfolio of banks. Banks did not have efficient collection mechanisms or foreclosure procedures.

- By 2004 it became clear to banks they had been out of a profitable market, and they entered back aggressively by:
    - Undercutting Sofoles in price
    - Buying up the largest Sofoles
- Banks will originate approximately USD 7,300 millions of loans in 2007.

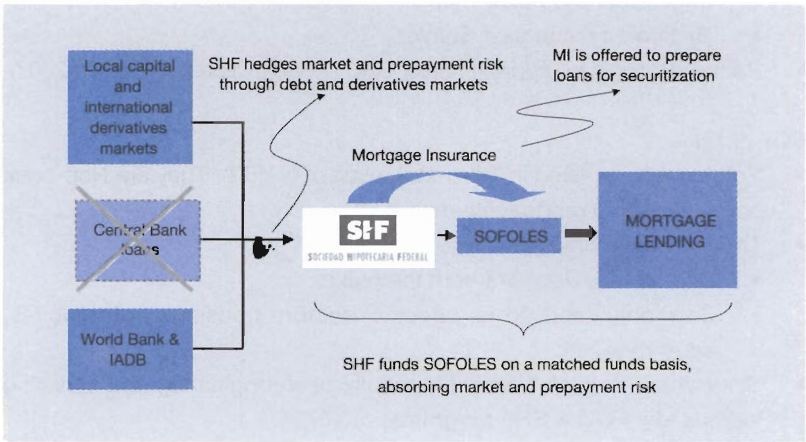
SOFOLES

- Sofoles were created in 1994 as a result of NAFTA. They are Non-bank banks similar to mortgage banks in US.
- They have two basic characteristics :
    - Cannot take deposits from the public.
    - Can only lend to a specific sector: housing, automobiles, education, etc.
- Since then, Sofoles have successfully been originating and servicing loans under FOVI & SHF programs:
    - Delinquency rates below 2.5%.
    - Relatively homogeneous originating and servicing standards, as well as standardized loan product.
    - Sofoles will originate approximately USD 2,200 million of loans in 2007.

FOVI, which was run out of the Central Bank until the creation of SHF, started funding SOFOLES in 1995.



SHF started operations in 2002, overtaking the activities of FOVI and has the capacity to fund in the markets.



Overview of SHF's mandate and activities

- SHF´s mandate according to its Law is:
  "... to promote the development of primary and secondary markets for residential mortgages..."
- Notwithstanding, by law SHF will not be able to fund financial intermediaries after 2009. SHF is betting on developing a securitization market of mortgages as the main source of funding for the housing market.
- SHF has "full faith & credit" of federal government on risks taken through 2013 and must be self-supporting afterwards. SHF prices its products at market and has an intermediate ROE goal of 10% in real terms.

SHF's Mission and Vision

- Based on SHF´s mandate we developed our Mission and Vision

  Mission:
  Lead the development of a competitive market in order to all Mexicans be able to acquire residence.

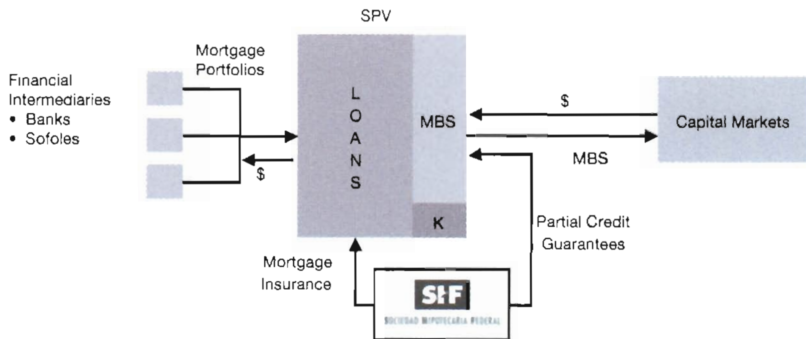
  Vision:
  To be an innovative institution in solutions to popular residence.

SHF´s strategy

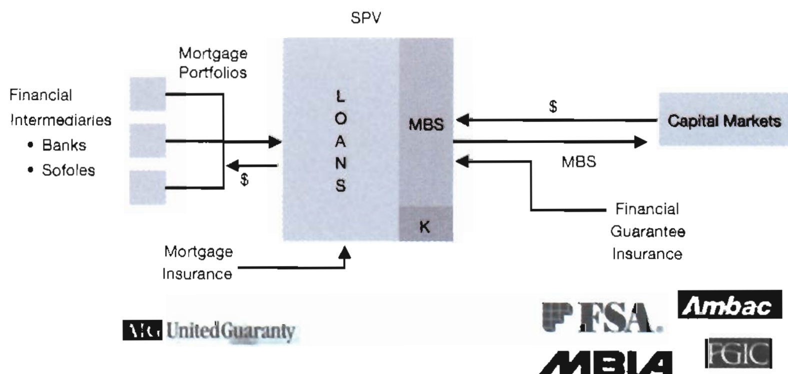
The institutional strategy is focused in the satisfaction of Mexican families housing needs:

1. Promote major affordability to residential mortgage financing to the current attended population.
2. Promote affordability to residential mortgage financing in the non attended population (less than 4 MW) through SHF´s agresive strategies.
3. Promote an adecuate offer of popular residences framed in an urban sustainable environment.

SHF's main challenge is to develop an efficient market for mortgage-backed securities (MBS) through its role as guarantor and liquidity provider.

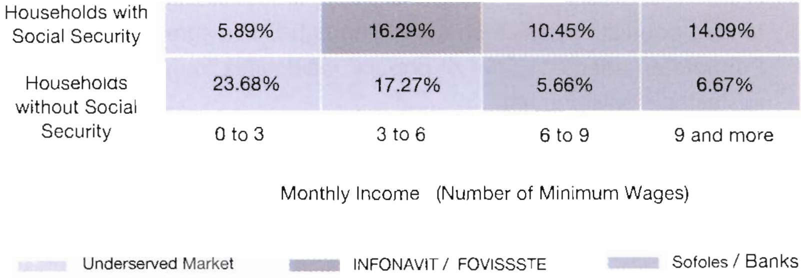


SHF has been actively seeking the entrance of private providers of guarantees. The end-game is a market based on private providers of financial solutions.



Despite the growth of the mortgage market, almost half of the population is still not served by the existing mechanisms.

Market Segmentation by Income and Labor Condition (Percentage of households living in urban areas)

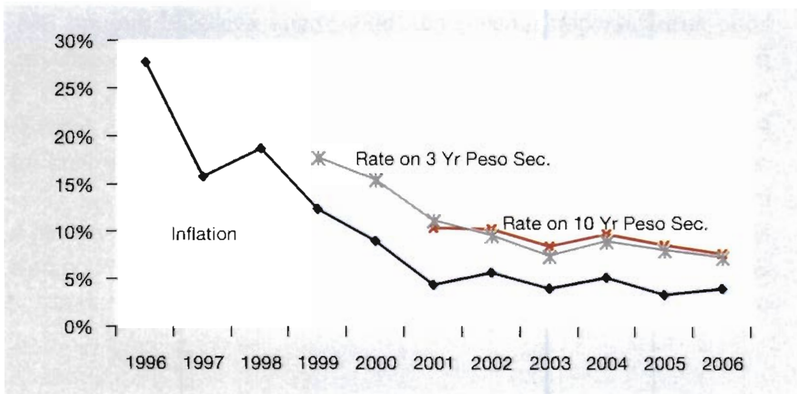


Housing finance has benefited from a host of reforms that took place over the last decade.

- Stabilization programs based on prudent fiscal and monetary policies made inflation and interest rates decrease sharply over the last 10 years.
- Social security reform introducing defined contribution plans based on personal accounts managed by private pension funds, fostered long term savings as well as demand for long term & long duration securities.
- The creation of a long-term yield curve for government securities enabled the pricing of fixed-rate mortgage products.
- The reform of sate-level civil codes enabled the sale and purchase of mortgage portfolios without over-burdensome requisites.
- Reforms of federal laws that enabled a more efficient recovery of guarantees.

Inflation reduction and the development of a yield curve for peso securities have been instrumental to housing finance.

Inflation and Interest Rates on Government Securities (Year-End)



The origin of growth in housing finance over the last few years differs from one program to the other.

INFONAVIT

- Concentrated on financing the acquisition of homes, abandoned construction finance.
- The allocation of loans among the Fund's beneficiaries was made transparent, so individuals know the criteria they should meet to get a mortgage, and homebuilders know approximately how many people will get a loan in each state.
- Loan origination mechanisms were greatly improved.
- Cash inflow was significantly increased through the improvement of collection mechanisms of both the payroll tax and the loans outstanding.

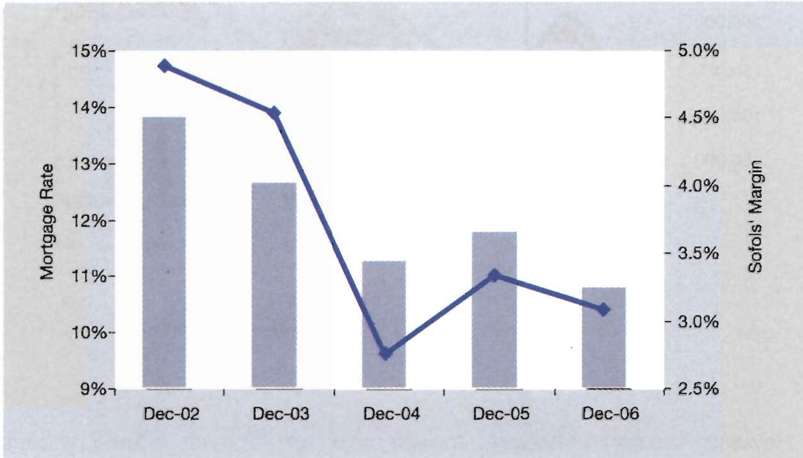
The origin of growth in housing finance over the last few years differs from one program to the other (continued...)

SOFOLES

- Sofoles built a platform over the last ten years that allows them to originate and service mortgage loans in an efficient manner.
- Long-term matched funding has been made available through SHF programs, allowing Sofoles to concentrate on their lending activities without any exposure to interest rate and prepayment risks.
- Purchasing power of individuals has strongly improved as interest rates and inflation have come down, thus increasing the demand for mortgages.
- New programs where individuals may buy a home with a loan from a Sofol that is complemented by a loan from Infonavit (which will be paid out of future payroll taxes) has allowed Sofoles to go down-market.

Macroeconomic stability and market competition have produced a sharp drop in the rates faced by consumers...

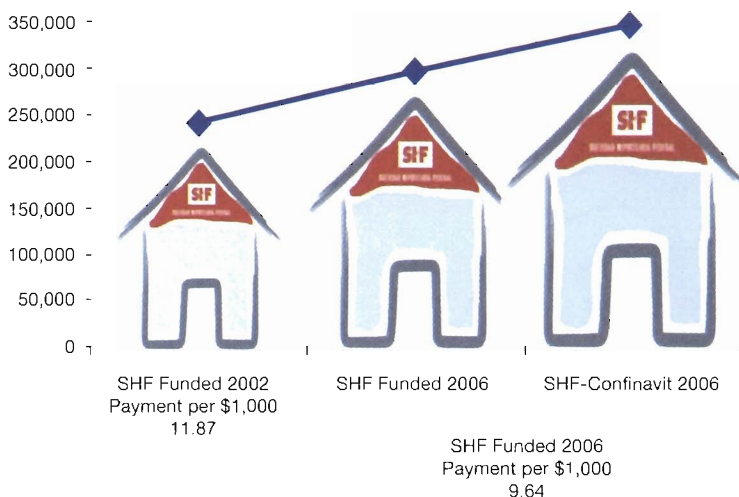
Mortgage Rates and SOFOLS' Margins on Loans Funded by SHF (25 year UDI-denominated loans for affordable homes)



... which, along with the introduction of new products have increased affordability.

For a household earning the equivalent of 7 minimum wages, purchasing power increased by 23% between 2002 and 2006 due to the reduction in mortgage rates by 44% if that household could get the loan through a Cofinanciamiento.

Affordability for a Household Earning 7 Minimum Wages



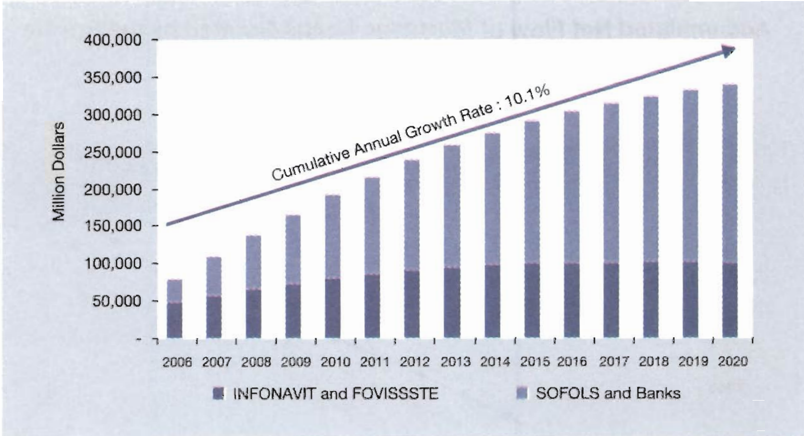
However, the spread between the effective mortgage rate offered by banks and sofoles and the riskless rate is still too large for affordable homes.

Differential between Effective Mortgage Rate and Risk-Free Rate in Mexico (affordable homes) and the US

- Risk free rate.- in the case of Mexico 10 year Udibono and for US 10 year Treasury rate
- For US the rate used as Total Annual Mortgage Cost was the Effective Mortgage Rate published by The Federal Housing Finance Board and corresponds to the observed average in fixed rate 30 year loans including origination fees and monthly expenses for a ten year period.

Even under very conservative assumptions, SHF estimates that the residential mortgage portfolio will grow from USD $79,600 million in 2006 to at the very least USD $338,300 million in 2020.

Mortgage Portfolio in Mexico



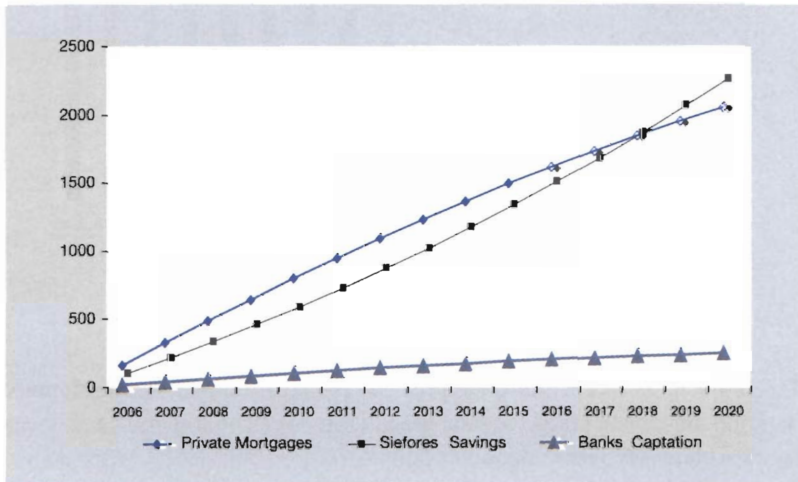
Source: SHF estimates

The projections of the mortgage portfolio are based on potential estimated demand assuming an 3% annual growth rate for GDP and the same levels for mortgage rates than those of 2006.

The flow of financial savings in the country will not suffice to finance the growth of mortgage portfolios.

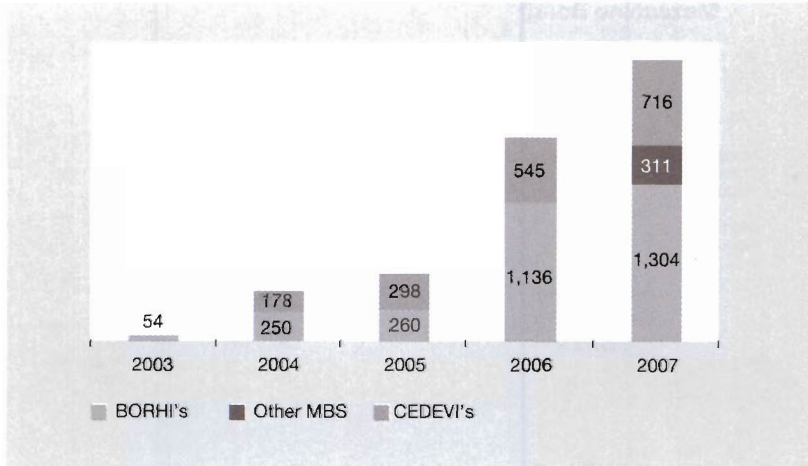
Tapping into the savings of domestic institutional investors as well as foreign investors is an absolute must to maintain the growth of the mortgage sector.

Accumulated Net Flow of Mortgage Loans Granted by the Private Sector and Siefores and Banks Savings
Billion Pesos of 2006

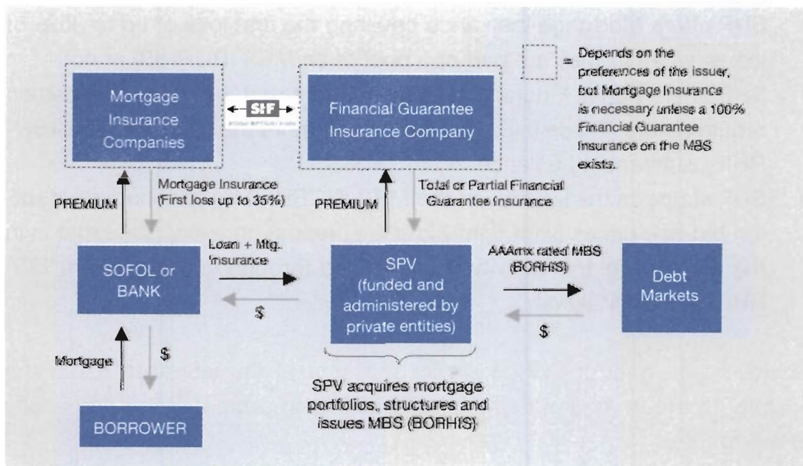


To finance such volumes of credit it is necessary to have an efficient market for mortgage backed securities.

Issuance per year: BORHI's + CEDEVI's + Other Mortgage Backed Securities (millones de Pesos)



How is the market organized to issue MBS (BORHIS)?

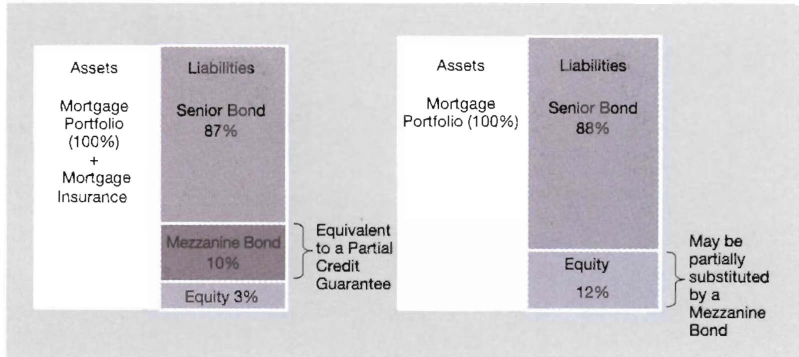


The securitization Model

Two type of structures are being placed in the market.

Mortgage Insurance + Partial Enhancement (Partial Credit Guarantee or Mezzanine Bond)

Financial Guarantee Insurance (without Mortgage Insurance)



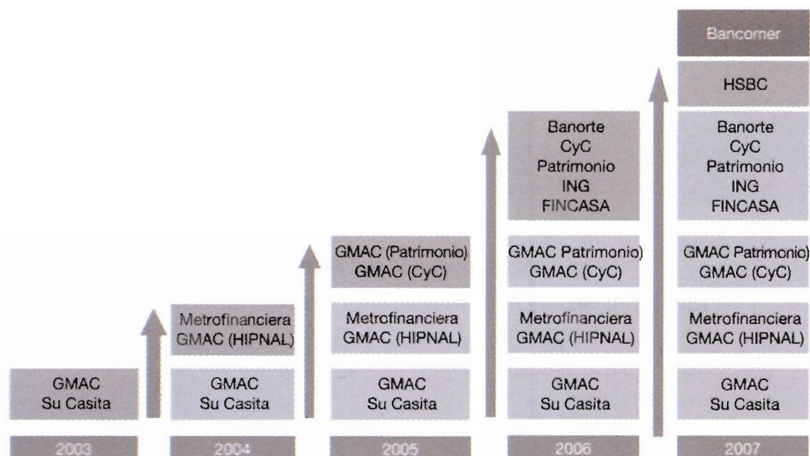
Participation of SHF in the securitization model

SHF does not perform the same activities that Fannie Mae or Freddie Mac: it neither purchases loan portfolios nor does it issue MBS with its own Guarantee attached. Instead the SHF:

- SHF offers Mortgage Insurance covering the first loss of up to 35% of loans, whether they are part of a pool of an MBS (BORHIS) or not.
- SHF offers Partial Financial Guarantees to structures that meet certain requirements. These usually do not cover more than 15% of MBS (BORHIS) outstanding balance.
- SHF supports the liquidity of the MBS (BORHIS) by continuously quoting bid-ask prices (with tight bid-ask spreads) on every issue that is in the market. All this activity is channelled through one of the ten "BORHIS Market Makers".

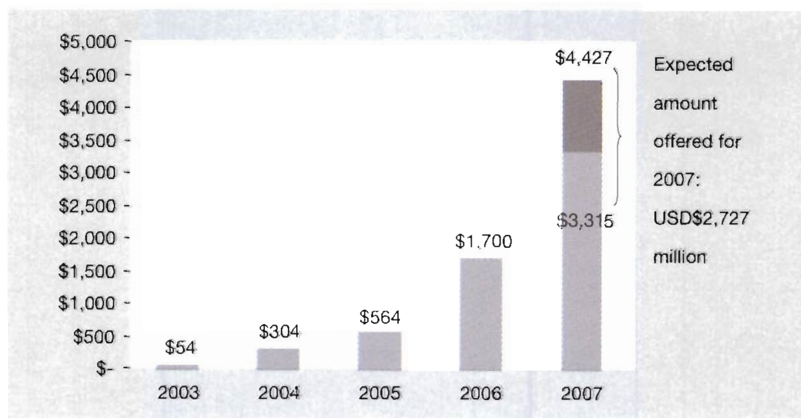
However, the goal of SHF is similar that that of the GSEs: to foster the liquidity to the mortgage markets as a means to promote the affordability of mortgages.

The number of Sofoles participating in securitizations has steadily increased, while Banorte was the first bank to securitize at the end of 2006. In 2007, HSBC went ahead with two transactions and soon Bancomer perform its first transaction.



The RMBS market, just born on Dec-2003, will represent 30% of funding sources for private lenders in 2007 and should become the main source of funds for mortgages sometime in 2009.

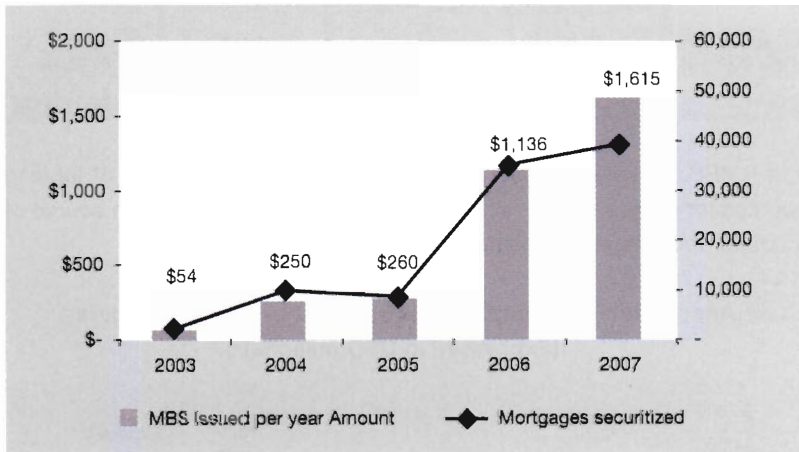
Accumulated Amount of RMBS Issued by Private Lenders (Expressed in USD millions)



Exchange rate used for conversion = 11 MXP/USD.

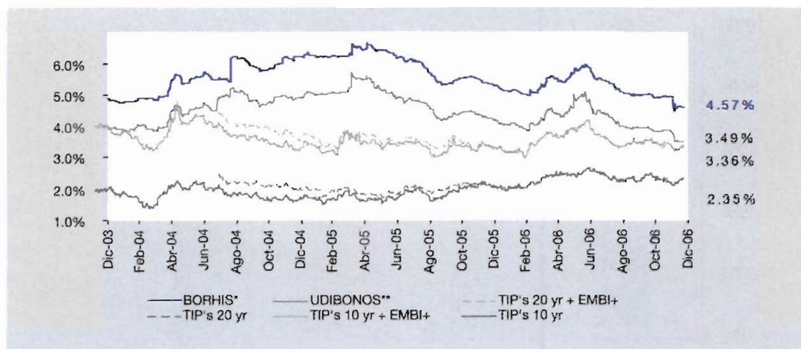
Up to day there are 37 Borhis issuances, for a total amount of USD$ 3,315 million.

Total MBS per year (millions)					
Years	UDIS	Pesos	USD	N° Issuances	Mortgages Securitized
2003	179	596	54	1	1,979
2004	791	2,749	250	3	9,562
2005	798	2,859	260	5	8,359
2006	3,350	12,497	1,136	14	34,857
2007	4,627	17,761	1,615	14	39,059
Total	9,744	36,461	3,315	37	93,816



BORHIS offer very attractive yields to Foreign Investors ....

YTM: BORHIS* vs. "Mexican Government Real Rate Benchmark", "TIP's + EMBI+", TIP's (Dic-2003 – YTD)

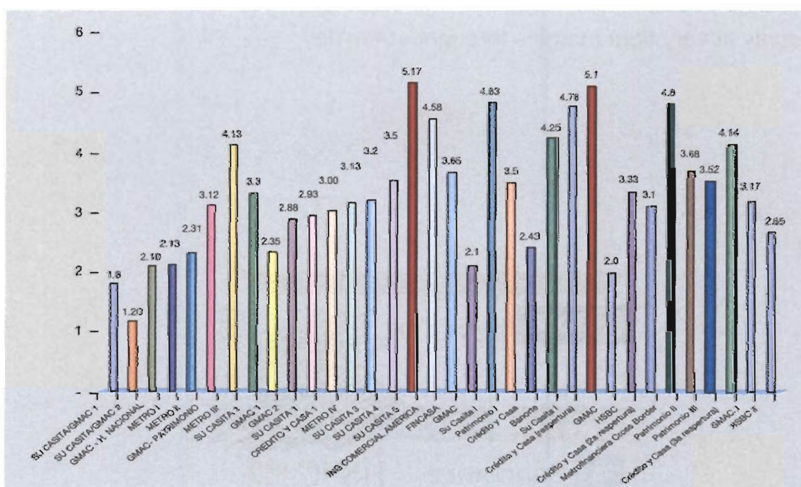


* *Weighted Average YTM (calculated, at each time, with the outstanding amount of each issue). Source: VALMER; MexicanPrice Vendor.*

** *Government Real Rate Benchmark (with similar duration to that of the BORHIS). TIP's= Treasury Inflation Protected Bonds; EMBI+ = Emerging Markets Bond Index (Mexico).*

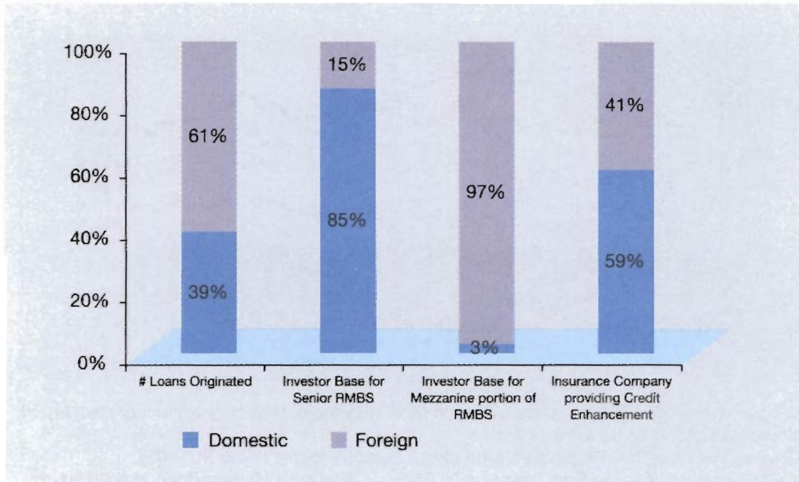
Though Borhis are a reletively new product in the mexican market, the demand for these type of Bonds has consolidated....

Relación Demanda-Oferta



There is a large participation of foreigners in the Mexican mortgage market.

Participation of Domestic and Foreign Entities in Mortgage-Related Activities in Mexico during 2006

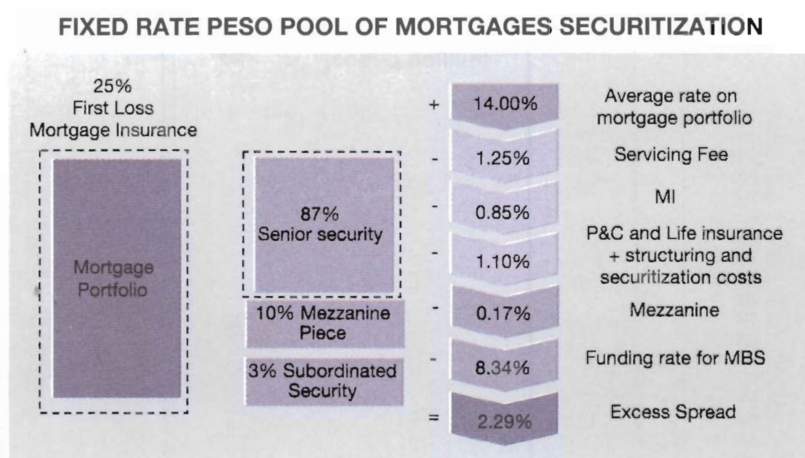


Source: SHF's estimates

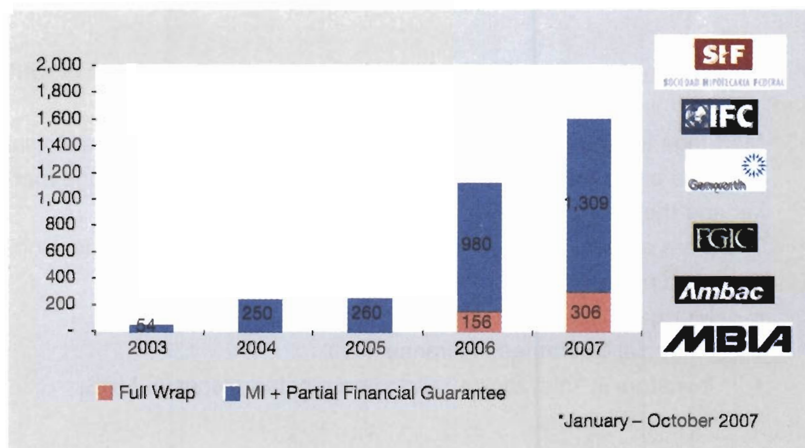
Today there are 11 Market Makers participating in SHF's program to foster the liquidity of BORHIS in the secondary market.

SHF acts through these institutions, and quotes prices both ways on every security at very tight margins throughout the day.

There is a lot of room for efficiencies being translated into more affordable mortgages.



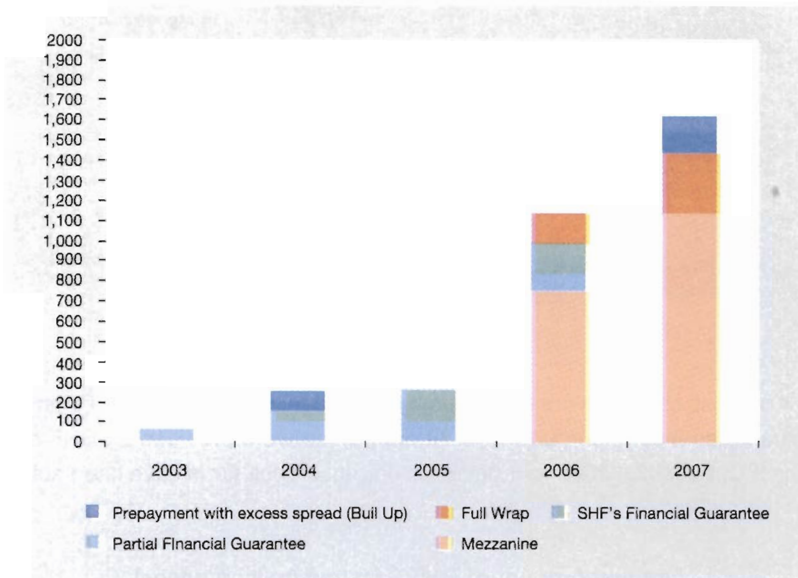
All of these securities are enhanced by Mortgage Insurance and/or Financial Guarantee Insurance (full-wrap). At first, these were provided by SHF and the IFC, but since 2006 four private credit-insurance firms have been active in the market.



January - October 2007

Credit enhancements provided by private entities have rapidly developed after a few successful transactions enhanced by SHF or the IFC.

Type of Enhancement Provided other than MI on RMBS Issued (million pesos)



**January - October 2007*

MI is not the only option available to support mortgage markets, but SHF thinks it is the best available.

- Mortgage insurance is viewed by SHF as the best-suited mechanism (of those provided by third parties) to promote a sound mortgage market and the development of securitization in Mexico.
- There are at least three options to choose from to foster the development of a mortgage securitization market:
    - Mortgage Insurance (MI)
    - Financial Guarantee Insurance (FGI)
    - Investors in "mezzanine" and subordinated pieces of MBS.

How does MI compare with other mechanisms to foster the development of mortgage markets?

	Mortgage Insurance	Financial Guarantee Insurance	Investors in Junior Pieces
Private entity not related to lenders to share credit risk with them (bringing credibility about soundness of loan porfolios)	✓	✓	✓
Credit enhancement to make securitization feasible	✓	✓	✓
Underwriting and loss mitigation strategy at the loan level	✓	✗	✓
Disciplines lenders and fosters best practices	✓	✗	✓
Long Term commitment in the industry	✓	✓	✗
Easy to understand by investors of Senior pieces of MBS	✗	✓	✓
Mechanism to standardize origination and servicing practices	✓	✗	✓
Recognizable industry with well-known players	✓	✓	✗
Successful international experiences	✓	✗	✗
Encomprissing loans securitiezed and those on the balance sheet of intermediaries	✓	✗	✗
Foster affordability through reduction of downpayments	✓	✗	✗

Is MI enough?

- Developing markets for FGI and subordinated pieces of MBS can accelerate the creation of a liquid MBS market and lower mortgage rates.
- These markets should be viewed as very useful complements of MI when securitization is seen as the best option to channel funds to mortgage lending.
- Another advantage of MI: it also adds value to a system based on bank lending.
- Private MI providers can also be very useful to deter government intervention that disrupts the market.

Mortgage Insurance in Mexico: Facts (1/3)

- Mortgage Insurance (MI) was introduced by SHF in Mexico on July 2004 with the following characteristics:
  - First loss with coverage ranging 5 to 35% of outstanding balance on loans with up to 90% LTVs.
  - Premium paid by lender on a monthly basis or up-front (and will soon be financed).
  - Clear underwriting guidelines used to underwrite every loan (no delegated underwriting thus far).

    - Claim may be made after foreclosure or cash-for-keys settlement, and SHF has the option to pay the claim or buy the loan at par.
    - Price depends on LTV, tenure of loan and coverage.

Mortgage Insurance in Mexico: Facts (2/3)

- Pricing by SHF of its MI products is such that it:
    - Covers the operational cost of delivering the insurance;
    - Accounts for the expected default rate and the severity of loss; and
    - Delivers a capital return equal to that set by our Board of Directors.
- In that sense, SHF is striving to set pricing in market terms so as never to discourage entrance by private insurance providers.
- Another important feature of our product is the contractual obligation to pay the claim unless premiums were not paid or there is evidence of fraud. Making the payment promise unconditional was a necessity in our market to establish credibility of the product from the start.

Mortgage Insurance in Mexico: Facts (3/3)

- In an effort to promote the development of a competitive MI market, SHF has actively been seeking the participation of private companies in our market, with the following results:
    - Genworth and United Guaranty helped SHF shape MI contracts and underwriting guidelines of our program.
    - These same companies are reinsuring the risk underwritten by SHF through two independent quota-share contracts. The interaction between SHF and these insurers has meant a great deal of knowledge transfer taking place both ways.
    - Genworth and United Guaranty have both expressed interest on setting up their local insurance company, and are actively discussing with regulators the prudential set of rules under which the business would operate.

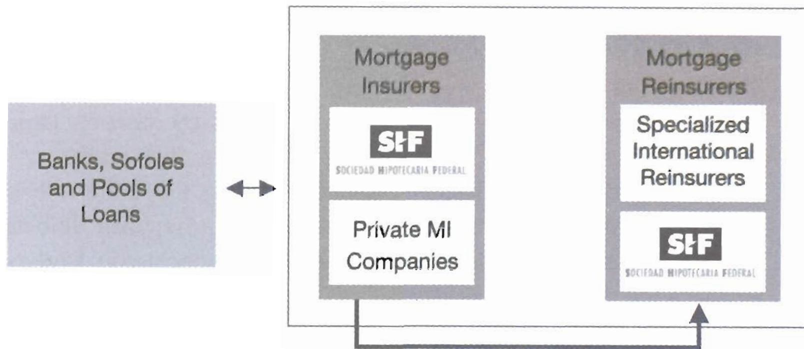
The reaction of the local market towards MI

- It is fair to say that without the full support of SHF and financial authorities, it would not have been possible to introduce MI in Mexico at this stage of development.
- SHF believes that now investors would seriously question MBS transactions without MI unless they are enhanced by relatively large junior tranches (with a shallow market for them) or by "full-wraps".
- Pricing and operational issues (mainly regarding the underwriting of mortgage portfolios) still need to be sorted out between Sofoles and MI providers (including SHF) before these specialized lenders embrace the product.
- To the extent that securitization becomes the main source of funds for banks –something that should happen over the next two to three years - MI will be demanded by them as well.

Regulatory framework, a difficult balancing act

- So far, SHF has been offering its MI product without a clear prudential framework around it. However, this should change soon:
    - The Insurance Law was amended last April and MI is now a recognized product in the legislation so that only specialized monoline insurance companies licensed by the Ministry of Finance may offer the product.
    - The Insurance Commision and the Ministry of Finance discussed at length with SHF, Genworth and United Guaranty the draft regulation for MI, which was published towards the end of 2006.
- On the other hand, banks are offered capital relief of 50% on loans carrying valid MI, and MBS backed by portfolios with MI also get a capital relief of at least 50%. Banking authorities are now drafting the regulation that would be enacted this year under Basel 2, keeping the capital relief in place.

Fostering Mortgage Insurance in Mexico



1. **Short Term:** SHF offers MI, looking for reinsurance with specialized international insurance companies.
2. **Medium Term:** Private insurance companies, including affiliates of international firms, offer cover for residential and medium segments of the market, while SHF offers cover for social housing and special risks not covered by private monoliners.
3. **Long Term:** Private MI companies offer cover for all market segments, SHF offers reinsurance taking those risks private entities are not willing to hold.

MI Closing comments (1/2)

- Judging from the Mexican experience, full support from financial authorities is needed before MI may thrive in an emerging market.
- The participation of private MI companies in the market will greatly facilitate the creation of the legal and operational infrastructure required, and will also be very valuable for promoting the advantages of MI with lenders, investors and rating agencies.
- Basel II is an excellent excuse to introduce the right incentives for lenders to undertake MI.
- MI may be easier to introduce in a market where the securitization of portfolios is (or is bound to be) the main source of funds for the mortgage industry.

MI Closing comments (2/2)

- Government intervention to "kick-start" the MI industry and entice the entrance of private companies is key, but authorities should be mindful of:
  - Delineating the exact role government agencies involved in the mortgage market play, and
  - Setting a clear exit strategy from the market place, most likely differentiating among market segments.
- There are some other issues that need to be addressed before private MI companies feel comfortable enough. We have found of particular importance appraisal standards and strong enough statistical evidence on portfolio performance.

Challenges Ahead

- Increase the importance of banks and Sofoles in housing finance relative to the Federal Housing Funds.
- Keep the growth of banks' and Sofoles' portfolios while maintaining the credit quality of these.
- Develop an efficient and deep secondary mortgage market to meet the potential demand for mortgages over the next years, and to keep Sofoles competitive relative to banks.
- Translate all these advances in housing finance into affordability for the consumer (lower interest rates, higher LTVs, lower monthly payments).
- Devise a housing solution based on public-private partnerships for those households that will not be able to afford a mortgage any time soon.

The infrastructure developed is now being used to launch an aggressive program of housing subsidies.

The subsidy program consists of an up-front subsidy and a 20% first-loss mortgage insurance provided by SHF at no cost to the intermediary. This should increase participation of sofoles and banks in the program and making it possible for lower income households to purchase a home borrower.

Examples of Affordability under the Subsidy Program (Figures in USD)

House Value	20,000	15,500
Total Up-Front Payment	1,000	620
Monthly Payment	166	111
Minimum Monthly Income	555	371
Wages	3.61	2.41

HOUSING FINANCE SEMINAR

The Role of Government and Central Bank in Developing Primary and Secondary Mortgage Market

By N. Kokularupan

Jakarta, 29-30 October 2007

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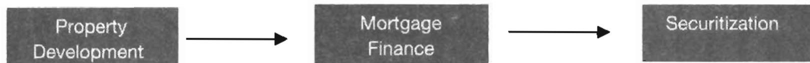
Housing Value Chain



Overview of Malaysia's Housing Policy

- Since independence in 1957, provision of low cost housing (affordable housing) priority of Government in the five-year national plans
- Government Agencies directly responsible for providing housing for poor in urban areas through State Economic Development Corporations and other urban development agencies
- Ceiling price for low cost housing was fixed at RM25,000 per unit for people with household income of less than RM750 per month since 1982
- To ensure private sector constructs low cost housing, Government also imposed 30% quota provision of low cost housing in every residential development
- To ensure these houses are secured by the targetted group, Government imposed an open registration system
- No specific quota required for other housing categories

Housing Price Categories in Malaysia

- Housing price categories in Malaysia based on the Ministry of Housing and Local Government's definition can be divided into 4 categories as shown in Table 1
- The price structure has remained until Government announced a new revised price for low cost housing on 10 June 1988 as given in Table 1

Housing Price Categories in Malaysia (Contd)

Table I House Price Categories in Malaysia

Category	House Price Per Unit	Target Groups/ Income per month
Before June 98		
Low Cost	Below RM25,000	Below RM750
Low Medium Cost	RM25,001 - RM60,000	RM750 - RM1,500
Medium Cost	RM60,001 - RM100,000	RM1,501 - RM2,500
High Cost	More than RM100,001	More than RM2,501
After June 98		
Low Cost	Below RM42,000 (Depend on Location)	Below RM1,500 (Depend on house type)
Low Medium Cost	RM42,001 - RM60,000	RM1,501 - RM2,500
Medium Cost	RM60,001 - RM100,000	Not Stated
High Cost	More than RM100,001	Not Stated

Source: Ministry of Housing and Local Government Malaysia, 1998

Amendments to the Definition of Low Cost Houses in 2002 (Private Sector)

Selling Per Unit (RM)	Location/Area (Land price per sq. metre)	Household Income (RM)	Types of Units to be Constructed
42,000	City and major towns (RM45 and above)	1,200 - 1,500	Flats more than 5 storeys
35,000	Major towns and outskirts of major towns (RM15 to RM44)	1,000 - 1,350	5-storey flats
30,000	Small towns (RM10 to RM14)	850 - 1,200	Terrace units
25,000	Rural areas (below RM10)	750 - 1,000	Terrace units

Selling Price for Low Cost Houses Constructed by Government since 2002

Area based on Price per sq.meter	Type of Units to be Constructed	Selling Price per Unit
RM45 and above (City and major towns)	Flats above 5 storeys	RM35,000
RM15 to RM44.99 (Major towns and outskirts of major towns)	5-storey flats	RM30,000
RM10 to RM14.99 (Small towns)	Terrace units	RM28,000
Below RM10 (Rural areas)	Terrace units	RM25,000

Revision of Low Medium Cost Units

- Effective 20 August 2000, the selling price of low medium cost units was raised to RM70,000 per unit
- Floor area should not be less than 70 sq.meters with 3 bedrooms and 2 baths

Housing Development in Malaysia

- Private sector played dominant role in housing development
- Except for the first half of 1980s when its share was only 50%, the private sector has accounted for 2/3s to 3/4s of houses developed during the 1970s onwards.
- Housing development targets set by Government since fourth Malaysia Plan period ie. from first half of 1980s.

Planned and Completed Housing Units According to House Price Category during Sixth, Seventh and Eighth Malaysia Plans

Sixth Malaysia Plan 91-95				Seventh Malaysia Plan 96-2000			Eighth Malaysia Plan 2001-2005		
	Planned	Completed	%	Planned	Completed	%	Planned	Completed	%
PUBLIC SECTOR									
Hardcore Poor	-	-	-	35,000	17,229	42.9	16,000	10,016	62.6
Housing	126,800	46,497	36.7	60,000	60,999	101.7	192,000	103,219	53.8
Low Cost	-	-	-	110,000	18,782	17.1	37,300	22,826	61.2
Low Medium Cost	44,600	35,195	78.9	20,000	21,748	108.7	46,700	30,098	64.4
Medium Cost	2,600	2,850	109.6	5,000	2,866	57.3	20,000	22,510	112.6
High Cost									
Sub Total	174,000	84,542	48.6	230,000	121,624	52.9	312,000	188,669	60.5
PRIVATE SECTOR									
Low Cost	217,000	214,889	99.0	140,000	129,598	92.6	40,000	97,294	243.2
Low Medium Cost	-	-	-	240,000	53,800	22.4	94,000	61,084	65.0
Medium Cost	155,900	247,241	158.6	110,000	206,208	187.5	64,000	222,023	346.9
High Cost	26,100	100,788	386.2	80,000	348,250	435.3	105,000	274,973	261.9
Sub Total	399,000	562,918	141.1	570,000	737,856	129.4	303,000	655,374	216.3
Total	573,000	647,460	113.0	800,000	859,480	107.4	615,000	843,942	

Ninth Malaysia Plan 2006-2010

- Greater private sector involvement in construction of low cost houses encouraged to ensure adequate supply of affordable houses
- Current housing policies and strategies and legislations will be reviewed
- Will include the requirement for private developers to surrender to Government land allocated for low cost houses in mixed development projects in the event the project fails
- To encourage private developers to increase supply of low medium cost houses, the 30% quota requirement for the low cost houses will be reviewed, particularly in areas of poor demand for such houses
- Guidelines covering specification, designs as well as prices for low medium cost houses will be provided
- Measures will be taken to improve registration and distribution system for low cost houses to ensure proper distribution to the targeted groups
- Information in data base will be updated and criteria for selection of eligible buyers will be revised and standardized for all States
- Apart from income levels, priority will be given to less advantage groups such as single mothers, families with many dependents and those with handicapped members
- Measures to ensure that high rise apartments particularly the low and low medium cost categories are properly maintained

Public and Private Sector Housing Targets, 2006-2010

Programme	Number of Units					Total	
	Housing for the Poor	Low-Cost	Low Medium-Cost	Medium-Cost	High-Cost	Number of Units	% of Total
Public Sector	20,000	85,000	37,005	27,100	28,700	197,805	27.9
Low-cost Housing	-	67,000	-	-	-	67,000	9.5
Housing for the hardcore poor (PPRT)	20,000	-	-	-	-	20,000	2.8
Housing by Commercial Agencies	-	13,500	31,005	8,200	4,700	57,405	8.,1
Housing by Land Schemes	-	4,500	500	-	-	5,000	0.7
Institutional quarters Staff Accommodation	-	-	5,500	18,900	24,000	48,400	6.8
Private Sector	-	80,400	48,500	183,600	199,095	511,595	72.1
Private Developer	-	77,700	42,400	178,000	194,495	492,595	69.4
Cooperative Societies	-	2,700	6,100	5,600	4,600	19,000	2.7
Total	20,000	165,400	85,505	210,700	227,795	709,400	100.00
%	2.8	23.3	12.1	29.7	32.1	100.0	

Source: Ministry of Housing and Local Government Malaysia

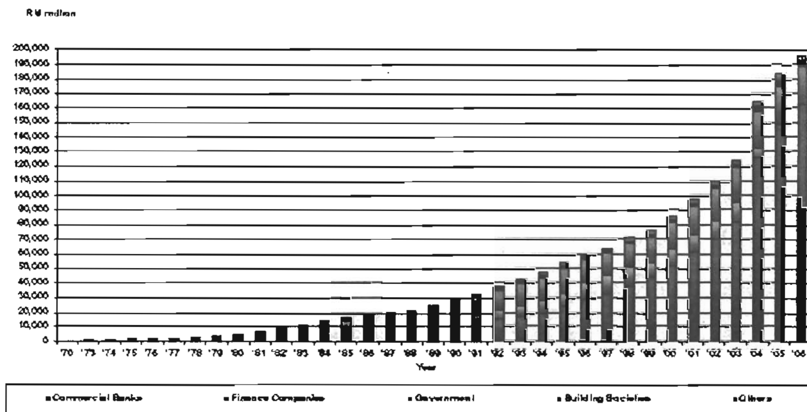
Role of Employees Provident Fund in Promoting Housing

- EPF contributions were channeled into three accounts:
  Account 1 - a retirement account containing 6% of EPF contribution
  Account II - a housing account containing 30% of EPF contribution
  Account III - a medical withdrawal account containing 10% of total contribution
- Effective January 2007, the Scheme was restructured whereby the contributions were channeled into two accounts:
  Account I - for retirement – 70%
  Account II - for housing, education and medical expenses – 30%
- 2008 Budget
  - to provide affordable housing. It was announced that effective 1 January 2008, EPF contributors are permitted to make monthly withdrawals from their balance in Account II to meet the mortgage instalments of their loans.
  - Estimated the above measure will make available RM9.6 billion annually and benefit 5 million people.

Other Measures by Government to boost housing, particularly affordable housing

- Exemption from Real Property Gains Tax (2006)
- 50% Stamp Duty exemption on documents of transfer for houses costing RM250,000 and less (2006)
- Setting up of a RM50 million fund to provide guarantees to end-financiers for house purchasers without fixed incomes to avail housing loans (Budget 2008).

Major Sources of Housing Finance



Mandated Lending for Housing

- Mandated lending to priority sectors including affordable housing was introduced by the Central Bank in 1976
- Aimed at increasing the access of credit for affordable housing as well as providing them with subsidized access to such credit
- Interest ceilings were imposed for lending for houses costing RM100,000 and below (1.75% above BLR or % whichever is the lower)
- Guidelines were issued by the Central Bank to the banking system to finance a certain number of units of affordable housing at the subsidized rates
- Guidelines introduced by the Central Bank:

Housing Loan Commitments set by Bank Negara Malaysia for the Banking System for Affordable Housing

1996 1.4.96-31.3.1998	Fixed allocations for each BI • Banks and finance companies as a group are required to make firm commitments to finance at least 100,000 units and 40,000 units respectively for the two-year period 1.4.1996-31.3.1998)
1998 (1.4.98-31.3.00)	Fixed allocations for each BI • BIs as a group are required to make firm commitments to individuals to purchase or construction of at least 100,000 units of houses, each costing RM100,000 and below
2000 (1.4.00-31.12.01) (extended to 31/12/02)	Fixed allocations for each BI • BIs as a group are required to make firm commitments to individuals to purchase or construction of at least 150,000 units of houses, each costing RM100,000 and below • The housing quota includes newly constructed as well as second-hand houses which are owner occupied
2003/2004 (1.7.03-31.12.04)	Fixed allocation of each BI • BIs as a group are required to make firm commitments to individuals to purchase or construction of at least 100,000 units of houses, each costing RM180,000 and below • Maximum lending margin to be imposed is of 1.75% above the declared base lending rate of a lending institution or 9% p.a., whichever is lower
2006/2007	More flexible approach was adopted for 2006/2007: • BIs are allowed to set own internal target for lending to low cost houses (BNM will review the target set by BIs) • Houses costing RM60,000 for peninsular Malaysia and below (additional 20% on the value of houses for Sabah and Sarawak) with maximum lending margin of 1.75 above the declared base lending rate of a lending institution

Policy Approach in Setting House Financing Guidelines

- Lending guidelines are reviewed every 2 years to ensure effectiveness in meeting objectives
- Lending targets are part of social contribution by banking institutions
  - ensuring commitment by the banking industry to promote lending for housing
  - create greater awareness on social obligations
- Review of guidelines takes into account the following:
  - assessing the current performance and targets achieved by the banking institutions
  - assessing the current supply and market price of low cost houses in different States in Malaysia to set the lending requirements for low cost houses

Home Ownership: Government's Policy

- Objective of housing policy
  - to increase accessibility to adequate, affordable and quality houses
- Actively promote home ownership since the 1970s
  - especially among the lower- and middle-income groups

The Mortgage Market

Characteristics of housing loans in Malaysia

- granted on floating rate basis
- have maturities ranging from 15-25 years
- have low default rates and foreclosure losses are minimal

The Mortgage Market

- Ready access to credit facilities would only be available if:
  - there are willing lenders
  - the lenders are able to secure funds at low mortgage rates
  - the primary lenders are able to sell some of their existing housing loans
  - the lenders are able to raise funds to finance new housing loans on a revolving basis

The Financial Institutions

- In the early 1980s, the financial institutions faced tight liquidity situation
- They were subject to liquidity risk arising from the mismatch of maturities of the funds (short term) and the housing loans (long term)
- Therefore, the financial institutions would only be able to provide ready access to housing loans at favourable rates if they can secure cheap funds and reduce maturity mismatch

Technical Committee (1980)

- A Committee set up by Bank Negara Malaysia (BNM) recommended the establishment of a secondary mortgage market
- The proposal was not implemented since the conditions then were not conducive to introduce such a market

Technical Committee (February 1986)

- A new Technical Committee was set up to:
  - explore the feasibility of a secondary mortgage market
  - propose viable instruments for such a market
  - determine the requirements for setting up of an institution to act as an intermediary between primary lenders and investors
- Recommendation
  - that a national mortgage corporation be established as a matter of priority in view of the prevailing recessionary conditions
  - Cagamas was intended to be used as one of the measures to overcome the recession

Cagamas Berhad, the National Mortgage Corporation

- Incorporated in December 1986 as a public limited company; to operate as a private sector enterprise
- Commenced business in October 1987
- Shareholders
  - single largest shareholder is BNM (20%)
  - financial institutions (80%)
- Cagamas' specific role
  - to encourage home ownership and develop the private debt securities (PDS) market in Malaysia

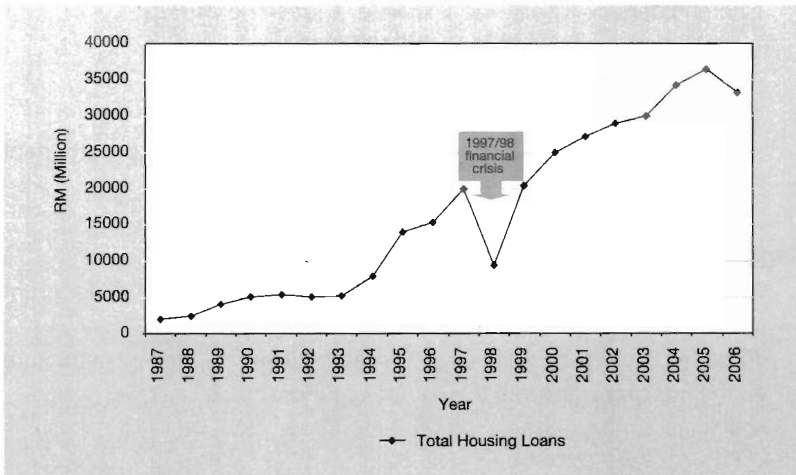
Cagamas' Role: Encouraging Home Ownership

- Provides financial resources to enable primary lenders to grant more loans
- Provides liquidity by narrowing the gap between the maturity structure of the housing loans and the source of funds

Encouraging Home Ownership: Benefits

House Buyers	Sellers	Govt. and the Economy
Obtain easy access to housing loans at reasonable cost Obtain attractive and affordable housing loan packages characterised by low interest rates for the initial years	Hedge interest rate risks Obtain liquidity at a competitive cost to originate more housing loans and enhance lending operations Price loan products competitively Improve CAR if they sell on without recourse basis	Helps to achieve its policy of encouraging home ownership Makes housing loans more affordable to the lower income group without any interest subsidy being incurred by the authorities Encourages property development and related spin-off effects

Approved Housing Loans: Banking Sector



Housing Credit Outstanding[1]

Primary Lenders	As at end									
	1988		1998		2004		2005		2006	
	RM (Mil)	%	RM (Mil)	%	RM (Mil)	%	RM (Mil)	%	RM (Mil)	%
Banking System[2]	10,045	47.7	50,684	72.0	109,644	77.3	148,329	82.4	162,291	82.5
Treasury Housing Loans Division	8,968	42.6	15,794	22.4	25,930	18.3	25,395	14.1	25,709	13.1
Malaysia Building Society	1,285	6.1	1,436	2.0	1,753	1.2	487	0.3	779	0.4
Borneo Housing Mortgage Finance	466	2.2	533	0.8	705	0.5	713	0.4	721	0.4
Sabah Credit Corporation	162	0.8	269	0.4	238	0.2				
Bank Rakyat	129	0.6	717	1.0	2,508	1.8				
Bank Simpanan Nasional		0.0	1,006	1.4	1,059	0.7				
Others							5,185	2.9	7,152	3.6

1. *Includes loans sold to Cagamas*
2. *Includes commercial banks and finance companies*

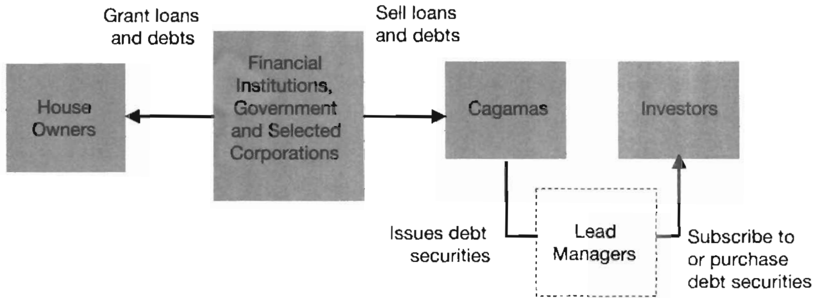
Cagamas' Role: Developing the PDS Market

- The PDS market was virtually absent until the creation of Cagamas
- The fledgling capital market began to grow more rapidly after Cagamas was established
- Other corporations started to issue PDS as an alternative to borrowing from the financial institutions

Housing Loans

- Purchase with recourse
- Purchase based on interest review periods
- Issuance of unsecured debt securities (UDS)

Purchase With Recourse



Purchase With Recourse

- Designed to:
  - suit local conditions; and
  - overcome barriers that could prevent the scheme from taking off successfully
- A necessary interim step as:
  - there was a lack of information and statistics regarding the credit risks
  - there was no incentive for the financial institutions to sell good quality housing loans on an outright basis

Purchase Based on Interest Review Periods

- At the end of the period, the primary lender has the option to repurchase the loans sold to Cagamas if it does not agree to the new interest rate offered by Cagamas
  - induce the primary lenders to sell
  - primary lenders do not have to commit themselves for the remaining life of the loan

Cagamas' Purchase Facilities

Purchase With Recourse	Purchase Without Recourse
• Housing loans - fixed rate (1987), floating rate (1992), convertible rate (1993) • Islamic house financing debts (1994) • Industrial property loans (1996) • Hire purchase and leasing debts (1998) • Islamic hire purchase debts (2002) • Credit card receivables (2003)	Housing loans (1999)

Customer Base

- Direct purchase
  - Financial institutions (1987)
  - Government of Malaysia (1988)
  - Selected corporations (1994)
  - Islamic banking institutions (1994)
- Under back-to-back arrangement
  - Financial institutions (1992)
  - Housing credit companies (2003)
  - Car distributor (2003)

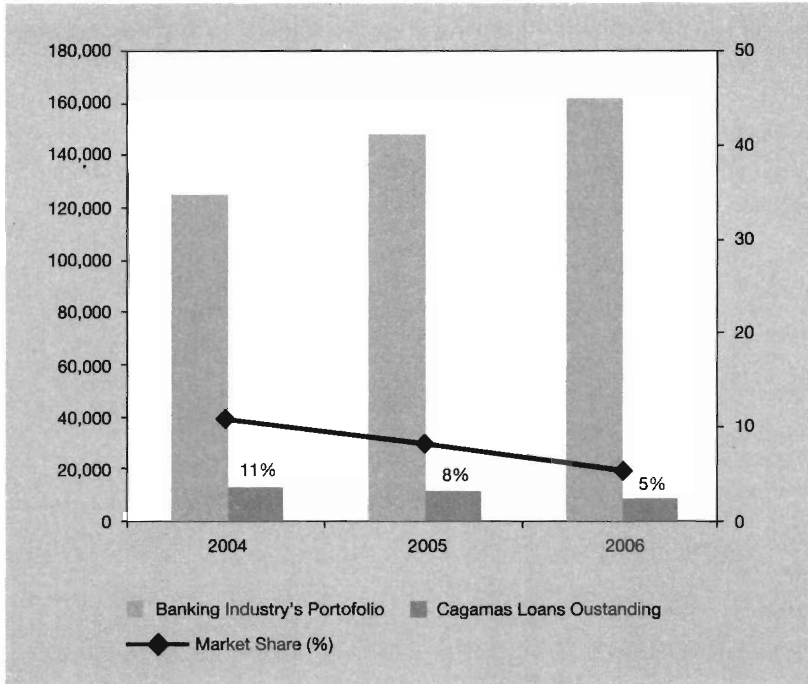
Cagamas Role in Assisting Directly in Affordable Housing

- 1 February 1997 onwards loans granted for purchase of houses costing more than RM150,000 ceased to be eligible for sale to Cagamas
- Move to encourage Financial Institutions to concentrate more in providing end-financing for purchase of lower cost houses
- In order to promote Islamic Banking, Islamic House Financing Debts were not subject to the cap and were eligible for sale to Cagamas irregardless of the cost of houses financed
- Since February 1998, Cagamas offered a Preferred Cagamas Rate for the purchase of housing loans costing up to RM100,000 in line with Bank Negara Malaysia's policy of promoting affordable housing
- In 1999, active sellers exhausted their housing portfolio in respect of houses costing RM150,000 and below. Hence, Bank Negara Malaysia lifted the cap on the value of property costing above RM150,000 for a one year period from 1 April 2000 to 31 March 2001. Thereafter the cap was removed completely.

Cagamas Loans and Debts Outstanding

	As at end 2006	
PURCHASE WITH RECOURSE	RM Million	%
Housing loans	9,280	43.9
Conventional	**8,671**	**41.0**
Islamic	**609**	**2.9**
Industrial property loans	-	-
Hire purchase and leasing	11,864	56.1
Conventional	**7,218**	**34.1**
Islamic hire purchase debts	**4,646**	**22.**
Total Loans and Debts	21,144	100.0

Cagamas Market Share



UDS: Regulatory Treatment

- The initial regulatory treatment accorded to Cagamas debt securities acted as a catalyst to kick start the development of private debt securities market
- Cagamas has successfully established itself as a primary player in the capital market and grown from strength to strength over the past 17 years
- The domestic PDS market has displayed exemplary growth and has been underscored by a series of notable highlights
  - regulatory consolidation unveiling of the Capital Market Masterplan the advent of asset securitisation

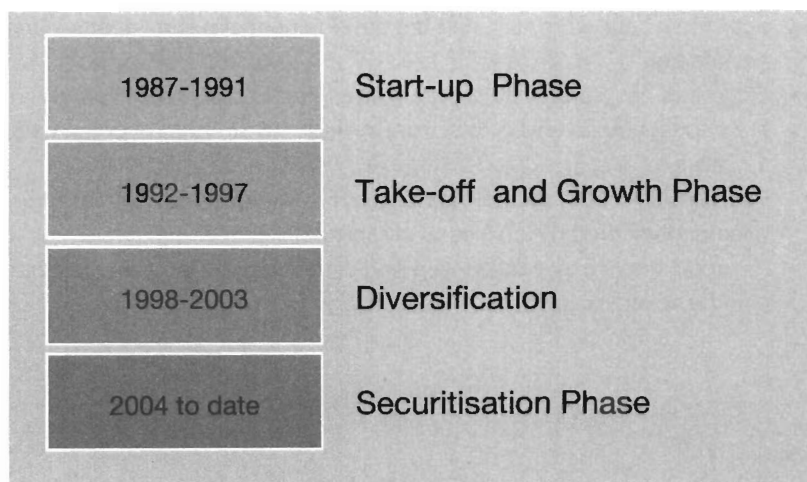
UDS: Revision of the Regulatory Treatment

- To further enhance the efficient functioning of the bond market, BNM had on 3 September 2004 revised the regulatory treatment for Cagamas unsecured debt securities
- Reflects BNM's recognition of Cagamas' maturity and confidence in its ability to continue to play a pivotal role in the development of the capital market on a more competitive basis, in line with the ongoing liberalisation of the financial and capital market

UDS: Revision of the Regulatory Treatment

	Issuance before 4 September 2004	Issuance after 4 September 2004
Risk weight under the Risk Weighted Capital Ratio framework	10%	20%
Liquefiable assets status under the liquidity framework	Class-1 liquefiable	Class-2 liquefiable
Yield slippage under the liquidity framework	4%	6%
Mode of Primary Issuance	Through Principal Dealers' network	Not through Principal Dealers' network
Holdings by insurance companies	Accorded low risk asset status	Accorded credit facilities status

Cagamas' Evolving Role



1987-1991: Start-up Phase

- The newness of its operations and its limited product line contributed to its slow progress in the early stage
- Client base:
  - Financial institutions (1987)
  - Government (1988)
- Initially, only one product - buying on fixed rate for 5 years with recourse
- 1 Nov 1989, introduced 7-year Cagamas Rate
  - to increase the Company's range of products offered to the market
  - to satisfy the market's demand for such longer term facilities
- On 24 August 1990, introduced 3-year Cagamas Rate
  - to cater to the demand for sale of housing loans for a period shorter than the standard 5 years
- With the new facility, primary lenders can sell their housing loans to Cagamas for a period that may range from 3 to 7 years
- First five years - low volumes of housing loans purchased
  - unfamiliarity with Cagamas' operations and the advantages of selling housing loans to Cagamas
  - interest rates were declining rapidly
- Outstanding loans held by Cagamas (1987-91)

As at end	(RM million)Housing Loans
1987	407
1988	1,396
1989	2,490
1990	3,082
1991	3,060

1992-1997: Take-off and Growth Phase

- From 1992 - active marketing and introduction of new products
- Widening of client base to include selected corporations
- Extended its range of products on with recourse basis
  - Floating rate housing loans (1992)
  - Convertible rate housing loans (1993)
  - Islamic house financing debts (1994)
  - Industrial property loans (1996)

Outstanding loans and debts held by Cagamas (1992-1997)

As at end	Housing Loans		Islamic House Financing Debts		Industrial Property Loans		Total	
	RM million	%	RM million	%	RM million	%	RM million	%
1992	5,345	100.0					5,345	100.0
1993	6,076	100.0					6,076	100.0
1994	9,915	99.7	29	0.3			9,944	100.0
1995	11,854	99.8	28	0.2			11,882	100.0
1996	16,086	99.7	56	0.3			16,142	100.0
1997	21,317	96.7	85	0.4	643	2.9	22,045	100.0

1998-2003: Diversification Phase

Purchase With Recourse

- Hire purchase and leasing debts (1998)
  - serves as a hedging mechanism for such debts which are granted on a fixed rate basis
- Islamic hire purchase debts (2002)
  - provides Islamic institutions with an avenue to raise fixed rate funds at low cost to hedge their fixed rate assets
- Credit card receivables (2003)
  - allows the sellers to diversify their funding resources
- Diversification into non-mortgage products has prevented the Company's balance sheet from decreasing
- Outstanding loans and debts held by Cagamas (1998-2003)

As at end	Housing Loans		Islamic House Financing Debts		Industrial Property Loans		Hire Purchase and Leasing Debts		Islamic Hire Purchase Debts		Total	
	RM million	%	RM million	%	RM million	%	RM million	%	RM million	%	RM million	%
1998	21,363	95.1	150	0.7	762	3.4	200	0.9			22,475	100.0
1999	17,493	86.9	120	0.6	868	4.3	1,659	8.2			20,140	100.0
2000	17,803	79.4	213	1.0	550	2.5	3,844	17.2			22,410	100.0
2001	15,309	68.8	143	0.6	377	1.7	6,437	28.9			22,266	100.0
2002	14,579	56.0	244	0.9	238	0.9	10,513	40.4	459.0	1.8	26,033	100.0
2003	15,140	55.4	345	1.3	55	0.2	11,236	41.1	563.0	2.1	27,339	100.0

2004 to date: Securitisation Phase

- Purchase of housing loans on without recourse basis
  - introduced in March 1999 in tandem with the thrust towards asset-backed securitisation
- However, there was no urgency for the financial institutions to securitise their housing loans
  - housing loans are good quality assets
  - excess liquidity in the banking system
  - high risk-weighted capital adequacy ratio of the banking system [12.5% (1999), 13.1% (2005)]
  - housing loans are deemed to be high quality assets since their default ates are very low and foreclosure losses are negligible
- The breakthrough for the scheme came in April 2004 when the Government of Malaysia mandated Cagamas as the vehicle to undertake the securitisation of the Government's staff housing loans (GSHL) on a scheduled basis and over a period of time
- Cagamas is also looking into the securitisation of other asset classes (including those based on Islamic principles)

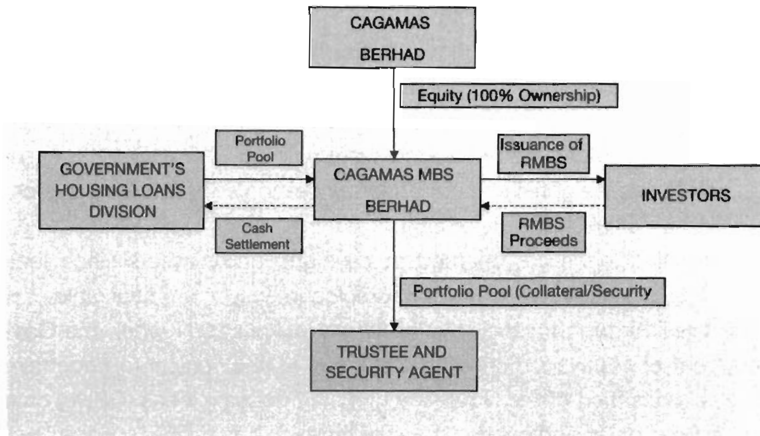
Objectives

- To promote ABS as a new tool for raising funds from the capital market
- To create a yield curve for MBS that serves as a benchmark for other ABS issuers to gauge the potential pricing levels for their assets
- To further increase the depth and efficiency of the domestic capital market

Cagamas MBS

- Cagamas incorporated a wholly-owned subsidiary, Cagamas MBS Berhad (CMBS), as a limited-purpose entity to solely:
  - purchase the Government's staff housing loans; and
  - issue RMBS
- CMBS has certain features of a bankruptcy-remote entity
  - restrictions place upon it in M&A and Trust Deed
  - cross-collateralisation of security is not expected for any of its issues

Securitisation Structure of GSHL



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