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DISCUSSION PAPER
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Feasibility of Mortgage-Backed Securitization (MBS) for the Underserved Housing Market in the Philippines

*Marife Ballesteros and Daisy Dul*ay[1]

Abstract:

This paper draws lessons from international practices to determine the feasibility of developing mortgage-backed securitization (MBS) to expand housing finance to the underserved market in the country. Despite the risks of securitization, as evidence by the recent US subprime crisis, the huge beneficial effects of opening up the capital market to individual investors and to borrowers that were previously out of reach is well-acknowledged in literature. Several countries developed MBS to facilitate and promote housing finance. The international best practices show that efficient securitization can be established based on: (1) clear regulatory framework; (2) prudent underwriting and valuation process; (3) reliable credit rating companies to mitigate moral hazards and adverse selection risks; and (4) the need for originators to have adequate capital so that warranties and representations can be taken seriously. In particular, the US subprime crisis highlights a major lesson that needs to be avoided, that is, the use of securitization as a tool for balance sheet arbitrage instead of funding and investments in the real economy.

In the country, the National Home Mortgage Corporation (NHMFC) was established with the same intent as the US Fannie Mae and Freddie Mac. However, after three decades of existence, it was only in 2007 that NHMFC laid the building blocks to operate as a secondary mortgage institution (SMI). The Corporation initial securitization issuances were successful and twice oversubscribed. However, to enable NHMFC to efficiently function as an SMI, government needs to undertake the following: (1) strengthen the housing finance industry and rationalize the role of HGC, HDMF and NHMF; (2) support NHMFC to improve its balance sheet and strengthen its organizational capabilities; (3) develop standardize housing loan documents and quality underwriting through mortgage insurance; (4) integrate/create credit information data base for all housing loan borrowers; (5) provide incentives to securitization through tax exemptions, reactivation of NHMFC limited sovereign guarantee, recognition of MBS bonds and NHMFC issuances as compliance to statutory liquidity requirements of financial institutions, etc; (6) automation of MBS servicing and reporting.

Key words: mortgage-backed securitization, housing finance, Philippines

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I. Introduction

One of the constraints to the expansion of housing finance for the low and middle income households in the Philippines is the lack of an efficient supply of long term funds. Banks dominate the primary market but financing is mostly short term in orientation and caters mainly to upscale markets. Commercial papers issued by private corporations have for some time showed an increase in their share of long term credit but this trend reversed in the face of the Asian crisis in 1996 and since then issuers have turned back to short-term maturities.[2] Government has been primarily concerned, for a long time, with developing the public securities market or Treasury Bills partly to finance chronic budget deficits and to correct macroeconomic imbalances. This move however, has precluded the development of the private securities market. The debt securities market is dominated by trading on Treasury Bills while secondary trading of private debt securities is very thin.[3]

Housing finance thus remained dependent on loan portfolios of banks and publicly controlled housing finance institutions. While banks have expanded their home financing facilitated by their high liquidity and solvency, they have remained conservative in their financing activities; giving priority to their prime clients among the middle to high income groups. On the other hand, the larger sector of the low to moderate and middle income households, comprising about 50% of total households in the country competes with the very limited portfolio of government controlled housing finance corporations.

In developed countries including those in Asia, mortgage-backed securitization (MBS) has been the main strategy to expand housing finance to the underserved sectors. In particular, secondary mortgage institutions or SMIs have been established to contribute to the development of the private securities market. These institutions purchase housing loans originated by banks or other financial institutions and convert these loans into debt securities. Mortgage-backed securitization has been effectively used in these countries to address not only liquidity constraints but also rising interest rates on housing loans and in overcoming constraints faced by financial institutions (e.g, capital adequacy, BASEL II and risk management) in expanding their loan portfolio for home lending.

While securitization has its associated risks as evidenced from the U.S. subprime crisis, the gains from the process have been huge including the beneficial links of opening up the capital markets to individual investors and to borrowers that were previously out of reach. Moreover, the impact of the crisis had been minimal in the financial operation of countries with best practice MBS as in the cases of the Malaysian *Cagamas*, the Hong Kong Mortgage

[2] Based on SEC data, no long-term commercial papers have been issued since 2000.
[3] The market for repurchase agreements or repos indicates secondary market trading for government securities. Repos are driven by both public and private sectors.

Corporation, the Canadian Mortgage and Housing Corporation among others. These institutions have shown themselves to be stable during the recent financial crisis.

In the Philippines, securitization has not taken off even after the institutionalization of the Securitization Act of 2004. There is apprehension at the *Bangko Sentral ng Pilipinas* (BSP) on the liquidity and asset price effects of securitization especially given the highly liquid banking sector.[4] Banks, on the other hand, perceive home finance a profitable low risk activity thus they prefer to keep mortgage loans in their balance sheet. Investors in turn are wary on the reliability of MBS specifically those backed by assets of low income households and those originated by publicly controlled finance institutions.

The objective of the study is to examine international best practices in MBS to determine how these practices can be applied in the Philippines. In particular, the study looks at the role of the government in MBS, the profitability and sustainability of the SMI, the forms of risk management to be put in place and the constraints in the development of MBS and of a secondary mortgage institution.

The paper is organized as follows: Section II provides an overview of the basic securitization structure and processes focusing on the potential conflicts of interest among players that can endanger the securitization process. Section III presents the best practice models for MBS focusing on how securitization of mortgages can be undertaken efficiently and effectively. The best practice models were identified by NHMFC through discussions with international financial consultants and practitioners. Section IV discusses the potential for MBS in the Philippines based on primary market activity specifically residential real estate financing and the secondary mortgage operation of the National Home Mortgage Finance Corporation or the NHMFC, which was created to for purposes of MBS development. The last section presents the conclusions and recommendations.

II. Overview of the Basic Securitization Structure and Process

Securitization is the process of transforming traditional forms of bilateral financial relationships (e.g. loans, leases, payments, other receivables, etc) into freely tradable investment instruments or securities. It is a mechanism to enable financial systems to deepen and strengthen through effective credit risk transfer that can alter the risk-return profile of a portfolio of financial claims (Arner and Schou-Zibell 2008). This process not only provides liquidity but can also enable the transformation of sticky debt into a more tradeable asset. However, securitization can pose dangers when used as a tool for balance sheet arbitrage rather than to meet funding or investment needs in the real economy (Arner and Schou-Zibell 2008). The devastating effect of what can go wrong with securitization has been clearly displayed in the recent subprime financial crisis.

[4] Securitization has an expansionary effect if proceeds come from currency in circulation (public offering) rather than bank reserves. Banks receive additional reserves that can potentially be invested in more real estate loans contributing to asset property price bubble.

Securitization is a complex process that involves different players. It can render financial markets opaque as transactions are conducted in the capital market rather than through banks. For purposes of this study, discussion focuses on the securitization of mortgage loans. Figure 1 provides an overview of the basic securitization structure.

The main players in the securitization process are: mortgagor, originator, issuer or arranger, wholesale lender, asset manager, credit rating agency, servicer, and investors. These players are differentiated in terms of their roles and responsibilities;[5]

- Mortgagor = is the borrower, who applies for a mortgage loan to purchase a property or refinance an existing mortgage

- Originator = usually a bank or asset management company that funds and services the mortgage loan of the borrower. The responsibility of the originator is to conduct credit investigation on the borrower. The originator can turn around to sell or transfer the pool of mortgage loans to an institution known as the issuer or arranger.

- Arranger or Issuer/Underwriter = institution responsible for bringing together the elements required for securitization to be undertaken. It typically purchase the pool of mortgage loans from the originator thus is responsible for funding the mortgage loans until all of the details of the securitization are finalized. The Issuer is expected to review the originator's financial statements, underwriting guidelines, background checks and consult with credit rating agencies. It also creates a bankruptcy-remote vehicle/trust to ensure that the pool of mortgages is protected from bankruptcy of the originator and seller and at the same time protect the originator and arranger from losses on the mortgage loans (in the absence of warranties from the originator).

- Warehouse Lender = this is a third party lender that fund the pool of mortgages for the issuer/arranger until they can be sold. Usually when the issuer is a bank or depository institution, internal funds can be used and there is no need for a third party lender.

- Asset Manager = serves as agent for the ultimate investor. It maybe the Registry or paying agent.

- Credit Rating agency = assigns credit ratings on mortgage-backed securities issued by the trust. The ratings are determined using publicly available rating criteria which map the characteristics of the pool of mortgage loans into estimated loss distribution.

[5] The roles and responsibilities of players is summarized from Ashcraft and Schuerrman (2008).

- Servicer = is employed by the Trustee and is responsible for the collection and remittance of loan payments and accounting of principal and interest to the Trust. It also provides customer service to mortgagors, holding in escrow or impounding funds related to payment of taxes and insurance, contacting delinquent borrowers and supervising foreclosures and property dispositions.

- Investors = provides the funding for the purchase of the mortgage-backed security.

The securitization process starts with mortgage origination where a borrower applies for a mortgage loan from the originator. The originator then selects a pool of mortgages to be securitized and sells or transfers the portfolio of mortgages to an SPV, which pays the originator by raising funds from investors through issuance of bonds or by taking a loan. As mentioned above, there are several third parties with varying roles between the SPV and the investors. The securities can be sold directly to investors by the SPV or through an underwriter or investment banker. In developed countries where MBS markets are sufficiently deep and liquid, secondary trading of MBS is done through the bond market or through the stock market. On the other hand, if the volume of MBS is low, trading is usually confined to institutional investors and are held by investors to maturity.

While there are several players, some roles and responsibilities can be combined. For instance, the originator may issue its own securities by creating a special purpose vehicle (SPV) using a Trustee bank/institution. The originator can also be a servicer. The wholesale lender may itself be the Trustee Bank.

Given several players and interests in securitization, frictions and moral hazards are highly probable in the system.[6] For instance, originators may engage in predatory lending and have less incentive to screen borrowers carefully because the risk can be taken out of its balance sheet. Conflict of interest is indeed a potential problem. It has been reported that one of the major causes of the recent subprime crisis is that credit ratings were assigned to subprime MBS with significant error (Ascraft and Schuermann 2008). Credit rating is arrived at in part through the use of models which are "susceptible to both honest and dishonest errors" (Ashcraft and Schuermann 2008). Although ratings are publicly disclosed, investors lacked the ability to evaluate the efficacy of these models. Credit rating companies may not provide full disclosure of risks since they are paid by the issuer not by the investor (or buyer). Other third party players who may have the ability to evaluate these models would similarly have potential conflict of interest.

Most countries have anti-predatory lending laws and regulations to address some potential conflicts. In addition, mechanisms can be put in place to mitigate or possibly resolve some risks. As provided in Table 1, the possible mechanisms include risk sharing schemes

[6] See Ashcraft and Schuermann (2008) for a comprehensive discussion of important frictions that exist between players.

between originator and issuer as well as guarantees or warrantees to shield investors from potential losses. For warranties and guarantees, the originator needs to be adequately capitalized for these schemes to be of value. Issuers also practice overcollateralization which requires the face amount of the collateral portfolio to be greater than the face value of securities issued. Tranching of securitization may also be required so that first-loss is borne by the sub-note holder (usually the originator/seller). The issuer and the credit rating companies including investors or asset managers should provide due diligence and ensure that these mechanisms are in place.

III. Best Practice MBS: Models of Funding and Risk Management

What lessons can be obtained from countries considered to have best models on securitization? The discussion below presents key features of securitization in the following countries: Malaysia, Hong Kong, Canada, US and Germany.

A. MALAYSIA: CAGAMAS BERHAD

Cagamas is the National Mortgage Corporation in Malaysia that was responsible for the development of the secondary market in the country. It was incorporated in 1986 through efforts of the Malaysian Central Bank, the financial institutions and consultants from an American financial institution. It was set up with initial government financial support to facilitate and encourage homeownership in Malaysia and to contribute to the development of the debt security market. The company purchases housing loans from the institutions which originate the loans at primary level and issues bonds as well as short-term notes to finance the purchases. In effect, Cagamas turns the housing loans into debt securities at the secondary level through a securitization process.

The establishment of Cagamas has alleviated the maturity mismatch of the primary lenders which grant housing loans with repayment periods of up to 30 years and finance them with funds of mainly less than one-year maturity. In addition, Cagamas took over from the originators the interest-rate risks inherent in these loans. The debt securities, particularly fixed-income securities issued by the company, create additional investment options for investors.

1. The Securitization Process

The securitization process itself is very simple. The primary lenders, such as the commercial banks, grant housing loans to the house buyers. They subsequently sell these loans to Cagamas. Cagamas raises funds from the market to finance these purchases by issuing debt securities in the form of the longer term Cagamas Bonds and the shorter term Cagamas Notes to investors. Investors include the financial institutions, insurance companies, pension funds, non-resident companies and the public who are interested in investing in short-and medium-term papers to obtain an income either at a fixed or adjustable interest rate.

Cagamas stands ready to purchase, at any time, housing loans from the originator at a quoted interest rate known as the Cagamas Rate. The transaction will be subject to price review periods of three, five or seven years. At the end of the contracted review period, a new rate of interest is offered by Cagamas. The institution which sold the housing loans has the option to repurchase the housing loans from Cagamas, if it deems the interest rate quoted by Cagamas at the end of the review period to be unacceptable.

Cagamas purchases housing loans either at a fixed, floating or convertible rate. Fixed-rate purchase means that the transaction is based on an interest rate that is not adjustable during the review periods of three, five, seven years. Under the floating rate purchase facility, Cagamas purchases housing loans based on an interest rate that is pegged to the three-month or six-month Kuala Lumpur Interbank Offer Rate. "Convertible means that the originator can switch from a fixed to a floating rate or vice versa during the course of the review period. (Cheng, 2000).

Cagamas issues four types of debt securities to fund its mortgage purchase activities: fixed-rate bonds, floating-rate bonds, short-term discount notes (known as Cagamas Notes) and Cagamas Mudharabah Bonds, which are interest-free bonds issued under the Islamic principle of profit sharing.

Cagamas securities are all unsecured obligations of the company. They are issued scripless and are tradable electronically in book-entry form through an electronic clearing house known as the Scripless Securities Trading System, operated by the Central Bank of Malaysia.

The interest on fixed-rate bonds is payable semi-annually. The bonds are redeemed at face value on the maturity date. These bonds are issued with a tenor of three-to-seven years to match the price review period of the company's mortgage purchases. The interest rate for the floating rate bonds is pegged to the three- or six-month KLIBOR and is reset accordingly at three- or six-month intervals. Cagamas Notes are issued for short terms not exceeding one year. But unlike the fixed- and floating-rate bonds, they are issued at a discounted rate from the face value. These discounted notes are issued to obtain funds to meet Cagamas' short-liquidity and hedging requirements. The Cagamas Mudharabah Bonds do not carry any interest, but dividends are payable semi-annually based on a specified profit sharing ratio. They are used to finance the company's purchase of Islamic house financing debts (thus, Shariah compliant).

*2. **Cagamas Evolving Role***

Cagamas has evolved and filled-in gaps that have contributed to the country's housing-finance and capital market's development.

- 1987 - 1991 Start-up phase

  During this period, it introduced seven-year Cagamas rate bonds that allowed lenders to offer long-term loans (1989) and three year Cagamas rate bonds so that lenders could offer loans at less than the then-standard five-year loans. "With these new facilities, primary lenders could sell their housing loans to Cagamas for periods ranging from five to seven years. The start-up phase was one of experiment and innovation and has contributed much to the Malaysian home mortgage and capital markets' development.

- 1992 - 1997 Take-off and growth phase

  During this period, it widened its client base from government and financial institutions to include selected corporations.

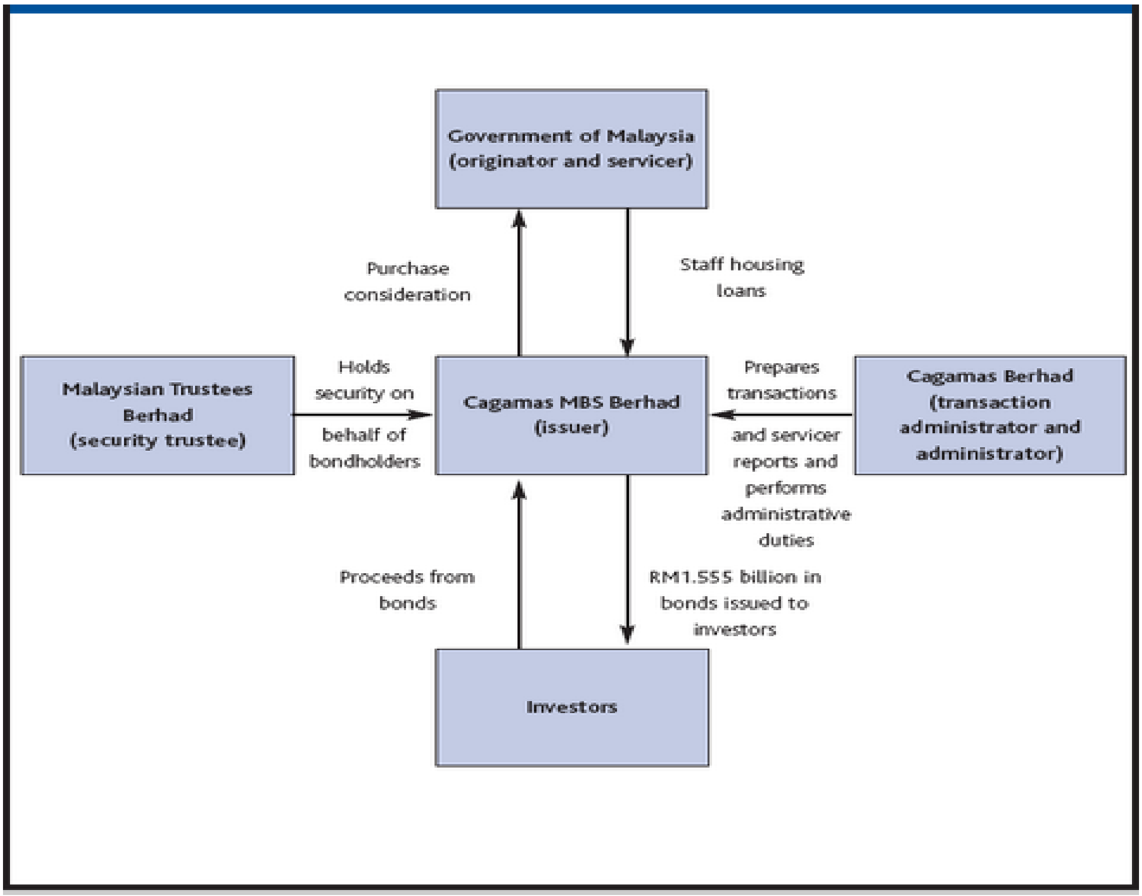
- 1998 - 2003 Diversification phase

  As primary lenders and investors became more familiar with Cagamas operations, it began diversifying by purchasing other types of debt from financial institutions. In 1998, it began purchasing hire-purchase and leasing debt papers.

- 2004 - 2007 Securitization phase

  Although Cagamas began introducing proposals to securitize home loans on a non-recourse basis in 1999, financial institutions at that time were not interested in securitizing their loans. It was not until Cagamas's 2004 mandate to securitize government staff housing loans that Malaysia's first residential mortgage asset-backed securities market was started.

  In October 2004, RM1,936 million of pensioners housing loans were securitized. The issuance was a rousing success as local and foreign investors over-subscribed to the offering by 5.6 times.



Source: Neil Campbell, Michelle Taylor and Tracy Kung (2005)

- 20 October 2004
  - RM1,936 million of pensioners' housing loans and the issuance of RM1,555 million in nominal value RMBS
  - Represents Malaysia's first transaction, backed by residential mortgages

Tenure (Years)	Issue Amount (RM million)	Maturity Date	Coupon Rate (%)	Spread over MGS (basis points)
3	580	19 Oct, 2007	3.70	18
5	340	20 Oct, 2009	4.30	26
7	290	20 Oct, 2011	4.95	38
10	345	20 Oct, 2014	5.50	45

- Attracted RM11.1 billion in book size (RM2.2 billion from offshore investors, RM8.9 billion domestic investors).
- At the cut-off rates, book size remained substantial at RM10.6 billion giving an over-subscription rate of 5.6 times.
- Malaysia's first transaction backed by residential mortgages

Source: Kokularupan Narayanasamy

The Cagamas residential mortgage securitisation is significant for several reasons. Firstly, it is the largest securitisation transaction in Malaysia to date. Secondly, it is the first RMBS in Malaysia. Cagamas MBS Berhad, a wholly-owned subsidiary of Cagamas, issued RM1.555 billion in secured bonds in four series with tenures of between three to ten years.

- 2007 onwards Provision of risk management tools

From 2007 onwards, Malaysian banks were really not interested in Cagamas's liquidity tools because the market was filled with excess liquidity. However, with the advent of Basel II, banks began looking for risk management tools. Again, Cagamas began filling the void.

Beginning in 2007, Cagamas enhanced its debt purchases by launching a non-recourse purchase program that complied with Basel II reporting requirements. These products served as risk management tools for Malaysian banks.

*3. **Key Success Factors***

Besides lowering the cost of funds to financial institutions, Cagamas has also contributed significantly as a catalyst to the development of the Ringgit bond market by issuing large sized, high quality bonds. There is therefore a need to ensure that Cagamas continues to play a significant role in any new regulatory landscape for the Private Debt Securities (PDS) market.

To date, the operations of Cagamas have proven highly successful. It has managed to retain the credit rating of AAA for the papers it issues. Some of Cagamas' key success factors are as follows:

• The stature of the organizational set-up has helped to ensure the ready acceptance of Cagamas bonds in the market, thus enabling the company to raise funds at relatively low yields. In turn, this has enabled Cagamas to purchase housing loans at a competitive price.

• Bank Negra Malaysia (BNM) recognizes Cagamas bonds as liquid assets for the purpose of compliance with the statutory liquidity requirements by Financial Institutions of FIs under its supervision.

• The proceeds from the sale of housing loans obtained by FIs from Cagamas are permitted by BNM to be free from statutory reserve requirements. This lowers the cost of funds to FIs.

• Cagamas is exempted from stamp duty under the Stamp Act 1949 for its housing loan transactions and its dealings in debt securities, thus further lowering transaction costs.

B. HONG KONG MORTGAGE CORPORATION (HKMC)

The Hong Kong Mortgage Corporation Limited (HKMC) was established in March 1997 by the Hong Kong SAR Government through the Exchange Fund to promote the development of a secondary mortgage market in Hong Kong. The HKMC has an authorized share capital of HK$ 3 billion, of which HK$ 2 billion has been paid up by the Exchange Fund, the foreign currency reserves of Hong Kong. The remaining HK$ 1 billion is callable any time when required.

The HKMC is the leading originator of mortgage-backed securities. It provides a strategic intermediary role by purchasing mortgages from banks and mortgage lenders operating in the Hong Kong market. Specifically, it enhances monetary and banking stability by acting as a liquidity provider to Authorized Institutions; promotes home ownership by channeling long-term funds from the capital market to the mortgage market and to the Mortgage Insurance Programme and promotes development of the MBS and debt capital markets to further enhance Hong Kong’s role as an international financial centre (Fok, 2005)

1. *Mortgage-Backed Securitisation Programs*

The HKMC has established two mortgage-backed securities programs.

- **Guaranteed Mortgage-Backed Pass-Through Securitisation Program (1999)**

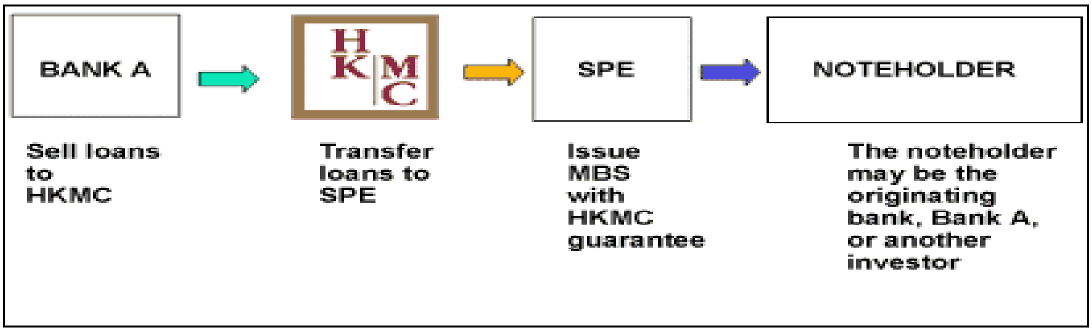
The Guaranteed Mortgage-Backed Pass-Through Program targets banks interested in balance-sheet management with a view to converting illiquid residential mortgage loans into liquid Mortgage-backed securities (MBS).

a.) The HKMC purchases mortgages from the originating bank and sells them to a bankruptcy-remote special purpose entity (SPE), HKMC Funding Corporation, Limited.

b.) The SPE will then issue MBS to a noteholder, who may either be the originating bank or another investor.

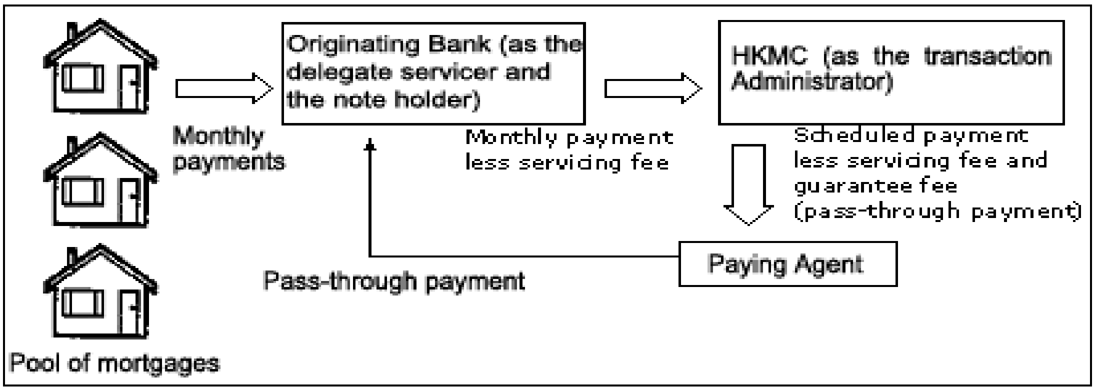
c.) The HKMC provides a guarantee (the 'HKMC Guarantee') on the timely payment of principal and interest of the MBS issued under the program to reduce the credit risk of the mortgage loans and reduce the need for the originating bank to make loan provisions.

Structure of a typical issue under the Pass-Through Programme



Source: http://www.hkmc.com.hk/eng/ty/ourbusiness/ptg.html

Pass-through of coupon, assuming the originating bank holds the MBS notes



Source: http://www.hkmc.com.hk/eng/ty/ourbusiness/ptg.html

- **Bauhinia Mortgage-Backed Securitisation Programme (2001)**

The HKMC introduced the multi-currency, conventional bond style Bauhinia Mortgage-Backed Securitization Program (Bauhinia Programme) in December 2001. The issuer, Bauhinia MBS Limited (Bauhinia), is a bankruptcy-remote special purpose company formed by the HKMC for the purpose of issuing mortgage-backed securities (MBS) under this program. From time to time the HKMC will sell mortgage loan portfolios to Bauhinia, which will be packaged into MBS of different series for investors.

The Bauhinia undertakes the following:

- Enables the HKMC to arrange issues in different currencies and meet with the demands of foreign as well as domestic investors.
- Adopts a bond style structure under which the interest amount payable on the coupon date is pre-determined and known to investors.
- Facilitates the trading of the MBS and hence enhance their liquidity in the secondary market.

- Features flexible offering mechanisms that cater to both public issues and private placements.
- A dealer group, accredited by the Treasury Department of the HKMC, consists of major financial houses (e.g. Citicorp International Limited, DBS Bank (Hong Kong) Limited, Deutsche Securities Limited, etc.) that help to establish an extensive distribution network and facilitates a wider distribution of the MBS. The HKMC acts as seller, master servicer and transaction administrator under the program.

The Bauhinia Program is a major milestone in the development of the secondary mortgage market in Hong Kong.

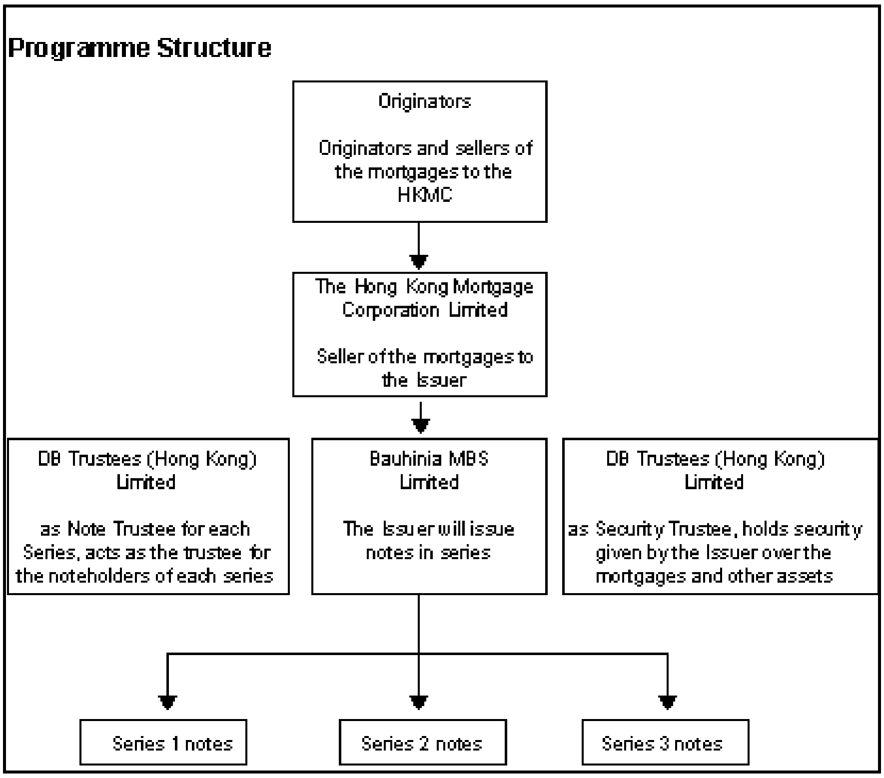
- The program provides a platform for both the HKMC and banks to conveniently convert their illiquid mortgage portfolios into liquid MBS, thereby achieving their funding and balance sheet management objectives.

- The debut MBS issue of HK$2 billion launched under the Bauhinia Program was closed in March 2002. It was well received by the market, with the participation of a wide range of institutional investors such as insurance companies, pension/investment fund managers, private and commercial banks. It was the first MBS issue to offer investors a choice between a Prime-based or HIBOR-based coupon.

- The second issue of HK$3 billion launched in October 2003 was the largest ever Hong Kong dollar denominated residential MBS transaction in Hong Kong.

- In November 2004, the HKMC completed a HK$2 billion MBS issue under which notes were offered to both Hong Kong institutional and retail investors, through dealers and placing banks respectively. This was a ground breaking issue as it represented the first MBS ever to be offered to retail investors in the whole of Asia.

- Hong Kong continues to be one of the most developed markets for structured products, many of which are sold to retail investors. This strong investor appetite, coupled with the government's support of the financial services industry, has led to volume growth and product sophistication in the non-asset backed space



Source: http://www.hkmc.com.hk/eng/ty/ourbusiness/bauhinia.html

2. *Key Features and Success Factors of HKMC MBS Programs*

- The Pass-Through Securitization Program is an efficient, flexible, and cost-effective way for originating banks to offload mortgage loans.

- The use of standardized mortgage documentation for each issue reduces the time required for document preparation and negotiation, and improves issuance efficiency as a whole.

- HKMC is wholly-owned by the Hong Kong SAR Government through the Exchange Fund. The HKMC Guarantee serves to enhance investors' confidence in the MBS issued.

- The issuing structure allows the originating bank to hold the MBS and retain the income stream from the pool of mortgages.

- MBS guaranteed by the HKMC carries a lower risk weighting of 20% for the purpose of determining the capital adequacy ratio, compared with 50% for mortgages. This will result in savings in capital cost for the originating bank.

- Automation of MBS servicing and reporting

- Prospectus drafted in plain English for retail MBS issues

C. CANADA: CANADA MORTGAGE AND HOUSING CORPORATION (CMHC)

In the 1980s interest rates for mortgages soared to record levels and were continuing to rise, putting the ability of Canadians to purchase homes out of reach. In response to this crisis, the Canadian Mortgage and Housing Corporation (CMHC) began to look at ways to reduce cost of borrowing. CMHC studied the U.S. mortgage securitization market, reviewing programs such as Ginnie Mae (Government National Mortgage Association), Fannie Mae (Federal National Mortgage Association) and Freddie Mac (Federal Home Loan Mortgage Corporation).

In 1985 CMHC introduced the National Housing Act Mortgage-Backed Securities program (NHAMBS). Prior to this date the securitization of mortgages in Canada was virtually non-existent. For purposes of NHAMBC, CMHC's role was expanded through an amendment to the National Housing Act (NHA) to include the provision of the unconditional guarantee of timely payment of pools of NHA-insured mortgages (Witherspoon, 1999).

1. The NHA Mortgage-Backed Securitization Process

The NHA Mortgage-Backed Securities was introduced in 1987. It represents an undivided interest in a pool of Canadian residential first mortgages. In order to qualify for pooling, each mortgage must be insured by Canada Mortgage and Housing Corporation (CMHC), a federal government Crown Corporation. The mortgage pool is then securitized and sold to investors through investment dealers and banks. A select list of Canadian banks, trust companies, insurance companies, *caisses populaires* and credit unions qualify as CMHC-approved NHA MBS issuers.

Each NHA Mortgage-Backed Security is created by a CMHC approved issuer, and each pool is a single-issuer pool. The approved issuer brings together a pool of NHA-insured mortgage loans which meet specific eligibility requirements. Issuers pay a non-refundable application fee plus a guarantee premium for timely payment guarantee. The guarantee premium is applied to the principal amount of the pool at the date of issue.

The issuers must also execute powers of attorney in favor of CMHC which gives CMHC the authority to execute assignments and register the pooled mortgage in the name of CMHC. The issuer of the MBS must also provide duplicate registerable mortgage documents. All mortgage papers and supporting documentation are given to the Custodian, which holds the documents until maturity of the pool.

The issuer also establishes a CMHC-approved Principal and Interest Trust Account to receive all monthly payments from the pooled mortgages. The issuer then carries out its plan to sell and deliver the securities to investors.

The mortgage lender continues to service the mortgages, collecting principal and interest payments. Principal is passed through to investors, while interest payments are made at the pool's coupon rate. NHA MBS are available in $5,000 denominations for terms of up to 10 years.

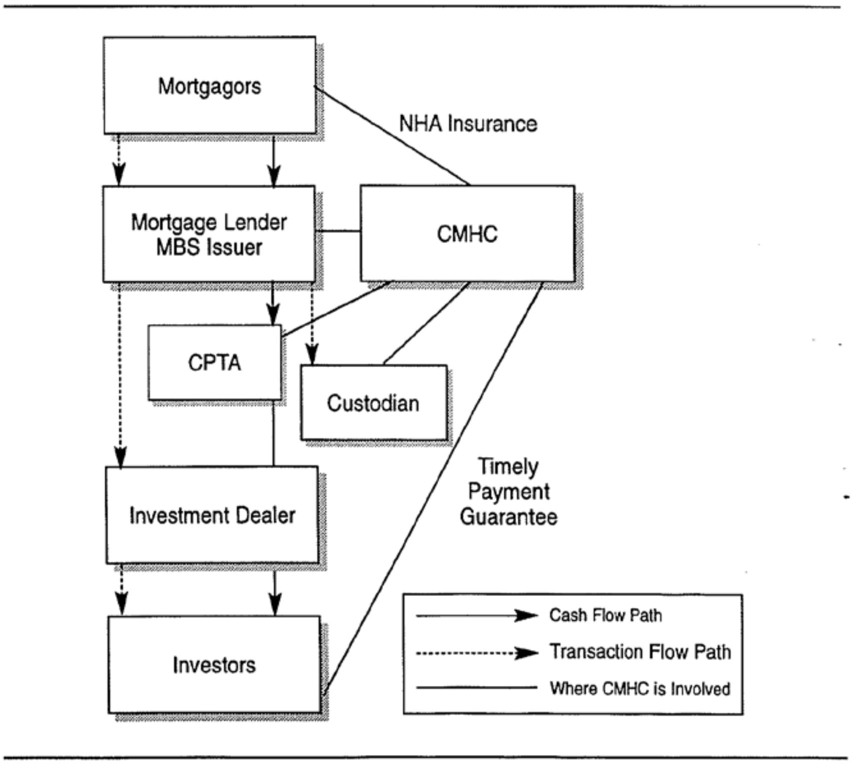
CMHC uses external institutions to carry out various functions to provide centralized service for both issuers and investors. The two major roles that are carried out by external organizations are: (1) Central Payor and Transfer Agent (CPTA) and (2) Custodian.

CMHC contracts with an institution that meets its requirements and has the expertise to perform the role of the CPTA. The main tasks of the CPTA are to collect payments of principal and interest monthly from the issuers and to forward these to the registered NHA MBS investors. The CPTA maintains ownership records, replaces certificates when sold or lost, maintains information to support secondary market pricing and assists CMHC in monitoring issuer performance.

The Custodian is contracted by those financial institutions which issue the NHA MBS. It operates at arm's length and is approved by the CMHC. The role of the Custodian is to hold the mortgage assignments, which provide the underlying security for the NHA MBS pools, on behalf of the investors and CMHC.

CMHC provides the guarantee for timely payment of principal and interest to NHA MBS investors. The guarantee provided by CMHC is in effect a guarantee by the government of Canada. The NHA MBS is the only mortgage-backed security with such a guarantee. CMHC's objectives under this program are to ensure a steady flow of funds for the financing of residential home construction and purchase, as well as to lower mortgage interest rates and encourage longer term loans.

NHA MBS issues are sold to investors by investment dealers, or they may be sold directly by the issuing institution. As with the government bonds and other securities, NHAMBS can either be registered in the name of the owner-investor or in the name of a securities firm. The latter is commonly referred to as being registered in "street name". This is the most commonly utilized registration because, like a bond in bearer form, the NHA MBS certificate in street name is negotiable, thereby allowing it to be readily bought or sold. If issued in "street name," the financial institution maintains records of individual ownership



Source: Witherspoon, 2010

2. *Key Success Factors of NHAMBS*

- The CMHC provision of both insurance on the NHA mortgage and the guarantee on the MBS create a system that provides both large financial institutions and smaller regional lending institutions with the ability to provide financing at comparable rates to one another.

- NHAMBS as investments combine the investment qualities inherent in both real estate mortgages and Canadian government bonds. Since these investments are the only mortgage-backed securities fully backed by the government of Canada, they are considered at par in terms of quality to a government of Canada bond, with the advantage of tax exemption from non-resident withholding tax.

- CMHC obtains an assignment of the residual interest in the mortgages. In 1994 the requirement of providing individual assignment of the mortgages was changed to allow for a single global assignment between the issuer and CMHC of all the mortgages listed on the schedule of mortgages.

- NHAMBS are exempted from normal requirements of an extensive and complex prospectus applicable to other issues of securities. (Witherspoon, 1999). The issuers need only prepare prescribed information circulars for each new NHAMBS issue. The circulars contain information of interest to investors and are prepared and available upon request from the institution issuing the MBS.

- The NHAMBS program provides guarantees for loans on single-family owner-occupied homes, rental properties and social housing loans. Homeowner loans are pre-payable, subject to penalty.

- Non-prepayable multifamily loans are pooled spearately. NHA-insured social housing mortgages are issued to finance low-cost housing for senior citizens, the disabled and the economically disadvantaged.

- The HAMBS program also guarantees mixed pools which are comprised of a combination of homeowner, multiple or social housing mortgages.

- CMHC mortgage insurance protects the lender/issuer against mortgage default, assuring payment of principal and interest in accordance with the terms of the mortgage insurance policy. CMHC guarantees full and timely payment of principal and interest to the NHAMBS investor in case of issuer default. The investor is fully protected by this guarantee.

- Both foreign investors and Canadians living outside Canada can also purchase these securities and are tax exempt. The other advantage is that, as with interest-rate-sensitive securities, their return is determined by prevailing market conditions.

- Through the efforts of CMHC and the Canadian financial industry, a secondary market where NHAMBS can be traded has been established. This liquidity is an important feauture that helps make NHAMBS an attractive investment for individuals and institutions.

D. GERMANY: PFANDBRIEFE Mortgage Bank

The Pfandbriefe bond market is the biggest segment of the euro-denominated private bond market in Europe and rivals in size the individual European government bond markets. It developed mainly in a single country as a purely domestic product until the mid-1990s.

German Pfandbriefe were taken as a model in several European countries when legal frameworks were reformed in the late 1990s to enable the issuance by certain financial institutions of similar instruments secured on portfolios of mortgage loans.

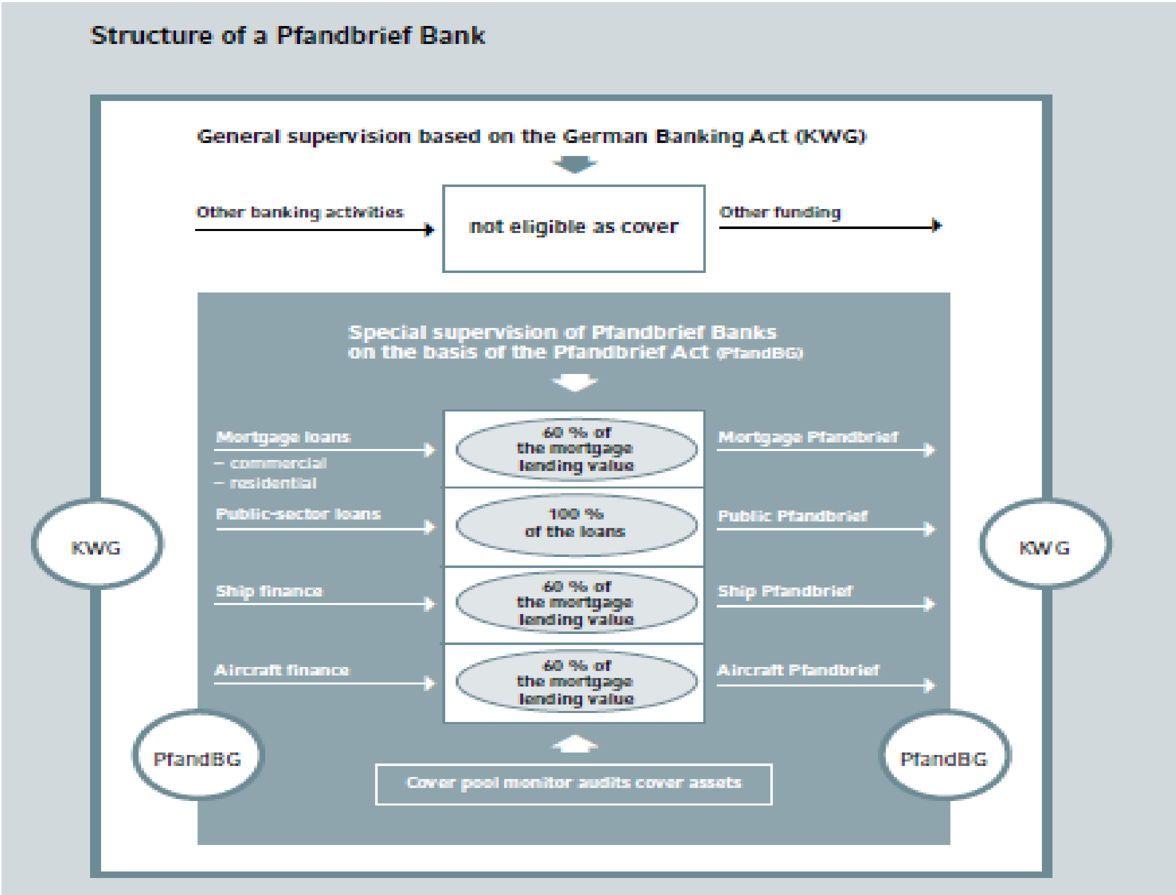
1. *Structure and Process of Pfandbriefe Securitization*

The Pfandbriefe Bank grants property finance, ship loans, aircraft loans and public-sector loans. These assets are reported in the credit institution's balance sheet. The cover pool monitor enters loans or parts of loans that are eligible as cover under the Pfandbrief Act into the respective cover register – together with the collateral for them – which the cover pool monitor watches over. A separate register is maintained for each loan type. In their entirety, the cover assets entered in one cover register are referred to as the cover pool.

Pfandbriefe are issued on the basis of the cover pools. The Pfandbrief Bank undertakes to pay the Pfandbrief bearers the promised interest and, at maturity, to repay the principal amount of the Pfandbrief. In the event of the Pfandbrief Bank's insolvency, the Pfandbrief bearers have a preferential claim in respect of the assets entered in the cover registers. The cover pools and the Pfandbriefe are not included in the insolvency proceedings but are managed separately by the cover pool administrator.

Only mortgages that meet certain requirements may be used as cover for Mortgage Pfandbriefe. Eligible assets include: (1) Land loans secured by real estate lien in the member states of the European Union, in Contracting States to the Agreement on the European Economic Area (EEA), in Switzerland, the USA, Canada and Japan.; (2) commercial and residential properties and (3) assets which other credit institutions hold for the Pfandbrief Bank on a fiduciary basis, provided the Pfandbrief Bank is entitled to the separation of these assets from the trustee's assets in the event of the latter's insolvency. The properties lent against must be insured against the risks relevant to the location and type of property concerned.

In addition to real estate loans, a maximum of 20% of the aggregate volume of Mortgage Pfandbriefe outstanding may take the form of other cover assets. These may be claims under bonds of or guaranteed by central governments and sub-sovereign public-sector bodies or money claims against suitable credit institutions. The latter may be included up to 10% of the aggregate volume of Mortgage Pfandbriefe outstanding. Claims under derivative transactions concluded with suitable credit institutions may also be included in the cover pool up to a maximum of 12 % based on their net present value.



Source: Jens Tolckmitt, Dr. Otmar Stöcker (2012)

2. *Key Features and Success Factors of Pfandbriefe MBS*

The high credit quality of mortgage Pfandbriefe, generally a triple-A rating from at least one rating agency, stems from some key features:

- A well-established regulatory framework, which was revised in July 2005;

- The quality of the collateral pool, which must be covered by related assets of at least an equal amount and yield;

- The high quality of the cover pool encompassing first ranking mortgages with loan to value (LTV) ratios no higher than 60 percent. By international standards, the German property market has shown itself to be stable over the last decades. One of the main reasons lies in the process by which German banks determine a mortgage lending value. The carefully determined mortgage lending value is one precondition for Pfandbrief Banks to be able to refinance property loans by issuing Mortgage Pfandbriefe.[7]

[7] The mortgage lending value is prudently calculated based on long-term sustainable features of the property. It represents the value, which throughout the entire life of the loan, can probably be achieved for a property sold in

- Mortgage Lending Value (MLV) must not exceed, and indeed is usually lower than, the market value. However, the difference between the two values does not remain constant, for which reason it is not possible to make a simple value deduction.[8] Instead, the difference is determined by the expectations of the market with respect to the future price development of the property in question. Yet the mortgage lending limit of 60% of the MLV does not mean that a loan, to be eligible as cover, may only be equivalent to this 60% limit. Only the part of the loan that serves as cover (or securitized) may not exceed this limit.

- Assets in the cover pool have to be insured on the risks relevant to the location and type of property

- In case of the bankruptcy of the issuer, the privileged position of Pfandbriefe holders is guaranteed by a statutory preferential right and the separation of the cover pool (administered by an independent trustee).

- The determination of a mortgage lending value is required of, and accordingly is advantageous to, two groups of banks:

a. (Pfandbrief) Banks that want to include real estate-secured loans – meaning loans secured by a land charge or mortgage – in the cover pool of a Mortgage Pfandbrief: Under sections 12 and 16 of the Pfandbrief Act, these banks must determine the mortgage lending value of the property in question. Not more than 60% of this mortgage lending value may be refinanced through the issuance of Mortgage Pfandbriefe.

b. Banks seeking a privileged status for capital backing for real-estate secured loans: Here, the mortgage lending values of the properties lent against can serve as the basis for calculating such privileged status. If certain other conditions are fulfilled, the bank only needs to maintain a clearly reduced portion of capital for the part of the mortgage lending value up to 60%.

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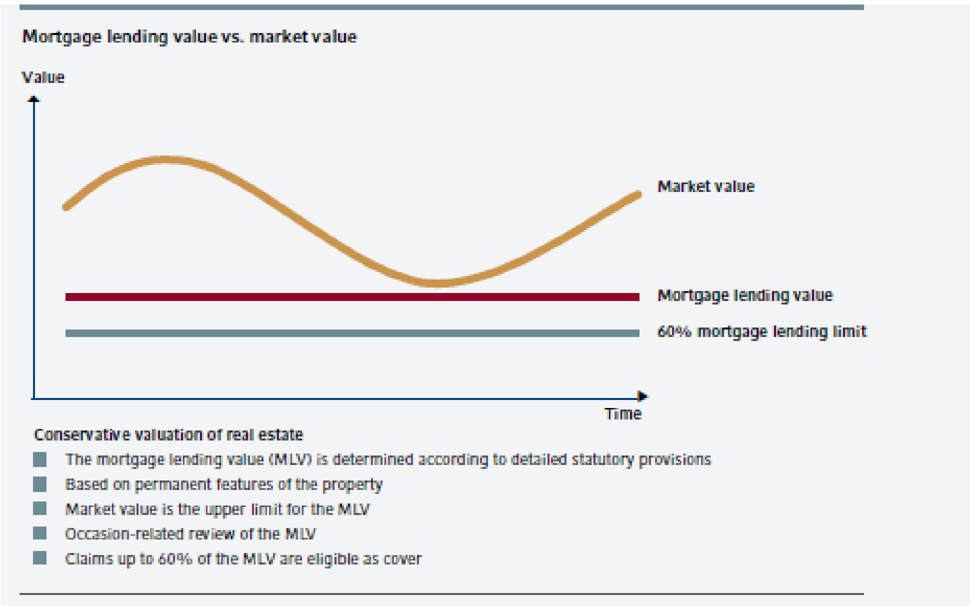
the free market – irrespective of temporary (for example, economically-induced) value fluctuations in the respective property market. Current – and possibly exaggerated – market prices are disregarded. This requirement serves to eliminate speculative influences.

[8] There are three stages in the determination of the mortgage lending value:

Obtaining information: The valuer gathers information about the property and the respective property market. To do so, he consults official registers and other documents such as extracts from cadastres and land registers, property usage agreements, lists of tenants, plans as well as market data and market reports.

Inspection: The valuer has to inspect the property to obtain, for example, a general picture of the condition of the building and the standard of the fixtures and fittings. Moreover, he/she checks for possible structural damage.

Valuation including the valuer’s report in the final stage, a valuation report is prepared. As well as an account of how the mortgage lending value of the property was determined, the report contains information about the property, the location and the regional property market as well as on the property’s usability and marketability.



Source: Jens Tolckmitt, Dr. Otmar Stöcker (2012)

E. UNITED STATES: FANNIE MAE AND FREDDIE MAC

The Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) are the two dominant entities in the secondary residential mortgage markets of the U.S. They are an important and prominent part of a larger mosaic of extensive efforts by governments at all levels to encourage the production and consumption of housing (White, 2004). Fannie Mae and Freddie Mac each operate two related lines of business, i.e., they issue and guarantee mortgage-backed securities, and they invest in mortgage assets.

1. Fannie Mae and Freddie Mac Securitization Sturcture and Process

<u>Fannie Mae</u>

The Federal National Mortgage Association, commonly known as Fannie Mae, was founded in 1938 during the Great Depression as part of the New Deal. It is a government-sponsored enterprise (GSE), though it has been a publicly traded company since 1968. The corporation's purpose is to expand the secondary mortgage market by securitizing mortgages in the form of mortgage-backed securities(MBS), allowing lenders to reinvest their assets into more lending and in effect increasing the number of lenders in the mortgage market by reducing the reliance on thrifts.

Fannie Mae buys loans from approved mortgage sellers, either for cash or in exchange for a mortgage-backed security that comprises those loans and that, for a fee, carries Fannie Mae's guarantee of timely payment of interest and principal. The mortgage seller may hold that security or sell it. Fannie Mae may also securitize mortgages from its own loan portfolio and sell the resultant mortgage-backed security to investors in the secondary mortgage market, again with a guarantee that the stated principal and interest payments will be timely passed through to the investor. By purchasing the mortgages, Fannie Mae and Freddie Mac provide banks and other financial institutions with fresh money to make new loans. This gives the United States housing and credit markets flexibility and liquidity. (Morgenson, 2008)

In order for Fannie Mae to provide its guarantee to the mortgage-backed securities it issues, it sets the guidelines for the loans that it will accept for purchase, called "conforming" loans. Mortgages that don't meet the guidelines are called "nonconforming". Fannie Mae produced an automated underwriting system (AUS) tool called Desktop Underwriter (DU) which lenders can use to automatically determine if a loan is conforming. Fannie Mae followed this program up in 2004 with Custom DU, which allows lenders to set custom underwriting rules to handle nonconforming loans as well. (Krovvidy , 2008)

Freddie Mac

The Federal Home Loan Mortgage Corporation (FHLMC), known as Freddie Mac, was created in 1970 to expand the secondary market for mortgages in the US. Along with other GSEs, Freddie Mac buys mortgages on the secondary market, pools them, and sells them as a mortgage-backed security to investors in the open market. This secondary mortgage market increases the supply of money available for mortgage lending and increases the money available for new home purchases.

Freddie Mac's primary method of making money is by charging a guarantee fee on loans that it has purchased and securitized into mortgage-backed security bonds. Investors, or purchasers of Freddie Mac MBS, are willing to let Freddie Mac keep this fee in exchange for assuming the credit risk, that is, Freddie Mac's guarantee that the principal and interest on the underlying loan will be paid back regardless of whether the borrower actually repays.

2. Key features of Fannie Mae and Freddie Mac

Both Fannie Mae and Freddi Mac were created by Congress and hold special federal charters (unlike virtually all other corporations, which hold charters granted by a state, often Delaware). Five of the eighteen board members of each company is appointed by the President. As government sonsored enterprises, they have the following privileges:

- A potential line of credit with the U.S. Treasury for up to $2.25 billion;

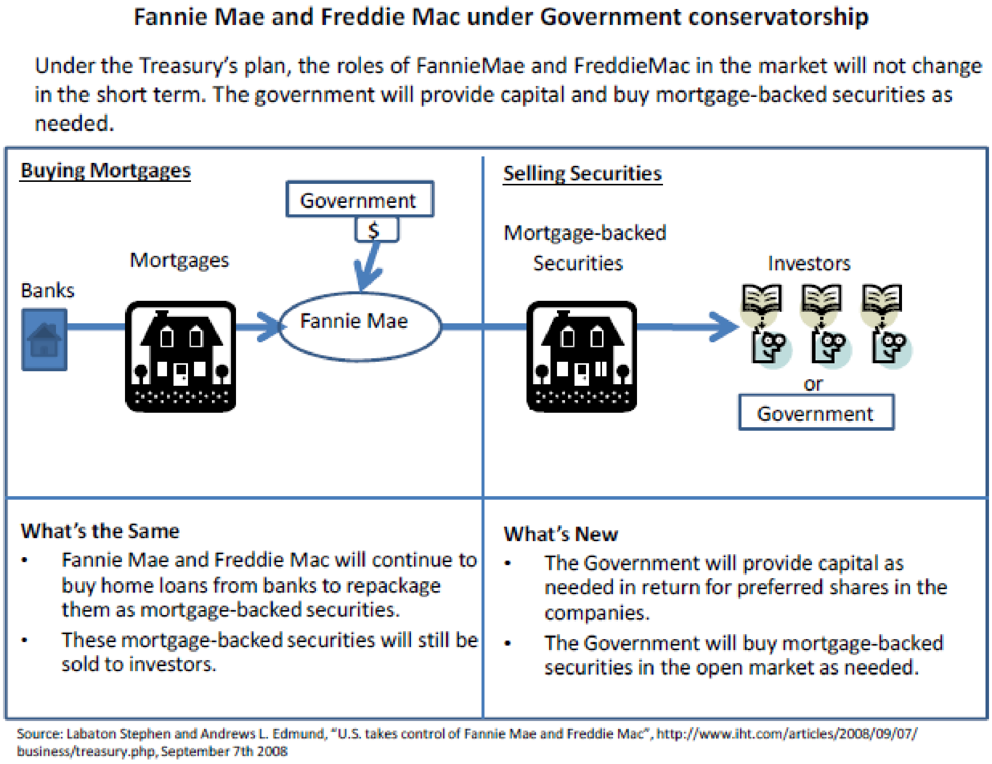
- Tax exempt from state and local income taxes;
- They can use the Federal Reserve as their fiscal agent;
- Their debt is eligible for use as collateral for public deposits, for purchase by the Federal Reserve in open-market operations, and for unlimited investment by commercial banks and S&Ls;
- Their securities are exempt from the Securities and Exchange Commission's registration and reporting requirements and fees
- Their securities are explicitly government securities under the Securities Exchange Act of 1934; and
- Their securities are exempt from the provisions of many state investor protection laws.

3. The Subprime Crisis

While Fannie Mae and Freddie Mac, historically established to support the US home market after the Great Depression of 1930s, they have in turn contributed to the subprime mortgage crisis of 2008 that started in the US. In general, the origination of mortgages and issuance of MBS was dominated by loans to prime borrowers conforming to the underwriting standards set by the GSEs (i.e. Fannie Mae and Freddic Mac). But starting 2001, these GSEs accepted mortgages that is outside of non-conforming loans classified into: (1) Jumbo asset class includes loans to prime borrowers with an original principal balance larger than the set limits; (2) Alt-A asset class involves loans to borrowers with good credit but did not conform to the usual underwriting (e.g. no documentation of income, high levelrage); (3) Sub-prime asset class involves loans to borrowers with poor credit history (Ashcraft and Schuerman 2008). With the reduction of long-term interest rates towards the end of 2003, there have been increase in origination and issuance across all asset classes. However, while conforming asset class peaked in 2003, the non-conforming asset markets continued rapid growth through 2005. Eventually, the proportion of non-conforming activity specifically for ALT-A and Subprime loans increased significantly. In 2005 and 206, the ratio of subprime MBS issuance to subprime mortgage origination was close to 75%. These were sold to investors and very little is retained on the balance sheets of the institutions who originate them (Ashcraft and Schuerman 2008).

Creditors and alarmed investors reacted by limiting the credit supply and selling the shares. The foreign investors (mainly Asian central banks), who held 35%–40% of the debt issued by Fannie Mae and Freddie Mac started to sell. The market capitalisation of Fannie Mae by the end of August 2008 was $7.6 billion compared to $38.9 billion at the end of 2007 and Freddie Mac was $3.3 billion compared to $22 billion of the last year.

Fannie Mae and Freddie Mac was placed into conservatorship run by the FHFA. There were no plans to liquidate the companies since the US financial system and the world economies are linked to these two companies. The MBS was bought by the government to reduce the interest rates for mortgages and bring back the confidence in the credit markets.



Source: The Professional Risk Managers' International Association, 2009

IV. Potential for MBS in the Philippines

A. The Housing Finance Market in the Philippines [9]

1. Retail home finance by banks has been rapidly growing in the last three years. The outstanding real estate portfolio of banks has reached P676 Billion by end 2012, which corresponds to an annual growth of 20% since 2006 (Tables 2 and 3). On the average, this represents 17% of total loan portfolio of banks. Universal and commercial banks have kept real estate loans within the ceiling but thrift banks show a higher ratio of 32%.

[9] This section draws some insights from the World Bank Financial Sector Assessment Project, a rapid assessment of the housing finance situation in the Philippines undertaken in 2011 (FSAP Report 2011).

2. Home finance represents 39% of overall real estate lending of banks which has been expanding at the slow pace of 13% per year (8.0 % at constant prices) (Tables 4 and 5). The thrift banks have a larger portfolio of home financing compared to commercial and universal banks. Since 2006, their share has been above 20%.

3. Several state-owned corporations also extend home loans, but these non-bank institutions are not subject to BSP oversight, and some report the number of produced housing units but not their outstanding credit portfolios. These institutions are:

   - The **Home Development and Mutual Fund (HDMF or Pag-IBIG Fund),** a provident fund whose main mandate is to provide home financing to its members.
   - **National Housing Authority(NHA),** with a mandate focused on urban re-settlement projects[10];
   - The **Social Housing Finance Corporation (SHFC),** that mainly runs the Community Mortgage Program ("CMP") which provides financing to communities of informal settlers/squatters in their purchase of the land from the initial land owners[11] or the provision of security of tenure for the informal settlers. The provision of financing for site development and house construction, although part of the CMP Program, has not been widely advertised or availed of by the intended beneficiaries;
   - The **Home Guarantee Corporation (HGC)**, which provides credit and bond guarantees in theory, in order to incentivize home lenders in expanding their lending activities;
   - The **National Home Mortgage Finance Corporation (NHMFC),** the major Secondary Mortgage Institution in the country is charged to develop the secondary home mortgage markets; but also functioned as the primary government lending institution through the Unified Home Lending Program (UHLP) which extends subsidized loans to the members of the pension funds/formal sector.
   - The **GSIS** and the **SSS** as pension funds for salaried employees, these two public pension funds also extended housing loans to members as part of their respective mandates.

4. At present, the provident fund (widely known as the Pag-IBIG Fund) is the most active in extending housing loans to their members. The two public pension funds (GSIS and SSS) until the 1990s were also active in extending housing loans to their members but due to

[10] The mandate of this public administration is to equip lots and/or build social housing for slum dwellers, not to underwrite and service long-term loans. In addition to the usual moral hazard issue of a public lender unwilling to process evictions, the NHA admits its complete inability to service its loans, and would prefer to externalize that function to a professional servicer.

[11] The CMP long-term loans are granted to a self-organized and trained group of poor squatters; once the land title is transferred and individualized to each household of the group, the repayment of the loan gets individualized. The SHFC is reporting difficulties to provide assistance to the communities in organizing themselves. These community associations depend on private donor-funded consultants, as the SHFC has limited expertise in community organization.

poor collection performance of their portfolio, these Funds have slowed down; and in the case of GSIS, closed this lending window. Instead, GSIS have provided the Pag-IBIG Fund additional funds for home lending to their members.

5. The size of the total retail home loan finance can only be estimated. By the end of 2012, the total retail home finance market from banks and government housing finance institutions is estimated to amount to P485 Billion. The market share of banks – P264.5 Billion has been increasing in the past 5 years (Figure 2). Banks have in fact overtaken Pag-IBIG, which have been the dominant lender for home finance until 2010.

6. The estimated home finance does not include the large but unknown amount of home loans (credit contract receivables called "**CTS**") made by real estate developers and accounted as such on their books. Like in many other emerging economies where there is a shortage of an accessible mortgage market, developers who need to commercialize projects, use deferred sale contracts, which is in practice a credit facility granted to a purchasing household (the title being transferred once the credit is fully amortized). Such lending activity is neither measured nor regulated but we estimate this to be around 4% based on the guarantee portfolio of developers financing in HGC. An added feature of CTS in the Philippines is the provision of credit guarantees for developer financed home financing for the low income sector. Developers can register these loans for guarantee to the State-owned Home Guaranty Corporation. The HGC provides from 80 to 100% risk guarantee depending on housing price at very minimal fee (usually 1% of the amount to be guaranteed). The HGC also provides tax credits which entice banks and other financing agencies to support loans to middle and low income families with government guarantees.

7. CTS yields appear to be high (from 14% to 24%) and the portfolio quality is said to be good in terms of repayment performance

8. Banks also make loans to developers and purchase or refinance their CTS pools of credit receivables. Banks offer home finance retail loans up to 20 or 25 years (average term closer to 10 years), with various periods of adjustable rates (from 1 to 10 years) and accordingly apply various indices for rate adjustment or repricing. Mortgage rates are currently priced between 5.5% and 12%. Despite a lack of prepayment fees/penalties, the commercial demand for fixed-rate home loans is small as these loans are priced at a higher level (11.5%-12%) in order to reflect the additional market risk.

9. Home finance in the country represents only about 6.8 **%** of the GDP as of 2008 (Table 6). This level remains low compared to international and regional standards (16% in Thailand, 28% in Malaysia, 44% in Honk Kong, 10% in China, 21% in South Korea).

10. The quality of the real estate portfolio (5.0% to 7.0% NPL for home finance) is better than other retail and corporate lending in the banking system**,** but not that good compared to international standards in residential mortgage lending (Table 7). The performance of

thrift banks in home finance lending (NPL of 7.8%) is poor, whereas the larger banks report better NPL for home finance within a 2%-3% range.

11. Only a minor portion of the non-performing portfolio ends up into forced sales. Banks tend to use other recovery methods; even if they initiate a foreclosure process after 4 or 6 months of non-payments, as the process of extra-judicial foreclosure through the sheriff authority works, but implies a minimum legal redemption period of 12 months, before any subsequent re-possession. The related credit losses are considered by banks as minimal.

12. By contrast, the portfolio performance of public lenders in home lending is often poor, with a high level of NPL. HDMF for instance recorded an NPL of 30% as of end 2012. About 15% for the SHFC and 50% or more for the others: NHMFC, GSIS, and SSS. In some cases, this situation has turned into a widespread culture of non-payment as in the case of NHA (which operates primarily for housing subsidy not as a financing institution). The GSIS is implementing a tougher program to sell its inventory of housing assets (majority are non-performing home loans) documented as either RELs (real estate mortgage loans) or DCS (Deed of Conditional Sale), before resuming any new lending on a large scale. As far as this new program is concerned, the GSIS declared its intention to use CTS contracts as a safer product to manage credit risks, but has not publicly marketed this program. It has started selling more of its existing inventory as a means to clean up its balance sheet and to restore its capability as a possible lender expecting borrowers to more diligently repay their loans. Meanwhile, it prefers to stay off the housing lending business; instead, it has reverted to becoming an investor for the other state-owned lending/housing institutions.

13. The two relative best performers have been the SHFC (given its targeted poor clientele) and the Pag-IBIG Fund. However, funding for housing finance is limited for these agencies. HDMF as a Provident Fund, has the duty to protect the funds of its members thus allocate only less than 15% of its portfolio for housing loans (HUDCC, 2013). Most of its loans are for multipurpose loans which is generally short to medium term. In the case of SHFC, its funding resource is still based on its initial capital allocation to finance these loans (it has used P9 billion out of the P12.78 Billion budget allocation from CISFA). The SHFC does not face immediate liquidity issues, but the very small inflows from its portfolio will raise funding problems soon (which will most likely translate in a future request for budget re-capitalization), unless it undertakes other financing options or undertake securitization to be able to recycle their existing funds for a faster turnaround.

14. Home finance is perceived as a profitable low-risk activity for banks which compete for the best clients and tie up partnership arrangements with developers. The high liquidity and solvency of banks has facilitated the expansion of home finance as a way for banks with high excess liquidity to diversify their portfolio and decrease their exposure from government securities. Given the pent-up demand for housing finance, large banks have expanded their portfolios while still remaining conservative, as they have been

prioritizing their financing activities to their best depositors, mostly catering to the middle-to-high income groups. This evolution is bound to continue.

15. The private housing finance system is growing soundly but remains largely under-developed. The potential for take up is large, considering housing demand (housing gap estimated at 3.8 million units) and rapid urbanization in the country.

16. Private finance market has still a long way to reach lower to moderate income groups, whereas public programs function poorly but are better targeted. The underserved population includes moderate and middle income households - notably non-salaried workers –who face difficulties in accessing any form of housing finance from public and private lenders. At best, some may access CTS finance from developers, and maybe housing micro-finance for self-construction or home improvement. Another effect of the disconnection is that opportunities for partnerships are lost to serve better these market segments.

17. On the other hand, the HGC program does not really provide incentive to expand home financing to the underserved population. Retail lenders (banks and the Pag-IBIG Fund) and bond issuers have been using the HGC program to capture tax credits which are associated with HGC credit guarantees, than to share additional credit risks in expanding housing finance to the under-served population. Most lenders have been shopping for HGC guarantees only according to the evolution of their tax credit needs, and/or to capture some capital gains (Llanto and Orbeta 2001, World Bank 2000). As other classes of assets including government securities provide similar benefits, most lenders contract in and out of HGC guarantees according to their short term tax optimization purposes and the relative cost of this guarantee vis-à-vis other assets. Further, the distributed tax subsidies are not channelled to lower-income borrowers. So, the relatively large amount of HGC-guaranteed assets does not demonstrate the usefulness of this institution to the housing finance system. For example, the Pag-IBIG Fund Charter/legal status was just amended and as a result, this Fund is not subject any longer to income taxes, so its use of HGC tax subsidies would certainly drop.

18. The HGC does not fully scrutinize the quality of the mortgage loans before deciding on its guarantees (decision made on the base of the sheer declaration from the lender); in actual fact, the discovery process leading to a claim payment/settlement phase would start only when a claim is submitted. This situation creates a considerable factor of uncertainty and the unexpected delays create additional risks for both the lending/credit institution and the HGC. It also means that the expected additional value of a counter party such as the HGC, involved in minimizing credit risk exposure, effectively provides a disincentive for originators to underwrite well and to ensure portfolio quality (which would adversely impact any potential activity for securitization).

19. HGC does not meet prudential actuarial principles, although this obligation is mentioned in the article 20 of its Charter. The HGC is not regulated as an insurance company and is

generally covered by the sovereign state guarantee. The HGC also does not price its guaranty premiums according to the risk profile of the accounts it guarantees nor its real capacity to guarantee. The HGC runs a volume-driven business that creates contingent liabilities (estimated at P16 Billion as of 2012) for the National Government mainly because all its liabilities are covered by the National Government.

20. Claims have been so far insignificant, as most lenders don't even bother testing the guarantee even when they have eligible NPL loans as potential claims. But the solvency of HGC is not secure[12] and some products are potentially explosive in case of a market downturn.[13]

B. Structure and Process of MBS in the Philippines

The securitization structure is relatively simple in the Philippines. In countries with a highly developed securitization market, there are several mono-line agencies that cater to a particular service. In countries with less developed finance markets such as the Philippines, the volume of mortgages securitized is small, thus combining roles is common and mono-line agencies are few. The banks usually serve as both issuer/arranger, trustee and SPT. In the country, the top institutions providing securitization services are mostly government controlled banks or reputable universal banks.[14] Moreover, MBS are mostly sold to institutional investors and/or private placements. Public offering and secondary trading of MBS is rarely undertaken or technically, in the infancy stage.

The main government institutions that play a major role in MBS securitization are the following: (1) the Bangko Sentral ng Pilipinas (BSP), (2) the Securities and Exchange Commission (SEC), (3) the Bureau of Treasury (BTr) and (4) the National Home Mortgage Finance Corporation (NHMFC); and (5) the Home Guaranty Corporation (HGC). The first three institutions are the main regulatory institutions not only for MBS but for all fixed income securities market. The BSP as the main regulatory body of banks supervises issuance of securities by banks. Such securities may include asset or mortgage-backed securities whether the bank is the originator, trustee or issuer.

The SEC has jurisdictions over all corporations, partnerships and associations in the Philippines. It licenses, registers, supervises and regulates companies and all issuances sold to the public as well as keeps their public records. SEC has oversight functions over the Philippine Stock Exchange (PSE), the Philippine Dealing Exchange (PDEX) and over-the-

[12] Excessively high - 1 to 20 - leverage between equity and guaranteed debt, and excessively low - 5% - level of minimum contribution from net incomes to the reserve/ sinking fund, according to international best practice.
[13] The coverage is 100% on the full capital and interest (up to 11%), with Loan-to-Value between 90% and 100%.
[14] Non-banks, rural banks can be issuer or arranger in MBS but top and reputable universal banks are preferred..

counter securities trading as well as other players in the securities industry including brokers and dealers. Recently, there have been talks of a possible merger of the two (2) exchanges.

The BTr is the main institution that oversees the trading of government securities specifically the auction of government securities and the accreditation and evaluation of government securities dealers.

The NHMFC, created under P.D. 1267 is the major government secondary mortgage institution intended to develop the secondary mortgage market in the country. Although created in 1977, the NHMFC has issued only one security paper before the Securitization Law (called the Bahayan Participation Certificates) and under E.O. 90, was transformed into the primary mortgage lender using funds from the government pension funds, called Funders (i.e., SSS, GSIS and HDMF). It was only in 2007, after undertaking a massive financial re-engineering program to improve its balance sheet, when it started to fully operationalize its basic mandate of being the Government Secondary Mortgage Institution (GSMI).

The HGC initially provides guarantee to housing loans of banks, developers and other institutions to the low income sector. In later years, the HGC extended guarantees to MBS issued in the Philippines. HGC MBS guarantee is also regarded as sovereign guaranteed.

Other players in securitization are credit rating agencies and underwriters, dealers/brokers. Credit rating has improved significantly in the country with the closure of the Credit Information Bureau Inc (CIBI) and establishment of the Philippine Rating Services Corporation (PhilRatings), a domestic credit rating agency affiliated with the Association of Credit rating Agencies in Asia (ACCRA).[15] The government also allowed entry and accreditation of foreign credit rating agencies (e.g. Fitch, Inc). Recently, CRISP, a second domestic credit rating institution was created by the Asian Institute of Management (AIM), one of the top business schools in Asia**.**

Another major improvement in the Philippine capital market is the provision of clearing and settlement systems for MBS. There are two clearing and settlement systems for securities in the country. The Registry of Scripless Securities (ROSS) which is mainly for government securities including T-bill and T-bonds. It is maintained by the BTr.

For trades in the equities market and Philippine Stock Exchange, the Philippine Central Deposity Inc (PCD) is used. For dealing in private fixed-income and government securities, the Philippine Dealing Exchange (PDEx) was established. The PDEx provides for transparency in securities trading.

The Securitization Law in the Philippines was passed only in 2004. Securitization activities prior to the Securitization Act of 2004 were undertaken through the approval of the BSP in

[15] CIBI was the first and only credit rating agency established in 1982 through joint efforts of the BSP, SEC and FINEX. This agency however was perceived to lack independence and have limited capacity to conduct ratings.

the case of banks and the SEC in the case of non-banks and government-controlled finance institutions. With the approval of the Securitization Law, the identified potential constraints to MBS development were also addressed. Table 8 provides a summary of issues and actions undertaken with the implementation of the Philippine Securitization Law.

Figure 3 presents the recent MBS model adopted in the country. Homebuyers execute REM/CTS with banks and other financial institutions and developers. These banks/financial institutions convey the pool of REM/CTS to a special purpose trust which converts these assets to securities. HGC acts as the guarantor of REM/CTS and securities issued on REM/CTS. In particular, the REM/CTS should cater to middle to low-income homebuyers and the guarantee is limited only to the senior notes. The MBS are sold to investors which in most cases are institutional investors. Secondary trading of these securities is rare due to the very attractive coupon rates and a limited volume of MBS issuances.

There is no information about the extent of home finance mortgages securitized. Total debt securities of the private sector amounts to less than P10 billion pesos as of 2011 (Figure 4). However, this data includes all debt securities with short and long term maturities. It is more common though for the private sector such as banks to access capital through the equities market, which apparently is more common than generating capital through securitization. Data from the equities market (PSE) show that major universal banks such as the Bank of the Philippine Island and China Bank have been listed in the stock exchange since the early 1970s (Table 9).

Residential mortgage-backed securities have been issued sporadically and are few and far between as shown by data from the HGC. For the period 1997 and 1998, HGC guaranteed only a total of P829 Million MBS from Ayala Life, HDMF and Sta Lucia Realty (Table 10). The bonds have a minimum of 3 years to a maximum of 10 years maturity. The issue year corresponds to the Asian crisis period and it is possible that the need to stay liquid during the period provided the incentive to securitize mortgages. There were no recorded issuances after 1998 as liquidity in the financial system started to rise. Under this environment, banks apparently preferred to keep mortgages in their portfolio while investors choose to keep money in banks with the relatively high interest rates of “low risk” investments (e.g. special deposit rates) and low stock market activity.

In 1994, the HGC also designed its in-house securitization program where it securitized the pre-development loans of mass housing projects for informal settlements. The mortgages were collateralized by raw lands. The program was disastrous. A key problem in the HGC MBS offering is that securitization proceeded with no clear cashflows since the loan was mainly backed by rawland to fund pre-development and pre-operating costs (Bongolan 2007). Default rate was at 93% and HGC was also saddled with hard to sell assets with book values much less than the guaranteed amount. This resulted to HGC bankruptcy, requiring the national government to infuse capital amounting to P21 Billion.

The Philippine early experience in securitization provides a distinction between the MBS model for the upscale market and the model for Low-Cost Housing. This distinction is also reflective of the segmented housing finance market discussed above. On the other hand, there is very few of the MBS for the upscale market because generally, banks prefer to hold on to their home mortgages up the maximum of loan to capital ratio. The BSP also does not appear aggressive on securitization because of the likely expansionary impact specifically of publicly offered MBS.

Comparatively, HDMF and other housing finance institutions are more aggressive in MBS. These institutions hold the bulk of mortgages for low-income housing and the recent MBS offerings of the NHMFC (BahayBonds 1 and 2) in 2009 and 2012, respectively provide an illustration on how securitization of "non-prime" or low-cost clientele can be implemented.

C. The Motivating Example: The NHMFC Securitization[16]

The NHMFC was created in 1977 by virtue of Presidential Decree 1267 with the mandate to develop and operate a secondary market for home mortgages. This mandate was patterned after the US Fannie Mae and Freddie Mac, which are considered the models for home finance securitization. Prior to 1984, NHMFC was operating relatively well in performing its mandate of buying home mortgages originated by private financial institutions and eventually selling them to the public as MBS.

However, the financial crisis that hit the country in 1984 to 1986 caused interest rates to shoot up to 30 and 40% making it impossible for NHMFC to operate viably because interest rates were fixed at 9%. By the end of 1986, NHMFC and other government controlled housing finance institutions were given a fresh mandate under Executive Order 90 of 1986. EO 90 provided for an integrated home finance program for the middle to low income home buyers through the Unified Home Lending Program (UHLP). Specifically, the NHMFC mandate was expanded to include origination, utilizing long-term funds from HDMF, GSIS and SSS in addition to purchasing home mortgages originated by both public and private financial institutions and private developers.

The UHLP, however, was suspended in 1996 due to low repayment rates and a huge amount of uncollected loans. Loan collection efficiency was estimated at only 60% (Llanto and Orbeta 2001). Delinquent accounts for over three months represent 63% of total accounts. This problem left the NHMFC with an outstanding debt balance of P46 billion with HDMF, GSIS and SSS. The economic slowdown in 1998 created further difficulty for an aggressive asset recovery program. This situation forced the NHMFC to undertake a financial rehabilitation program that included a restructuring of its debt obligations with the Funders

[16] The related facts and information in this section are drawn from the NHMFC official website (www.nhmfc.gov.ph) and presentations of Daisy Dulay, VP for Securitization at NHMFC.

and a disposition and rehabilitation program of its portfolio. This situation also caused the NHMFC to temporarily re-direct its operations from its primary mandate as the government's secondary mortgage institution.

NHMFC started its rehabilitation program in 2002 with the Restructuring of its Loan with the SSS and HDMF in 2004 and in 2005, the wholesale sale of its portfolio of delinquent loans (the first bulk non-performing loan sale in the country). This paradigm shift in the conduct of its operations provided the impetus for a revamp of its organization and a financial turnaround. Starting 2005, the NHMFC posted a positive net income after more than ten (10) years of insolvency and a negative balance sheet. This is remarkable as this was done without any government bailout; and proved that it is possible for an insolvent organization to do a financial turnaround on its own through a total portfolio management approach (i.e., the collection program embarked on by the NHMFC which created 45 AMTs or Account Management Teams all over the country servicing its more than 180,000 accounts) and a restructuring of its loans to its Funders. The approval of the Restructuring Agreement by the Funders and the disposition of its non-performing loans contributed significantly to its full rehabilitation.

In 2007, NHMFC laid the building blocks for its transformation into a Secondary Mortgage Institution (SMI). Streamlining the organization from an 850 plantilla organization down to a lean and mean 300; training and gearing its internal systems and processes for secondary mortgage operations, started the change process which enabled the Corporation to issue its maiden securitization in 2009. The maiden offering was a success and twice oversubscribed. The maiden securitization issue of the NHMFC earned for it the "Best Securitization Deal" Award given by the Asian Asset Magazine in 2009 in Hongkong. In 2012, NHMFC offered its first retail and publicly listed MBS in the country. The same issue was awarded the "Most Innovative Award" in 2012 given by the Philippine Dealing Exchange in Manila.

1. **<u>NHMFC BahayBonds 1</u>**

NHMFC launched its maiden securitization issue last March 23, 2009. It is the first public residential mortgage-backed transaction in the country and the second major securitization offering under the Securitization Law of 2004. NHMFC issued P2.06B worth of Asset-Backed securities called BahayBonds (BB1) using more than 12,000 prime residential mortgage loans. These are the best quality loans in NHMFC's UHLP portfolio consisting of mortgages that have not been restructured and payments have been consistently up to date. Table 11 presents the key characteristics of the asset pool.

NHMFC conveyed the pool of assets to PNB, as the SPT bank (Table 12). The Standard Chartered Bank acted as the lead arranger and underwriter and also served as the paying agent and security agent. NHMFC acted as the servicer since it had already developed its collection and account management system.

The BahayBonds 1 (the Maiden Issue) was offered to institutional investors and three banks bought the BB1, specifically: – RCBC, LBP and BDO. It consisted of two classes of Notes: (a) Senior Notes, rated AA by PhilRatings were bought by institutional investors/banks) and (b) Sub-Notes, rated BBB+ by PhilRatings, have been retained by NHMFC. Senior Notes have the first priority in payments and in cases of default/prepayments senior notes will be the last to be hit.

The Home Guaranty Corporation provided guarantee in the form of debentures in case of default in installment payments. The debentures shall pay the full principal component of the expected installment plus interest component of up to 11% p.a. of the defaulted Assets that are allocated to the P1.75 Billion Senior Notes. HGC Guaranty will not cover losses of the Assets that are allocated to the Subordinated Notes for the asset pool/loans.

In addition to sovereign guarantee and 15% subordination or overcollaterization, NHMFC also provided other credit enhancements to further improve the saleability of the bonds. These are as follows:

- ***Excess Spread*** - the difference between the interest rate of the underlying asset pool of housing loans and all SPT costs and revenue payments to the Senior Noteholders/Investors. The low interest regime has opened an opportunity for NHMFC to securitize its assets with a weighted average fixed interest rates of 12 % in the early 1990s. It was not possible to have this excess spread in the early years because of the high interest rate scenario until the early 2000 (Table 13)

- ***Liquidity Enhancements –*** liquidity reserves amounting to about 12% of the amounts required to service the Senior Note Holders i.e., provision for a Liquidity Reserve (8% of the Asset Pool), and a Commingled Reserve (4% of the Asset Pool).

- ***Early Amortization Triggers*** (in case of certain events) wherein the transaction shall be accelerated in order to protect the investors. All cash received from the Assets shall be applied towards covering the SPT costs and covering losses, and the whole of the remaining cash shall be applied towards principal redemption of Senior Notes (pass-through). No payment to the Subordinated Notes shall be made during Early Amortization.

The coupon rate for the BB1 Senior Notes was fixed at 8.4% with a maturity of 8.8 years. The Senior Notes were issued at par and payment on interest given monthly. Principal repayment was based on scheduled (predetermined) amortization. Over the more than four years since its issuance, the BB1 has continued to receive similar ratings of AA for the Senior Notes and BBB+ for the Subordinated Notes.

2. NHMFC BahayBonds 2

Compared to BahayBonds 1, Bahay Bonds 2 (BB2) was offered to the general public. BahayBonds 2 amounted to around P604 Million worth of more than 4,000 current and restructured UHLP accounts. Launched in August of 2012, the issue was arranged and underwritten by the Land Bank of the Philippines, with the LBP Trust as the SPT Bank. The BB2 was composed of three (3) tranches: a Senior Note A, worth P300 Million with a coupon rate of 4.8% (net of tax) and a tenor of 5 years. The coupon rate of the Senior Note A is paid quarterly while the Principal repayment shall be paid at the end of the fifth year. The Senior Note A is the first retail ABS (denominated at P5,000) offered and listed at the Philippine Dealing Exchange or PDEX. A Senior Note B was also issued worth P120 Million and sold to institutional investors (bought by the LBP). The Note B had a coupon rate of 6% and a tenor of 10 years. The interest/coupon shall be paid quarterly while the principal repayment shall be amortized starting the 6th year until the 10th year. Both Senior Notes were rated by PhilRatings as AA (the same as BB1). The Subordinated Notes were worth P180 Million and rated BBB+ by PhilRatings. In order to fully support the Senior Notes, the Subordinated Notes' (held by NHMFC) payments have been deposited in a Seller Restricted Account which shall only be released upon full payment of the two Senior Note class holders.

Similar to BahayBonds 1, BB2 also enjoyed the following enhancements:

a) Excess Spread;
b) Overcollateralization and a Subordination Structure;
c) Liquidity Reserves equivalent to 9 months of what is due the Senior Note Holders;
d) And an HGC Guaranty on timely payments of principal and interest for the Senior Notes.
e) An in view of the creation of the Seller Restricted account (which comprises all the excess spread due the Sub-Note Holder/NHMFC) that is not released to NHMFC until the Senior Note Holders are fully paid, this account is technically a Sinking Fund which provides an added layer of security to the Senior Note Holders.

In view of the fact that NHMFC has already developed its systems and procedures and created templates for a securitization transaction, including the training of qualified staff to do the same, the NHMFC is now in the process of developing other products that it can/offer to the market. Some transactions in the pipeline include:

a) The development of a Community Mortgage Asset-Backed Security (CMP ABS) with NHMFC functioning as Financial Advisor and/or Co-Issuer;
b) NHMFC shall serve as Financial Advisor for the first private developer-led CTS securitization in the country.
c) There are ongoing talks with other banks and developers who are interested in undertaking securitization, either on their own or may be syndicated (as in the case of smaller institutions with smaller portfolios).

d) The possibility of doing the first REIT (Real Investment Trust) is also being studied by NHMFC.

3. The Cost of the MBS Transaction

A key issue in the development of MBS in the country is the high execution cost of this undertaking. Bongolan (2007) compared securitization over other options to mobilize capital (i.e. CTS for developers and REM) and found that yield to maturity of MBS is lower by 7 percentage points compared to bank loans and 3 percentage points for CTS; thus, there is not much incentive for banks to securitize.

Table 15 presents the actual costs involved in the NHMFC securitization. The cost consists of one-time fees and recurring costs. The cost represents a total of 5.96% and 4.89% of issue amount for BB1 and BB2, respectively. The upfront cost for BB1 is higher at 3.45% compared to BB2. Likewise, the recurring cost for BB1 is also higher at 2.51% compared to 1.85% for BB2. In both MBS transactions, NHMFC as seller, provided for liquidity reserves and comingled reserves.

NHMFC expects that as it continues with its securitization activities the above costs should go down. However, it must be noted here that the high transaction or friction costs (particularly for the BB1 issue) is both function of a learning cycle and legal requirements. Since the transaction is a maiden issue, the NHMFC endeavored to follow the plain vanilla structure to the letter and fully compliant with the Securitization Law of 2004. As it fully matures, it envisions that certain friction costs may be reduced further as it can perform the same without need of the other third parties or that templates may be standardized to further lessen transaction costs.

Other costs, such as taxes are legal requirements which need to be reviewed if government sees the need to develop the securities market. As shown in best practices of countries, MBS securitization is encouraged through the provision of built-in tax privileges. There is also considerable room for adjustment in cost through further improvements in basic laws that are major impediments to MBS development for the low income sector. These are:

- ***Inadequate information.*** Credit information of borrowers are not available and banks, credit card companies, MFIs, government housing finance institutions are not linked and do not share information. The Credit Information Bureau has been set up but operationalization is still unclear. Likewise, even among government housing agencies (HGC, HDMF, NHMFC, SHFC, NHA and HLRB) information sharing is not a norm.

- ***Legal Impediments on Foreclosure***. An impediment to securitization is the Maceda Law, which entitles home buyers who have paid at least two years worth of amortizations and are in default, to refund up to 50% of their amortizations or the cash value of payments up to the fifth year and 5% every year thereafter. This condition implies that originators have to set up a liquidity fund for securitized mortgages. Another legal impediment is the foreclosure law, which entitles the debtor and his successor of interest to redeem his foreclosed property within one year from date of sale. Both the Maceda and the Foreclosure Law hinder the disposition of nonperforming assets in a timely manner. These laws in effect, hampers the collection and affects the expected cashflow/returns of MBS investors. The housing sector tried to address this issue by allowing lenders to request waivers from borrowers of mortgages to be securitized. However, this action may be contestable in courts, thus the risk is not necessarily eliminated.

Generally, the perception of high risk is associated with MBS and this is evident from the regulation and controls provided by the BSP and Insurance Commission in the investment of banks and insurance companies in MBS. The BSP further limited banks investment in MBS unless with sovereign guarantee. Likewise, MBS is not in the list of admitted assets eligible for purchase by Insurance Companies. Investment in MBS requires prior approval from the Insurance Commission.

The transaction costs issue should further be viewed in terms of its impact on the housing finance industry. The ability to use the capital markets as a source of housing finance ensures sustainability of funds versus using the government or the pension funds to reduce the housing gap. Securitization presents a long-term solution to an ever-present problem of funding for the housing industry.

Moreover, the ability to recycle the funds within a shorter period of time (rather than wait for the maturity of 25- to 30-year housing loan amortizations) provides the lending institutions the ability to turn around immediately (from anywhere between 4 months to 2 years), thus ensuring continuous liquidity for housing. This also means that with a possibility of limited funds, for example, with P2 Billion worth of housing funds, if one were to securitize this amount two to three times in a year, the market is provided with P4 to P6 Billion of funds for new housing a year. For the Government, this simply means that once certain efficiencies are achieved, it does not need to put in new money yearly in order to provide for housing to the underserved Philippine populace.

V. Conclusions and Recommendations

The development of MBS in many countries started with the need to facilitate and promote housing finance. By turning housing loans into asset or debt securities, the process will not only address maturity mismatch of primary lenders and banks but also contribute to the development of the capital market.

While securitization can pose dangers as evidenced by the US subprime crisis, studies have shown that the risks primarily arise when securitization is used as a tool for balance sheet arbitrage instead of meeting the funding and investments needs in the real economy. As argued by most analysts, the solution to the crisis is not to abandon securitization but to undertake due diligence taking into consideration the potential conflicts of interests among players that could endanger the financial system. There are mechanisms such as tranching, warranties, overcollateralization, excess spread, etc. that can be put in place to resolve or reduce moral hazards and adverse selection among players.

Moreover, securitization must be supported by a well-established regulatory framework. Housing mortgage corporations in Malaysia, Canada and Germany have shown themselves to be stable over decades due to prudent underwriting and efficient securitization process. For instance, these countries require high credit quality of mortgages. Canada and Germany set specific eligibility criteria for mortgages that will be securitized. For instance, the asset pool should be insured based on relevant risk associated with the location and type of property. These countries also require prudent determination of property values. In particular, the German Pfandbrief set as precondition, have an LTV of 60% for refinanced property loans. The mortgage lending value is also carefully determined based on long-term and sustainable features of the property disregarding “exaggerated” property prices.

The experience of the US subprime crisis shows further what needs to be avoided in the process of securitization. This experience highlights the need for rigorous evaluation of mortgages to be securitized and the dangers of relaxing underwriting standards. The experience also revealed the conflict of interest among players and the important role credit rating agencies play in at least mitigating these frictions. It is also important that originators should have adequate capital so that warranties and representations can be taken seriously.

In the country, securitization is often viewed as a liquidity tool and generally the scheme does not appeal to the government and banks when the market is filled with excess liquidity. However, as shown in many countries securitization has other benefits such as stabilize interest rates, improve banks’ management of risks, lower cost of funds and reduce the need for financial institutions to make loan loss provisions. Moreover, mortgage backed securitization remains relevant because of the segmented housing finance market with banks’ lending to the upscale market while the low and moderate income families, which comprise about 50% of Philippine households are dependent on limited funds from public finance institutions. With the advent of Basel II, banks would further be restricted in home and property lending thus creating further gap in home financing.

The NHMFC which has the primary mandate to function as secondary mortgage institution, may take the role played by national secondary mortgage institutions in other countries. With the rehabilitation undertaken by NHMFC since 2002 and the successful issuances of the first RMBS in the country in 2009 and 2012, the company can metamorphose into a credible secondary mortgage agency.

There is a need though to strengthen the NHMFC and the whole housing finance industry specifically rationalize the role of HDMF, HGC and NHMFC. Taking off from the best practices from other countries, the following should be developed and implemented:

- The Government should build NHMFC stature and image as a professional secondary housing finance institution with an organizational set-up to ensure the ready acceptance of NHMFC-issued and/or advised Notes/bonds in the market, thus enabling the company to raise funds at relatively low yields. In turn, this will enable NHMFC to purchase housing loans at a competitive price.

- Amendment of the NHMFC Charter to include the capability to do mortgage insurance and monitoring and standard setting for mortgage–backed securitization in the country. The following measures are needed:

  - Re-activation of certain provisions in its original charter that provides for tax exemptions for all its issuances and its dealings in debt securities. All issuances of the NHMFC should automatically be exempt from income and tax duties.

  - Reactivation of its automatic but limited guarantee. The NHMFC should be able to provide a guarantee for timely payment of principal and interest of the MBS issued under any of its programs. The 'NHMFC Guarantee', should be activated which is provided under its original charter or P.D. No. 1267). In order to ensure fiscal responsibility and fiduciary control over the NHMFC, it is proposed that the activation of the NHMFC guarantee capacity be initially limited to P10-P20 Billion a year (after an initial infusion of additional capital of at least P10 Billion). This amount will allow for a P20 Billion to P40 Billion of new housing per year (assuming 2 issuances in a year). This may even triple as NHMFC increases its organizational efficiencies further. The cap on the sovereign guarantee for NHMFC issuances also limits the contingent liability exposure of the National Government to a manageable and fixed level while at the same time, forces the NHMFC to perform with utmost due diligence.

  - The Corporation needs to improve its balance sheet and further strengthen its organizational capabilities to be able to undertake efficiently mortgage insurance, underwriting and setting/monitoring of lending standards and procedures of other institutions, undertaking securitization and/or financial advisory for ABS/MBS transactions that may be done by others.

  - The creation/integration of a credit information data base for all existing and prospective housing loan borrowers in the country.

- As the major Government Secondary Mortgage Institution, NHMFC should not only lead the move to standardize housing loan documents, it should also pave the way for standardized and quality underwriting through its mortgage insurance activities. By ensuring that the origination of housing loans are qualified for the insurance and eventual securitization, it ensures that the housing loans and the securitiy papers it produces shall be compliant as asset pools for investment-grade ABS/MBS.

- The creation of an integrated data base of all land and land use in the country that may be disseminated to all in order to determine the absorptive capacity of all municipalities, cities, provinces and regions in the country for housing development. A housing index may also be developed for use by all stakeholders in housing.

- The government to give incentives to support development of securitization similar to those provided in best practices models such as:

  - Proceeds from the sale of housing loans obtained by financial institutions from NHMFC should be permitted by BSP to be free from statutory reserve requirements. All issuances of NHMFC should automatically be classified as government securities. This effectively lowers the cost of funds to FIs.

  - Provide sovereign guarantee to MBS, which would effectively carry a lower risk weighting of 20% (under Basle III) or zero risk (under Basel II) for the purpose of determining the capital adequacy ratio, compared with 50% for mortgages. This will result in savings in capital cost for the originating bank and deleverages the loan portfolio of the banks.

  - In lieu of a Title insurance company, a Memorandum of Agreement between the LRA, DENR, Commission for Indigenous Peoples (for ancestral lands) and another government agency for the verification of land titles in the country.

  - The BSP, the SEC, Insurance Commission and all other regulatory agencies should recognize MBS bonds as liquid assets (and NHMFC issuances as government securities) for the purpose of compliance with the statutory liquidity requirements of financial institutions or insurance companies under its supervision.

  - NHMFC MBS issues can be considered at par in terms of quality to an RP bond, with the advantage of tax exemption from non-resident withholding tax.

  - Allow for the sale of the NHMFC ABS/MBS to foreign investors and Filipino Overseas Contract Workers or Filipnos living outside the country that provides purchase of these securities to be tax exempt. Allowing NHMFC to introduce its issuances abroad (using peso-denominated ABS) provides OFWs and foreigners alike, the ability to purchase Philippine MBS at par with their own issuances. The entry of NHMFC/Philippine MBS abroad also paves the way for the proposed move for Asian integration of the financial markets.

- The government to support the development of standardized forms and documents for all housing programs in the country. The creation of standardized forms will simplify the process of getting housing loans (for the borrowers), streamline the review and due diligence process for such loans (for all lending/housing finance institutions), ensure the quality of the mortgages/housing receivables (for the regulatory agencies), as well as facilitate the eventual securitization of these housing loan receivables into investment-grade housing-backed securities.

  Through the standardization of both product structure (i.e., 1) for individual housing loan borrowers and 2) for community loans) and documentation, the program provides a platform for both the Government Housing agencies, developers and banks to conveniently convert their illiquid mortgage portfolios into liquid MBS/ABS..

  In addition, the standardized documentation for each issue reduces the time required for document preparation and negotiation therefore reducing transaction costs.

- Automation of MBS servicing and reporting. The development of several private collection and accounts management entities provides for the development of a real honest-to-goodness servicing industry in the country. The role of the NHMFC, particularly (or even the government lending institutions), should be relegated to Master Servicers (i.e., accreditation, monitoring and oversight functions) to these private servicing companies. As history has shown, Government is not really known to be a good servicer.

- The Prospectus for MBS securities should be simplified, drafted in plain English and/or Filipino for all (particularly, retail) issues.

Tables and Figures

Figure 1. Securitization Basic Structure

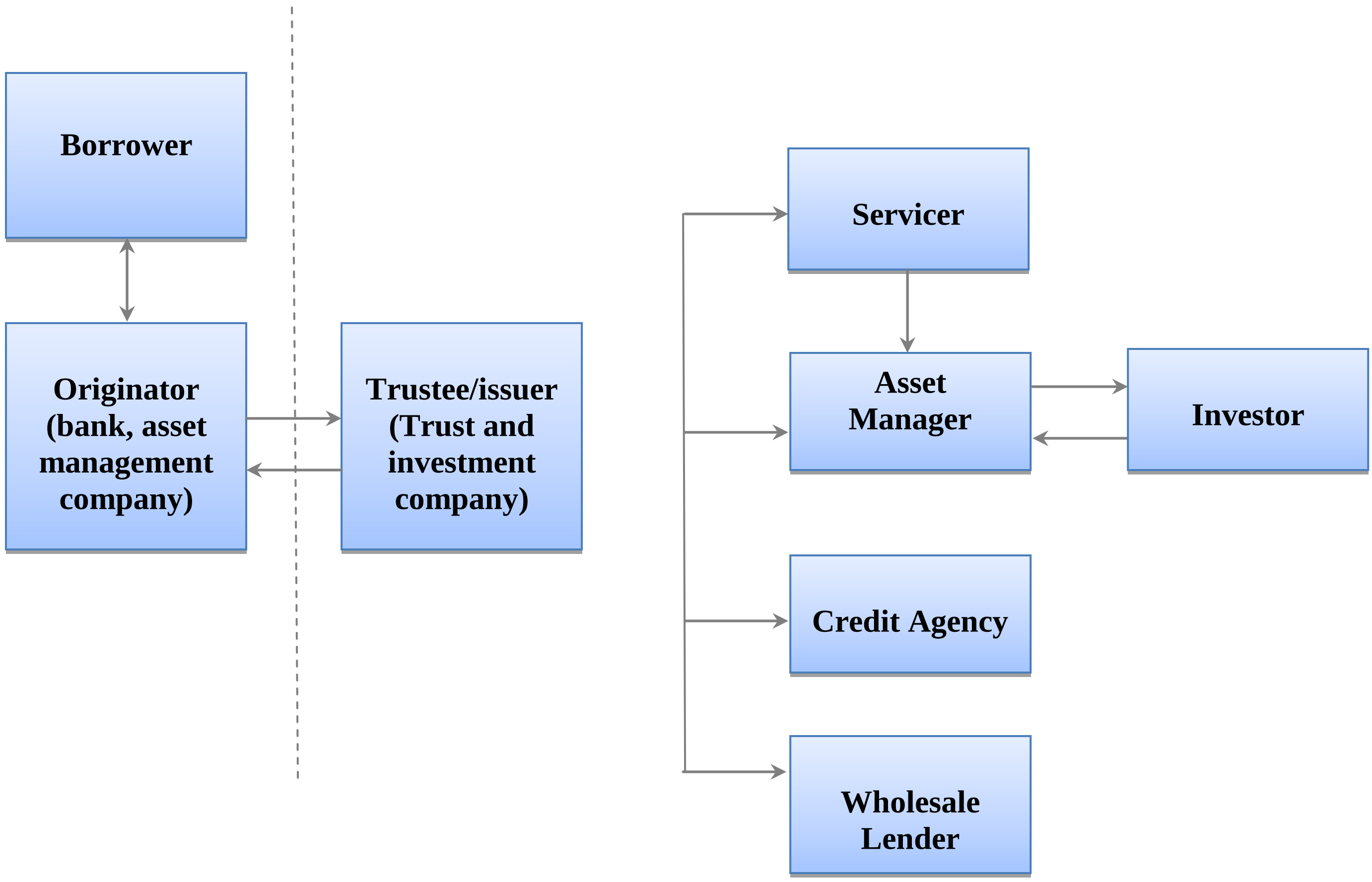


Table 1: Mechanisms to Reduce Risks or Enhance Security Features in Securitization

Mechanism/Strategy	Description
Tranching	Pool of mortgages are group according to risk to determine the securities seniority and pricing
Warranties and Guarantees	Originator makes several representation and warranties about the borrower and underwriting process. When these are violated, the originator repurchase the problem loans
"Haircuts" or Overcollateralization	Face amount of loans/receivables in the collateral portfolio is greater than the face amount of securities issued
Ring Fencing Assets	Providing for bankruptcy remote vehicle to protect investors from originator or issuer
Excess Spread	Net income or excess cash flow generated

	from receivables provides the first level of credit
Early Amortization and Performance Triggers	Provision to accelerate redemption of senior rates
Subordination	Interest and principal that would have otherwise been distributed to a subordinate class is re-directed to more senior classes
Reserve Fund/Spread Account	Cash that is deposited and/or captured in a designated account
Letter of credit/Insurance Guaranty	A highly rated bank/insurer guarantees principal and interest payments to bondholders
Swaps Coverage for currency and interest rate risks	

Source: D. Dulay (2012) Introduction to Asset-Backed Securitization
Ashcraft and Schmeur (2008), ADB

Table 2. Amount and Growth of Total Outstanding Real Estate Loans, 2006-2012

Year	Amount (Bn Php)
2006	277.64
2007	281.61
2008	349.86
2009	383.71
2010	421.69
2011	505.87
2012	676.93
Ave annual growth rate (2006-2012)	20.54%

Source: Bangko Sentral ng Pilipinas

Table 3. Ratio of RELs to Total Loan Portfolio (net of Interbank Loans Receivable), 1999-2012

Year	Real Estate Loans (Outstanding)		
	All Banks	Universal/Commercial Banks	Thrift Banks
1999	15%	14%	23%
2000	14%	14%	27%
2001	14%	13%	27%
2002	14%	12%	30%
2003	13%	12%	29%
2004	14%	12%	31%
2005	14%	12%	33%
2006	14%	12%	32%
2007	13%	11%	29%
2008	13%	11%	34%

2009	14%	11%	34%
2010	14%	12%	33%
2011	16%	15%	35%
2012	17%	15%	32%

Source: Bangko Sentral ng Pilipinas

Note:
Real Estate Loans include: Acquisition of Residential Property, Development of Subdivision for Housing; Construction of Residential Condominium, Acquisition of Commercial Property, Development of Industrial Park; Development of Commercial Property; Development of Recreational & Amusement Park; Development of Memorial Park; Construction of Office Condominium and Infrastructure

Table 4. Home Financing Loans by Bank, 2006-2012
In Billion Pesos

Year	Total	Universal and Commercial Banks	Thrift Banks
2005	116.59	64.55	52.04
2006	134.74	67.53	67.20
2007	147.87	73.24	74.62
2008	153.88	76.17	77.71
2009	162.60	80.49	82.11
2010	188.35	84.87	103.48
2011	220.84	99.42	121.42
2012	264.53	119.04	145.49
Annual Growth (2006-2012) *Current Prices*	13.76%	10.89%	16.64%
Annual Growth (2006-2012) *Constant 2000 Prices*	8.00%	5.72%	10.29%

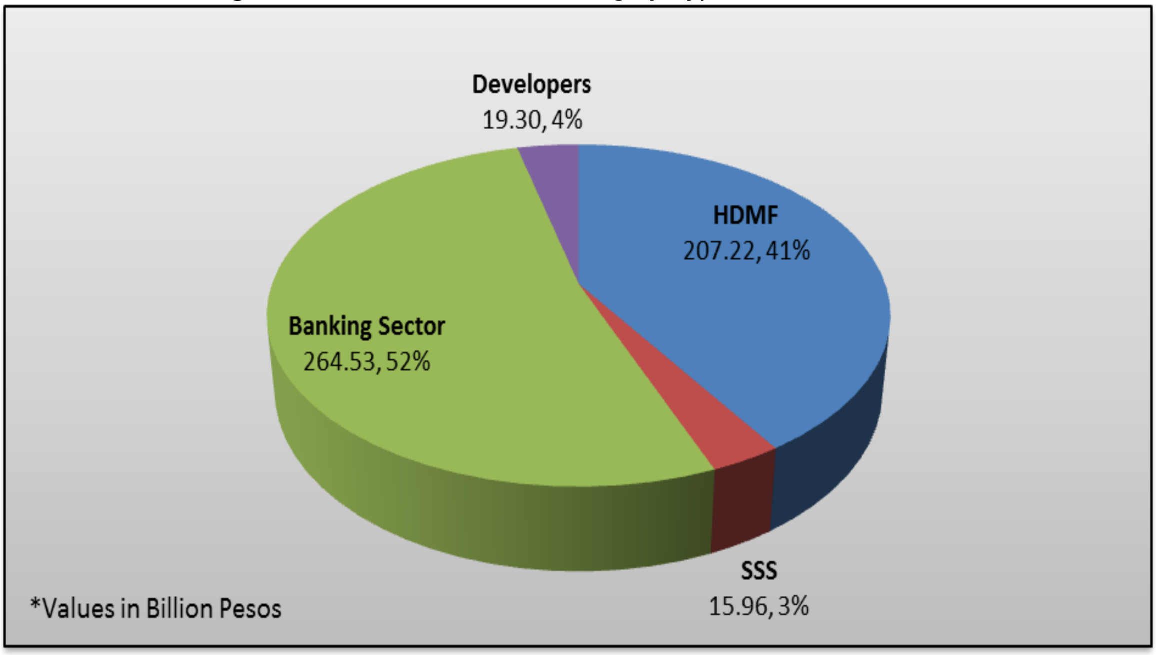
Source: Bangko Sentral ng Pilipinas

Table 5. Ratio of Home Financing Loans to Total Real Estate Loans by Bank Type, 2006-2012

Year	Total	Universal and Commercial Banks	Thrift Banks
2006	48.5%	24.3%	24.2%
2007	52.5%	26.0%	26.5%
2008	44.0%	21.8%	22.2%
2009	42.4%	21.0%	21.4%
2010	44.7%	20.1%	24.5%
2011	43.7%	19.7%	24.0%
2012	39.1%	17.6%	21.5%

Source: Bangko Sentral ng Pilipinas

Figure 2. Share of Home Financing by Type of Lender, as of 2012



Sources: BSP, HDMF, SSS

Table 6. Size of Mortgage Market, 2008

Emerging Asia	MD/GDP (Avg)	MD/GDP (Max)	MD (Bn US$)
Total	12.5	14.3	52,954
Bangladesh	2.5	2.5	132
China	10.0	12.0	17,216
India	4.9	5.8	3,125
Indonesia	2.1	2.1	476
Korea	20.8	25.0	13,691
Malaysia	28.3	31.5	3,207
Pakistan	0.7	0.7	61
Philippines	6.8	12.0	593
Singapore	60.2	61.3	6,116
Taiwan	26.0	26.0	6,097
Thailand	15.5	16.0	2,241

Source: Warnock, V.C., Warnock, F.E., Markets and housing finance, J. Housing Econ. (2008), doi:10.1016/j.jhe.2008.03.001

Table 7. Ratio of Non-Performing Housing Loans to Total Loan Portfolio, 2000-2012
In Percent

Year	HDMF	Banks
2003	38.88	23.00
2004	28.53	20.00
2005	25.32	17.00
2006	25.31	13.00
2007	25.22	9.00
2008	21.33	7.00

2009	20.38	8.00
2010	20.98	6.76
2011	24.48	5.01
2012	30.15	3.66

Sources: BSP, HDMF: General Accounting Department

Notes:

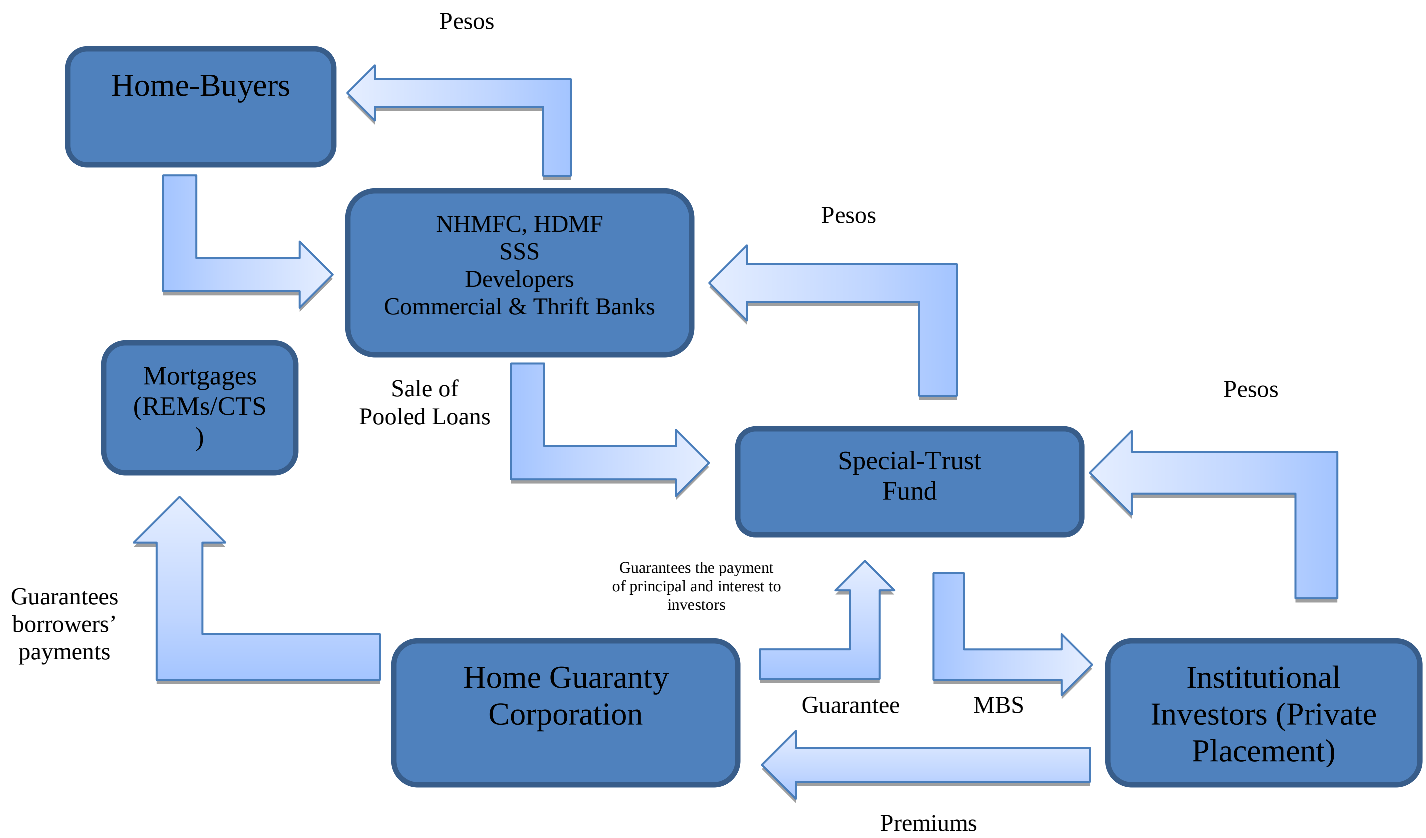
HDMF NPLs- refer to accounts over 3 months in arrears

BSP NPLs- refer to loan accounts whose principal and/or interest is unpaid for thirty (30) days or more after due date or after they have become past due in accordance with existing rules and regulations.

Table 8. Summary of Improvements in MBS Trading

Policy Issue	Securitization Act 2004
Taxation of financial transactions	
a. Constitution or purchase of REM from originator	Tax exempt from capital gains tax and DST. Reduction in current municipal taxes and ROD fees by 50%
b. Transfer or assignment of loans secured by REM	Exempt from DST
c. Issuance of MBS certificate in primary market	VAT exempt; DST of 0.15%
d. Interest income earned on MBS	20% tax, VAT, GRT exempt. Tax exempt in case of socialized housing
e. Secondary trading of MBS	0.15% DST
Foreclosure of Property	Tax exempt from capital gains tax and DST; Reduction in Municipal tax and ROD fees by 50%.
Inadequate Clearing and Settlement Mechanism	Establishment of the PDEx
Unreliable credit-rating corporation	Accreditation of PhilRatings Corp., CRISP and Fitch, Inc
Weak protection against bankruptcy	Law required true sale condition (bankruptcy remote). Recourse allowed only when remaining obligations is 10% or less
Foreclosure and Maceda Law	Allow borrowers to sign waivers for loan mortgages that will be securitized.
Source: Securitization Act of 2004	

Figure 3. Present Philippine MBS Model for Low-Cost Housing



Source: Figures 7 & 8 in Reside, R.(1999). The Mortgage-Backed Securities Market in the Philippines

Figure 4. RMBS Securitization Model Used for BahayBonds 1 by NHMFC.

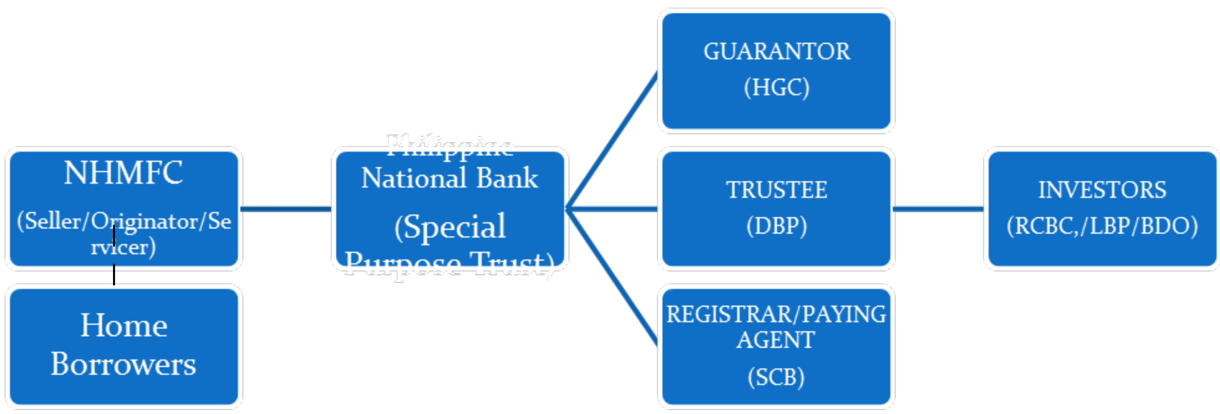


Table 9. Listed Banks in Philippine Stock Exchange

Banks	Listing Date
Allied Banking Corporation	June 4, 1982
Asia United Bank Corporation	May 17, 2013
AsiaTrust Development Bank, Inc.	October 8, 1996
BDO Unibank, Inc.	May 21, 2002
Bank of the Philippine Islands	October 12, 1971
China Banking Corporation	December 1, 1965
Citystate Savings Bank, Inc.	January 3, 2002
East West Banking Corporation	May 7, 2012
Export and Industry Bank, Inc.	January 28, 1987
Metropolitan Bank & Trust Company	February 26, 1981
Philippine Bank of Communications	May 12, 1988
Philippine Business Bank	February 19, 2013
Philippine National Bank	June 21, 1989
Philippine Savings Bank	October 10, 1994
Philippine Trust Company	February 17, 1988
Rizal Commercial Banking Corporation	November 6, 1986
Security Bank Corporation	June 8, 1995
Union Bank of the Philippines, Inc.	June 29, 1992

Source: Philippine Stock Exchange

Table 10. Philippine Experience of MBS Issuances: Private and Government Initiatives

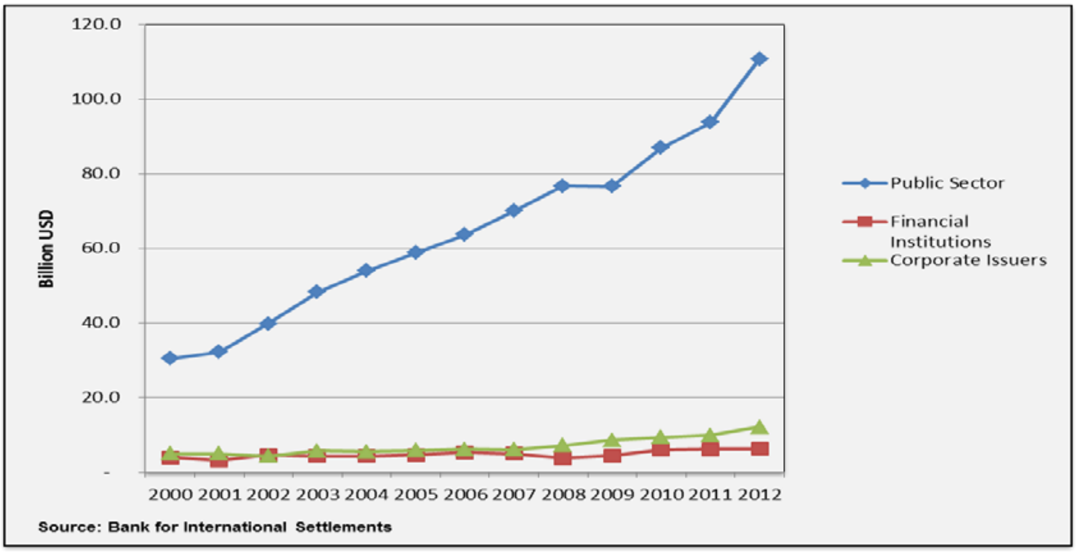
Date	Originator	Issuer (SPT)	Amount	Cash flow source	Term	Guarantor	Legal Framework
1994-2000	Developers	HGC	P 21 Billion	Raw Land	1994-2004	HGC	SEC
1997	HDMF	HDMF	P 436 M	HDMF Home loans	1997-2006	HGC	SEC
1997	Ayala Life Sta Lucia		Ayala (93M) StaLucia (300M)	Seasoned mortgages (at least two years amortizing)	1997-2007 1998-2001	HGC	SEC and BSP
2009	NHMFC & UHLP		P 2.06 M	NHMFC prime accounts		HGC	RA 9267 (Securitization Act of 2004)
2012	NHMFC & UHLP		P 604.0 M	NHMFC Prime & restructured accounts		HGC	RA 9267

Table 11. Key Characteristics of Asset Pool that Collateralized NHMFC BB1

Cut-Off Date	**December 31, 2008**
Number of Loans	12,408
Total Original Balance (Php)	**2,060,898,053.43**
Total Current Balance at Cut-Off Date (Php)	
Average Original Loan Amount (Php)	217,141
Average Current Loan Amount (Php)	167,987
Maximum Original Balance (Php)	393,750
Minimum Original Balance (Php)	100,000
Weighted Average Original LTV	80.88%
Average Increase in Original Valuation of the underlying properties	2.1 times
Weighted Average Current LTV based on Estimated Current Valuation (%)	33.34%
Weighted Average Original Term (years)	24.7
Maximum Original Term (years)	25.0
Minimum Original Term (years)	11.0
Weighted Average Stated Remaining Term (years)	8.8
Maximum Stated Remaining Term (years)	14.6
Minimum Stated Remaining Term (years)	1.0
Weighted Average Interest Rate	13.02%
Maximum Interest Rate	16.00%
Minimum Interest Rate	9.00%
Cut-Off Date	December 31, 2008

Source: NHMFC

Figure 4. Philippines: Total Debt Securities (Local and International Issuances)



Notes:

Total debt securities (TDS) combine international and domestic debt securities, ie issues by residents in all markets.

Domestic debt securities (DDS) are those issued in the local market of the country where the borrower resides, ie issues by residents in their local market.

International debt securities (IDS) are those issued in a market other than the local market of the country where the borrower resides, ie issues by non-residents in all markets.

Table 12. Key Players in NHMFC Maiden RMBS Transaction (BahayBonds 1)

Seller	National Home Mortgage Finance Corporation (NHMFC)
SPT Bank	Philippine National Bank Trust Banking Group (PNB)
Lead Arranger and Underwriter	Standard Chartered Bank (SCB)
Trustee	Development Bank of the Philippines (DBP)
Servicer	NHMFC
Registrar, Paying Agent and Security Agent	SCB
Guarantor	Home Guaranty Corporation (HGC)
Rating Agency	Philippine Rating Services Corporation (PhilRatings)
Portfolio Auditor	Price Waterhouse Coopers (PWC)
Transaction Counsel and Tax Advisor	Romulo Mabanta Law
Financial Advisor	Ernst & Young Transaction Advisory Services Inc. (EY-TASI)

Source: NHMFC

Table 13. Domestic Interest Rates and NHMFC Loan Portfolio

Date	Treasury Bill Rates		Savings [1]	Bank Lending Rates		
	91-day	364-day		Average [2]	High [3]	Low [3]
1988	14.406	16.179	4.100	15.998		
1989	19.333	20.395	6.210	19.457		
1990	23.396	26.064	10.873	24.317		
1991	21.351	23.878	11.043	23.458		
1992	16.118	18.014	10.568	19.428		
1993	12.251	14.105	8.265	14.558		
1994	13.620	13.965	7.993	14.999		
1995	11.345	13.402	7.992	14.646		
1996	12.393	13.409	7.954	14.822		
1997	13.116	13.632	9.111	16.222	26.3875	23.9075
1998	15.266	17.397	10.967	18.392	21.5267	18.1208
1999	10.197	11.704	7.311	11.753	15.9889	12.6120
2000	9.861	11.800	7.365	10.858	15.5685	12.8728
2001	9.860	11.981	7.524	12.400	15.3091	13.6683
2002	5.433	6.822	4.239	8.895	10.4251	8.6882
2003	6.028	7.489	4.212	9.479	10.7541	8.9183
2004	7.340	9.218	4.262	10.068	12.0764	10.0677
2005	6.358	8.683	3.755	10.147	11.0606	9.0531
2006	5.351	6.955	3.546	9.714	10.1542	8.2964
2007	3.406	4.917	2.196	8.679	8.5903	6.8475
2008	5.389	6.492	2.224	8.757	9.4519	7.5425
2009	4.186	4.591	2.068	8.540	9.2470	7.3105
2010	3.728	4.257	1.600	7.665	8.6981	6.5469

NHMFC UHLP Lending Rate	
Loan Amount (P)	Rate
0-150,000	9%
150,001-225,000	12%
225,001-375,000	16%
Average	13%

2011	1.371	2.264	1.620	6.634	7.7469	5.6178	
2012	1.583	1.965	1.341	5.653	7.8382	5.5649	

Source: BSP, NHMFC

Table 14. Key Players in NHMFC RMBS Transaction (BahayBonds 2)

Seller	National Home Mortgage Finance Corporation (NHMFC)
SPT Bank	Land Bank of the Philippines (LBP)
Lead Arranger and Underwriter	Land Bank of the Philippines (LBP
Trustee	Development Bank of the Philippines (DBP)
Servicer	NHMFC
Registrar, Paying Agent and Security Agent	Philippine Dealing Exchange (PDS)
Guarantor	Home Guaranty Corporation (HGC)
Rating Agency	Philippine Rating Services Corporation (PhilRatings)
Portfolio Auditor	Price Waterhouse Coopers (PWC)
Transaction Counsel and Tax Advisor	Romulo Mabanta Law

Source: NHMFC

Table 15. National Home Mortage Finance Corporation: *Bahay Bonds 1 and 2 Summary of Securitization Corporation Cost*

Bahay Bonds 1			
Securitization Item	**Amount**	**% Portfolio Size**	**% Issue Size**
	Upfront		
Financial Advisory Fee	16,111,543.65	0.78%	0.92%
Rating Fees	1,792,000.00	0.09%	0.10%
Underwriting Fees	28,232,087.31	1.37%	1.61%
Auditing Fee	2,240,000.00	0.11%	0.13%
Legal Fee	3,947,020.56	0.19%	0.23%
Registration/Filling Fees (exempt. Fee)	612,312.50	0.03%	0.03%
Guarantee Fee (half of p.a.P14M)1st	7,000,000.00	0.34%	0.40%
PDex Listing Fee	200,000.00	0.01%	0.01%
Tax Reserve (Doc. Stamp Tax)	10,304,490.27	0.50%	0.59%
Miscellaneous & printing	700,000.00	0.03%	0.04%
Total Upfront	***71,139,454.29***	***3.45%***	***4.07%***
	Recurring*		
Special Purpose Trust	1,430,500.00	0.07%	0.08%
Trustee	650,000.00	0.03%	0.04%
Custodian/Paying Agent/Registrar	250,000.00	0.01%	0.01%
Servicer	20,608,980.53	1.00%	1.18%
Rating Fees (monitoring fee)	446,000.00	0.02%	0.03%

PDex Listing Fee (maintenance fee)	98,000.00	0.00%	0.01%
Annotation Costs	21,292,128.00	1.03%	1.22%
Guarantee Fee (half of p.a.P14M)2nd	7,000,000.00	0.34%	0.40%
Total Recurring	***51,775,608.53***	***2.51%***	***2.96%***
Liquidity Reserve	164,871,844.27	8.00%	9.42%
Commingle Reserve	82,435,922.14	4.00%	4.71%

Bahay Bonds 2

Transaction Parties	Amount	% Portfolio Size	% Issue Size
	Upfront		
Arranger/Underwriter	9,413,219.80	1.56%	2.24%
5 % witholding tax	470,660.99	0.08%	0.11%
2 % witholding tax	188,264.40	0.03%	0.04%
Out-of-Pocket expenses (Travel, roadshows,printing,ads/posters/tarp)	695,075.86	0.12%	0.17%
Rating Agency	1,008,000.00	0.17%	0.24%
Guarantor	1,680,000.00	0.28%	0.40%
Listing Agent	224,000.00	0.04%	0.05%
SEC (Filing Fees)	291,793.20	0.05%	0.07%
Documentary Stamp Tax	3,018,723.00	0.50%	0.72%
Miscellaneous (Cost of house&lot, real property tax, winner's tax, rehabilitation)	1,358,287.50	0.22%	0.32%
Total Upfront	***18,348,024.75***	***3.04%***	***4.37%***
	Recurring		
Rating Agency	560,000.00	0.09%	0.13%
Guarantor	3,360,000.00	0.56%	0.80%
Listing Agent	56,000.00	0.01%	0.01%
Registrar and Paying Agent	302,800.00	0.05%	0.07%
Trustee & Safekeeping Agent	450,000.00	0.07%	0.11%
Special Purpose Trust	400,000.00	0.07%	0.10%
Servicer (1% of Outstanding Principal Balance of the pool)	6,037,444.42	1.00%	1.44%
Total Recurring	***11,166,244.42***	***1.85%***	***2.66%***
Tax Reserve	31,725,000.00	5.25%	7.55%
Liquidity Reserve	24,574,683.32	4.07%	5.85%
Commingled Reserve	34,000,000.00	5.63%	8.10%

Source: National Home Mortgage Finance Corporation

Notes:

Bahay Bonds 1:
Portfolio/Issue Size: P 2,060,898,053.43
Size of Senior Notes : P 1,750,000,000.00
Size of Subordinated Notes: P 310,000,000.00
* Fees covered by SPT

Bahay Bonds 2:
Portfolio/Issue Size: P 603,744,442.46
Size of Senior Notes A (Retail): P 300,000,000.00
Size of Senior Notes B (Institutional): P 120,000,000.00
Size of Subordinated Notes: P 180,000,000.00

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