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1. Introduction

Since its establishment in 1986, the National Mortgage Corporation, better known as Cagamas has been a global model of how emerging countries can establish successful secondary mortgage liquidity facilities. This paper examines the need for a secondary mortgage market institution and how to address the growing maturity mismatch in the banking system.

All banks suffer from a structural maturity mismatch due to their reliance on short-term deposits (mostly under one year) or wholesale inter-bank funds to finance long-term projects, bonds and mortgages. This maturity mismatch problem is exacerbated in most emerging markets, where demographic factors such as an increasing young population and greater urbanization have made mortgage lending a profitable business for banks and carried relatively low risks.

As the population ages and real estate prices increase, the credit risk, liquidity risk and maturity mismatch borne by banks also increase. Hence, in many advanced and some emerging markets, the authorities have actively developed the secondary mortgage market to securitize mortgages as a way to develop robust housing finance systems and address structural weakness. By packaging mortgages into various types of mortgage-related securities, these are sold to long-term funds and asset managers, so that the maturity mismatch is reduced and the portfolio diversified.

2. Secondary mortgage market

The secondary mortgage market has three functions. The first is to reduce the maturity mismatch in the banking system. The second is to assist asset securitization and deepen the capital market. The third is to help extend the

mortgage maturity and introduce new mortgage innovations so that house-buyers can afford to buy with longer maturity (higher affordability) and also introduce new products, such as fixed rate mortgages.

Secondary mortgage markets have been successfully established in different countries, taking various forms to suit indigenous needs. Interest in secondary mortgage mechanisms is continuing to grow as governments in emerging economies are beginning to recognize the potential for getting private investors to fund the primary mortgage market through the securitization of mortgage assets.

Historically, there are two types of mortgage securitization models in the advanced markets.

The first is the Fannie Mae and Freddie Mac model in the United States, where the two are government sponsored enterprises [GSEs] that provided the bulk of housing finance in the country by packaging long-term mortgages into collateralized debt obligations for resale into the market without recourse to the initial borrower or the origination bank. Their dominant role in the mortgage market, supported to an extent by an implicit government guarantee on their operations, was further reinforced by an amendment to their charter in 1992 that encouraged them to facilitate the financing of housing for low and moderate income borrowers. Under pressure to retain market share in the face of growing competition from competing mortgage lenders, there was a decline in lending standards and both Fannie Mae and Freddie Mac collapsed in the face of the subprime mortgage crisis in the United States in 2008. Both institutions required government guarantee and rescue in order to keep the mortgage market going.

The second type of asset securitization is the Pfandbrief or "covered bond model" that is widely adopted in Europe. From its early beginnings,

the Pfandbrief in Germany has evolved into a triple-A rated bond system that collateralizes long term assets such as property mortgages or public sector loans. Essentially, Pfandbrief are covered bonds that are backed by cash flows from mortgages or public sector loans with one important enhancement, namely, the bondholders have recourse to a pool of assets that "covers" the bond if the originator (usually a financial institution) becomes insolvent. Unlike asset-backed securities created by securitization (which moves the ownership of the mortgage to the buyer and are therefore taken off the balance sheet of the selling bank), covered bonds keep the underlying assets on the issuer's balance sheet. While not treated as true securitization, covered bonds have become the largest source of housing finance throughout most of Europe. As at the end of 2011, total outstanding mortgagebacked covered bonds issued in 19 EU countries amounted to €1,822 billion, more than fourfold larger than the level of €410 billion at the end of 2000. The soundness of covered bonds and their lower cost features have led to global interest in this as a model of mortgage finance.

There are three conditions for the success of a secondary mortgage market:

- The process of securitization should be highly transparent, with details of each mortgage security fully disclosed and registered, with the mortgage corporation doing due diligence on the quality of mortgages purchased.
- The banks or originators that sell these mortgages retain "skin in the game", with a commitment to replace impaired mortgages.
- The rules and regulations on asset securitization and trading of such assets are drafted to international standards, including accounting standards. This should be done at the outset, as mortgage securities, like the US mortgage market and the Pfandbrief market eventually became global markets.

However, certain fundamentals must be in place for mortgage securitization to be efficient, the foremost amongst others being:

A stable macroeconomic environment to foster quality mortgage assets in the primary market and robust growth in demand for housing;

A legal framework which allows transfers or assignments of receivables without cumbersome procedures concerning prior consent of the borrower. Equally important are bankruptcy laws which safeguard investors holding mortgagebacked securities;

A regulatory regime which builds liquidity in the primary and secondary markets and serves to minimize transaction costs and taxes in the bond market through standards in documentation, information dissemination and clearing/settlement.

3. The establishment of secondary mortgage market in Malaysia: **Cagamas Berhad**

Malaysia has enjoyed several decades of growth and prosperity since the 1980s and has successfully withstood the negative impact of a series of economic crises that began with the collapse in commodity prices (1983-1984), the Asian financial crisis (1997-1998) and then the international financial crisis of 2007-2009. In an environment of political, economic and financial stability, Malaysia has made great strides in promoting home ownership for its citizens. The Government has played a strategic role in directing the private-sector housing industry to build adequate and affordable homes for the rapidly expanding middle class, leaving the public sector to concentrate on providing low-cost housing as an integral component of the Government's social infrastructure programme.

On the financial front, Central Bank of Malaysia [BNM] recognised that the prerequisites of a successful home ownership programme are housing finance availability and accessibility. In consultation with the Government in the mid-1980s, BNM considered the need for a secondary mortgage market to be part of the financial infrastructure.

Cagamas Berhad [Cagamas] was duly incorporated in December 1986 as Malavsia's National

Mortgage Corporation to develop the secondary mortgage market. It commenced operations in October 1987 at a time when financial institutions were experiencing tight liquidity and house-buyers were facing escalating mortgage rates. With the establishment of Cagamas, financial institutions were encouraged to securitize their housing loans to release liquidity from their long-term assets and thus modify the maturity profile of their balance sheets. At the same time, the issuance of Cagamas debt securities was envisioned as paving the way for the development of private debt securities to add greater depth and breadth to the capital market.

4. Cagamas' four phases of development

Cagamas effectively went through four distinct phases of development over 28 years.

The initial years from 1987-1991 were not without difficulty. The newness of its operations and its limited product line, buying at a fixed rate for five years with recourse were the main reasons for the slow progress in the operations of Cagamas. Purchases for periods of three and seven years were made available in 1989-1990. At the end of December 1991, outstanding loans with Cagamas amounted to only RM3.1 billion (USD\$1.0 billion)1.

From 1992-1997, which can be regarded as the take-off and growth phase, the operations of Cagamas picked up through active marketing and the introduction of new products. During this period, the range of products with recourse was extended to include Islamic home financing and industrial property loans. In addition. products were enhanced with floating and convertible-rate features. At the end of December 1997, outstanding loans with Cagamas grew to RM22 billion (USD\$6.9 billion) or 31% of total market loans of the banking system.

The diversification phase from 1998–2003 was when Cagamas introduced hire-purchase and leasing debt and Islamic hire-purchase products. At the end of December 2003, Cagamas had outstanding loans of RM27.3 billion (USD\$8.6 billion), with hire-purchase and leasing debts accounting for 43.4% of its portfolio, compared to 56.6% for housing loans. In 1999, Cagamas also introduced the Purchase Without Recourse

[PWOR] scheme to the financial institutions. However, there was no urgency for banking institutions to securitize their housing loans then as there was excess liquidity in the banking system and banks were highly capitalized with risk-weighted capital adequacy ratios averaging 12.5 % in 1999. Furthermore, housing loans were deemed to be high-quality assets with low default rates and negligible foreclosure losses.

The period 2004–2013 can be referred to as the securitization phase during which Cagamas first embarked on purchasing housing loans without recourse and at the same time, contributed to the development of the asset-backed securities [ABS] market in Malaysia. Without losing its focus on supporting home ownership in the country, Cagamas went on to offer mortgage quarantee products and to participate in the Government's 'My First Home Scheme' or 'Skim Rumah Pertamaku' [SRP]. The major developments during this period included the following:

In 2006 and 2007, there were renewed efforts on the part of Cagamas to enhance the PWOR scheme, particularly in terms of product pricing, to make it attractive for banking institutions. When the subprime mortgage crisis in the United States derailed global financial markets in 2008, Cagamas continued to support the domestic ABS market by purchasing housing loans on an outright basis from financial institutions, and with a view to warehousing these loans for future securitization.

In 2007, Cagamas HKMC Berhad [CHKMC] was established as a joint venture company of Cagamas Holdings Berhad² and the Hong Kong Mortgage Corporation [HKMC] to provide mortgage guarantees to housing loan/ finance originators. The Mortgage Guarantee Programme [MGP] offers a "first loss" protection on banking institutions' mortgage portfolio, which serves to reduce the credit risk of their housing loans/financing portfolios. Effective from December 2012, Cagamas Holdings Berhad had acquired the entire 50% HKMC equity stake in the joint venture, making CHKMC a fully-owned subsidiary of Cagamas and renamed as Cagamas MGP Berhad.

In 2011, Cagamas SRP Berhad was formed as another subsidiary to support the Government's Skim Rumah Pertamaku [SRP], which is aimed at helping young working adults (not exceeding the age of 35 years) to own their first homes

¹ Ringgit Malaysia [RM] translated at RM3.18 as at 20 Aug 2014

² Cagamas Holdings Berhad comprises of Cagamas Berhad as the main operating entity; Cagamas MBS Berhad, Cagamas SME Berhad, BNM Sukuk Berhad, Cagamas SRP Berhad and Cagamas MGP Berhad.

falling within the price range of RM100,000 to RM400,000. Under the scheme, eligible first-time house buyers are offered 100% financing by the financial institutions with a repayment period of up to 35 years. Cagamas SRP undertakes to guarantee the financial institutions for the portion of financing above the 90% level.

As from January 2013, certain specific eligibility criteria of the SRP were changed or abolished. Of significance was the raising of the gross monthly income limit for eligible buyers from RM3,000 previously to RM5,000.

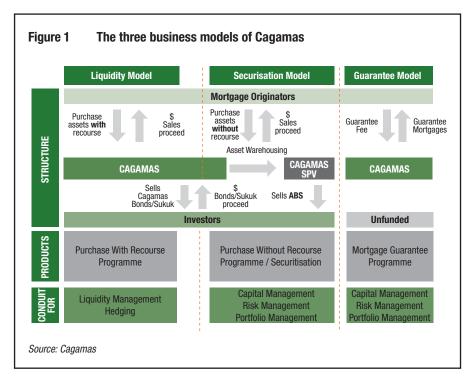
5. The Cagamas model

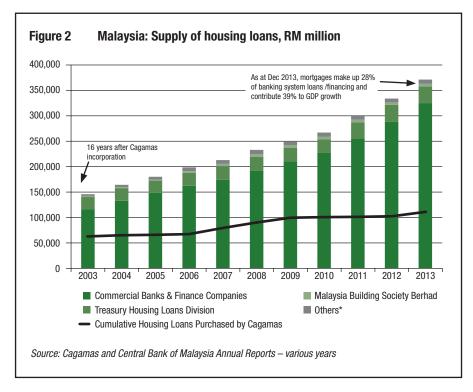
Cagamas has contributed to the building of a sustainable housing finance system in Malaysia by continuously applying innovations to its business model to meet the liquidity and capital needs of financial institutions. Cagamas is now a full-fledged mortgage corporation that encompasses a liquidity model, a securitization model and a guarantee model to promote home ownership. (See Figure 1).

Under the liquidity model, the PWOR scheme addresses the maturity mismatch problem by effectively freeing liquidity so that financial institutions may grant more housing loans at affordable costs. It also provides financial institutions with a channel to hedge their interest rate risk and to reduce negative carry via asset swapping. In times of tight liquidity, financial institutions can easily sell their housing loans to Cagamas within a short turnaround time of at least seven business days.

Under the securitization model, in addition to funding, the PWOR scheme enables housing loan originators to transfer credit and interest/profit rate risk in their entirety to provide full capital relief and to improve return on assets [ROAs] and returns on risk-weighted capital. The PWOR scheme has a much faster turnaround time of three weeks compared to the two to three months required for other types of ABS issuance, and it offers flexible transaction sizes.

Under the guarantee model, the MGP helps housing loan originators transfer some of their credit risk, free up capital for more financing and manage their portfolio concentration risk. By reducing credit risk on their housing loan/financing portfolios, banking institutions can improve their capital adequacy ratios. The MGP has the flexibility to adjust its structure to suit the specific requirements of the mortgage financier, such as adapting the mortgage guarantee for the Skim Rumah Pertamaku.





The World Bank has acknowledged the success of Cagamas in providing liquidity to financial institutions to fund home ownership at reasonable cost. From an initial purchase of conventional mortgages of RM110 million (US\$34.6 million) in 1987, Cagamas had, by the end of 2013, cumulatively refinanced mortgages in the secondary market equivalent to RM111 billion (US\$34.9 billion) or 1.8 million homes. The size of the Malaysian mortgage

market has grown exponentially from RM22 billion (US\$6.9 billion, then constituting a small proportion of banking system loans) in 1989 to RM371 billion (US\$116.7 billion or 28% of banking system loans) as at the end of 2013 (see Figure 2). In relation to the economy, the ratio of outstanding mortgages to GDP as at end-2013 was 39%, among the highest in East Asia (Singapore 44%, China 20%, and Thailand 17%).

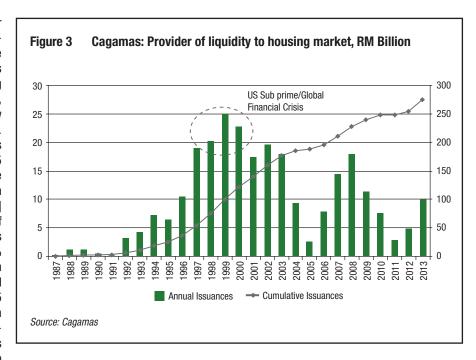
Cagamas has also been an active and regular issuer of private debt securities [PDS], contributing to the rapid development of the corporate bond market in Malaysia. Today, Cagamas has established itself as the largest and leading issuer of PDS in Malaysia. Since inception, Cagamas has introduced a wide range of new and award winning capital market instruments. As at the end of December 2013, the Cagamas Group has issued a cumulative total of RM275.5 billion (USD86.6 billion) of PDS (including the issuances of RM10.2 billion (USD3.2 billion) in Residential Mortgage Backed Securities [RMBS] by Cagamas MBS Berhad, a sister company of Cagamas' outstanding issuances of RM24.7 billion (USD7.8 billion) make up 8% of Malaysia's current outstanding PDS, which amounts to RM314.8 billion (USD99 billion); and in which Malaysia is already among the top 5 issuers of corporate bonds in the Asia-ex Japan region. Cagamas is accorded the top domestic credit rating of AAA and P1 by Malaysia's RAM Rating Services Berhad. Similarly, it is also rated AAA/AAAID and MARC-1/MARC-1ID by Malaysian Rating Corporation Berhad, denoting its strong credit quality.

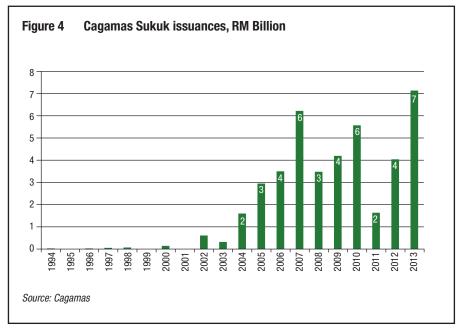
Due to the good track record and high credit standing of Cagamas, all long and short-term debt securities issued by the company have consistently been rated AAA by two Malaysian rating agencies (RAM and MARC). Cagamas is also well regarded internationally and has been assigned local and foreign currency long-term issuer ratings of A3 by Moody's Investors Service Inc. that are in line with Malaysian sovereign ratings.

Cagamas as a liquidity provider to the housing market

Cagamas' role as a liquidity provider took on significance in times of financial crisis and tight liquidity (see Figure 3). Cagamas has injected stability into the financial system by standing ready to purchase mortgages from financial institutions that are seeking alternative sources of funding or who might otherwise turn to the central bank as a lender of last resort.

Since 2004/2005, Cagamas has evolved into a major issuer of Islamic bonds (Sukuk) (see Figure 4). It began by securitizing a significant portion of the Government's staff Islamic home financing. The issuance of RM2.05 billion (USD\$0.6 billion) nominal value Islamic Residential Mortgage-backed Sukuk Musyarakah [IRMBS] in 2005 was the first of its kind in the world and attracted RM13.5 billion (USD\$4.2 billion) in book size, primarily from domestic institu-





tions and some foreign investors from Hong Kong and Singapore. Cagamas' Sukuk currently make up 18% of domestic AAA-rated Sukuk of a fast growing segment of the PDS market and dominate 88% of the domestic AAA-rated Islamic ABS market. The promotion of the issuance of Sukuk is also in tandem with Malaysia's aspirations to be a leading international Islamic financial centre.

Beyond the provision of liquidity, Cagamas has also evolved to become a provider of risk and capital management solutions. This includes Cagamas' promotion of products such as mortgage guarantee and its involvement in the synthetic securitisation in the Small and Medium Enterprise [SME] sector. Cagamas has also become a credible partner of the Government in a home ownership initiative to address the issue of affordability among young adults wishing to own their first home (My First Home scheme).

In the financial year ended 31 December 2013, Cagamas recorded a profit after tax of RM318.6 million (US\$100.2 million). Its shareholders funds amounted to RM2.5 billion (US\$0.8 billion) and its Risk Weighted Capital Ratio [RWCR] stood at a healthy 24.3%. In comparison, the average RWCR of the banking sector in the corresponding period stood at approximately 15%.

7. Lessons learnt from Cagamas

The Cagamas model offers important lessons for other developing countries that are considering the establishment of a secondary mortgage market. These include the following:

Ownership of Cagamas was split with the BNM owning 20% and the other 80% by the banking system. The BNM nominates the chairman of the board of governors, but the rest of the board are representatives of the banks.

From the beginning, Cagamas was supported by a well-developed system for land purchases and regulation, clear rights of property ownership and transferability, well-developed financial infrastructure and a liberalized financial system, and a proactive urban and housing policy.

In the early stages, government support and involvement in the secondary mortgage corporation, including share ownership was necessary to alleviate the default risk concerns of investors. Government and BNM privileges helped to reduce the cost of funds for Cagamas, such as:

 Exemption of the company from stamp duties for its housing loan transactions

- Exemption from the requirement to issue any prospectus in respect of its issuance of debt securities;
- Exemption from having to obtain the prior approval of the Securities Commission to issue bonds;
- Exemption of the proceeds of sales of housing loans obtained by financial institutions from statutory reserve and liquidity requirements;
- Classification of Cagamas bonds as Tier 1 liquid assets for purpose of compliance with statutory liquidity requirements.

Adoption of the PWR scheme helped to overcome moral hazard in the early stage of development of a secondary mortgage market. It gave Cagamas time to build its credibility as a safe and regular issuer of debt securities before it introduced the PWOR product.

Within the secondary mortgage framework, Cagamas has had the flexibility and innovativeness to develop new asset classes in Sukuk and SMES for institutional investors such as insurance companies and pensions, while not losing sight of its social role in promoting home ownership in the country.

8. Conclusion

Malaysia was the first country in the region, and is probably one of the earliest among the developing economies, to establish a secondary mortgage market. Cagamas has come a long way in fulfilling its initial mandate to help promote the spread of homeownership among Malaysians and played a pivotal role in the development of Malaysia's private debt securities market. Over the years, with its innovative products, Cagamas has contributed to granting loans at longer tenures and making housing loans accessible at reasonable cost within the financial sector, which is crucial to the overall success of the Government's housing policy as well as private sector initiatives. It has also provided highly-rated multi-tenure bond and Sukuk for the investor base, and has played a significant role in developing the Islamic capital market. As a pioneer in Islamic financial product innovation in the secondary mortgage space, it serves as an excellent model for nations with similar requirements.