# Asian mortgage markets

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## 1. Introduction

Compared to Europe, the Asian mortgage market is extremely heterogeneous and it is therefore difficult to summarize its characteristics and the related ongoing trends in a nutshell.  In a number of Asian countries, the mortgage market is dramatically changing providing opportunities as well as challenges.

To give a flavor, there are two countries with a population of over 1 billion people: China and India. In terms of size of economies (i.e. GDP), the countries with the biggest economies after the USA are China and Japan.

Asia is regarded as the centre of growth for the global economy for decades to come, however, as of today, mortgage markets are still at a developing stage in many countries in the region.

In terms of size of the mortgage market (**Figure 1**, where Asian countries are in red and European countries are in blue.), excluding the USA, Japan has the largest mortgage market. China, which is the second largest economy in the world, follows the UK, Germany and France and has a GDP almost equivalent to these three major European countries combined. The market size is much smaller in countries such as India, although its population is twice as large as the combined population of the EU27 countries.

The smaller market size in some Asian countries can be attributed to the lower stage of development of the economy as a whole. There are several countries in Asia where per capita GDP exceeds USD 30,000 (approximately EU27 average in 2011); Japan, Singapore, and Brunei Darussalam. However, per capita GDP for the vast majority of Asian countries is far less than USD 10,000.

In advanced economies, the mortgage market size to GDP ratio has no correlation with the GDP per capita, as is illustrated in **Figure 2** with light blue circles. Some countries prefer to provide social housing or rent assistance rather than promoting homeownership. However, in emerging economies, there is a strong correlation observed between outstanding mortgage to GDP ratio and GDP per capita.

At the embryonic stage of development, when poverty alleviation is a priority, housing policy tends to focus on improving the accommodation in slums and/or on intervention by the government through direct provision of affordable rental housing. As middle class formation advances, the promotion of homeownership becomes the new priority with employment markets moving from informal to formal, thereby expanding the possibilities for banks to extend mortgages.

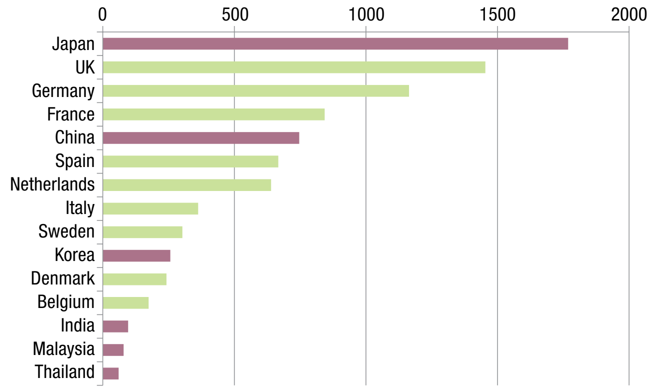
Another driver of mortgage market development is urbanization. Demand for accommodation is increasing due to people looking for better job opportunities and therefore moving from rural areas to urban cities. In some cases, these people illegally occupy lots along roads, railways or rivers and form slums as squatters. However, the new workforce, with improving job opportunities and improving standards of living represents a significant potential demand for housing and mortgages. Addressing rapid urbanization is one of the major challenges in many Asian countries, not only in terms of housing but also in terms of urban infrastructure. However, this challenge is also an opportunity, especially observed in those countries where the mortgage market has already matured: Japan.

## 2. Governmental Financial Institutions (GFIs)

In many Asian countries, so-called governmental financial institutions (GFIs) have been set up with a role of providing housing loans to households. The existence of a relatively high number of GFIs in Asia may be surprising compared to advanced

*Source: Ministry of Foreign Affairs, Japan*

**Figure 1** ▶ Outstanding Mortgage Balance (EUR billion)




*Source: EMF, JHF, FRB, PBOC, GHB, NHB and other country sources*

European markets, but, contrary to the European economies, many countries in the region do not have well-developed capital markets and intermediation by the government to finance homeownership is also politically justified .

The GFIs have the possibility to borrow from the government to promote homeownership. They have a competitive advantage compared with private banks due to the government guarantee, whether explicit or implicit.
As a higher level of economic development is reached, however, private lenders are expected to claim that GFIs are unfairly depriving them from lending opportunities and will likely push for reform (as was the case in Japan).  In this context, only private lenders will have access to primary lending markets and, in principle, GFIs will operate only in the secondary mortgage market.

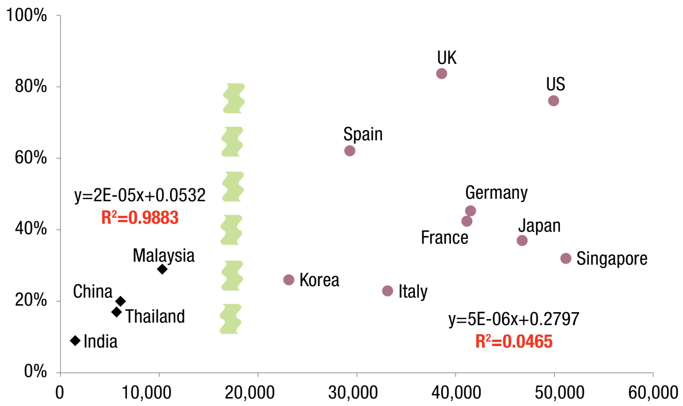
As an example of the role of GFIs, after the Asian Currency Crisis in 1997, a number of new GFIs were established or replaced existing GFIs. These new GFIs mainly operate in the secondary mortgage markets, rather than in the primary lending markets. However, some areas remain which need government intervention (due to the fact that the private sector does not necessarily have the capacity), including, the funding of the improvement of energy-efficiency and assistance to victims of natural disasters.

## 3. MBS markets in Asia

Many GFIs established after the Asian Currency Crisis were intended to provide liquidity to mortgage markets by issuing MBS like Fannie Mae or Freddie Mac in the US. Nevertheless, there are not many Asian countries where the development of MBS market has been successful.

**Japan** is one of the most successful countries in Asia regarding the development of the secondary mortgage market and MBS market. The first MBS in Japan was issued by a private bank (Hokkaido Takushoku Bank) in 1997, which was bailed out just after the issuance. The oldest MBS was issued by Sanwa Bank (now merged with Tokyo-Mitsubishi UFJ Bank) in 1999. Before the onset of the US Subprime Crisis, the development of the MBS market appeared to be promising. However, since 2006, the issuance of private label securities started has been declining and still remains at a very low level.

**Figure 2** ▶ Outstanding mortgage balances per GDP and per capita GDP (per Capita GDP: USD)




*Source: EMF "Hypostat 2011", JHF, NHB, and IMF WEO Database*

▶ **List of GFIs in Asian countries in the order of year established**

**1950:** Government Housing Loan Corporation, Japan (Abolished in 2007)
**1953:** Government Housing Bank, Thailand
**1954:** People's Construction Bank of China, China (privatized in 2004)
**1967:** Korea Housing Bank, Korea (privatized in 1997)
**1977:** National Home Mortgage Finance Corporation, Philippines
**1984:** Cagamas, Malaysia
**1988:** National Housing Bank, India
**1997:** Hong Kong Mortgage Corporation Limited, Hong Kong
**1997:** Secondary Mortgage Corporation, Thailand
**1999:** Korea Mortgage Corporation, Korea (Abolished in 2004)
**2004:** Korea Housing Finance Corporation, Korea
**2005:** SMF, Indonesia
**2006:** Mongolian Mortgage Corporation, Mongolia
**2007:** Japan Housing Finance Agency, Japan
**2013:** Construction and Housing Development Bank, Myanmar

In 2000, the Government Housing Loan Corporation (GHLC) started to issue MBSs in order to transfer prepayment risk and diversify funding sources. Initially, GHLC MBS was issued to fund outstanding mortgages, but the GHLC also initiated secondary market operations in a pilot program in 2003. Additionally, the GHLC purchased conforming[1] mortgages originated by private financial institutions repackaged these mortgages into MBSs to be sold them to investors. The Japan Housing Finance Agency (JHF), the successor of the GHLC continued these operations from 2007 onwards.

As of today, the outstanding amount of JHF MBS is more than JPY 10 trillion (USD 100 bn) making JHF MBS one of the most important funding tools with high, secondary market liquidity, just after the Japanese Government Bond (JGB) and Municipal Bonds.

In recent years, the level of new issuance remains stable at around JPY 2 trillion per annum. In May 2011, JHF MBS issues amounted to JPY 500 bn (USD 5 bn) in a single deal, which is the largest issuance on record in Japanese capital markets, with the exception of JGB. Although JHF MBSs are not guaranteed by the Japanese Government, their rating at issuance by S&P is AAA, owing to the good stand-alone credit provided by a government agency and to the good quality assets in the overcollateralization. As a result of to the highest rating, the spread of JHF MBS compared to 10 year JGB was 44 bps, and Option Adjusted Spread (OAS) was 16 bps in July 2013.

The unique characteristic of GHLC/JHF MBS is that JHF retains mortgage assets on the balance sheet and issue pass-through certificates backed by those mortgages (**Figure 3**). It is a hybrid of US Agency MBS and European Covered Bonds. The rationale for JHF to retain mortgages on the balance sheet is to extend flexible modification in case borrowers face payment troubles for whatever reasons. As was demonstrated by the US subprime crisis, it is very difficult to extend loan modifications to borrowers if the loan is transferred from the originator to SPVs. The advantages of the JHF system appeared to be recognized in the US also, because Fannie Mae and Freddie Mac have since changed their accounting treatment and have consolidated the vast majority of trusts as of January 2010, making the structure similar to that of the JHF model.

The second largest MBS market in Asia is **Korea**. The outstanding amount of MBS issued by the Korea Housing Finance Corporation (KHFC) at the end of 2011 was KRW 23,690.0 bn (USD 21 bn). KHFC accounts for 35% of the total MBS issuance in Korea[2].

**Table 3** ▶ MBSs and covered bonds in light of the balance sheet

| | | Patern of Cash Flow | |
|---|---|---|---|
| | | Bullet (Straight Bond) | Pass-through (with Amortization and prepayment) |
| Balance Sheet Treatment of Assets | On-Balance | Pfandbrief (Germany)<br>Cédulas Hipotecarias (Spain) | JHF MBS (Japan)<br>Særligt Dækkede Obligationer (Denmark)<br>Fannie Mae MBS, Freddie Mac PC (US)<br>As of Jan 2010 |
| | Off-Balance | Obligations Foncières (France)<br>Obbligazioni Bancarie Garantite (Italy) | Fannie Mae MBS, Freddie Mac PC (US)<br>Ginnie Mae MBS (US)<br>Private Label Securities |

*Source: EMF "Hypostat 2011", JHF, NHB, and IMF WEO Database*

[1] JHF purchased mortgages which meet underwriting criteria set by JHF, including borrower qualification as well as property qualification.

[2] "Financial Markets in Korea" published by Bank of Korea (2012).

In other countries, including **Malaysia**, **Thailand**, **the Philippines**, **India** and **Hong Kong**, the primary MBS market remains very small. In 2012, Cagamas in Malaysia issued RMBS of RM 6.03 bn (USD 1.9 bn) of which Islamic RMBS was RM 2.8 billion (USD 0.9 bn) and the Hong Kong Mortgage Corporation Limited had and issuance of HKD 214.7 mn (USD 28 million).

Compared to the US and Europe, even the biggest Asian (i.e. the Japanese) MBS market is smaller, not only in terms of absolute size but also in terms of relative share in the funding mix. MBSs and covered bonds represent less than 10% of the source of funding for mortgages in Japan; the most important funding tool is deposits.(**Figure 4**)

Contrary to Europe, where the banking sector depends heavily on interbank, wholesale funding markets, Japanese banks can satisfy their lending needs mainly through deposits (**Figure 5**), partly as a result of the weak funding demand from corporate and household sector and partly because of the strong financial position of households and their preference for safe financial products. Less developed capital markets in Japan represent the opposite of safe and sound financial system to some extent. Recently, taking advantage of their strong financial position, some banks in Japan have been expanding their cross-border transactions in the Asian market.

## 4. Covered Bond Initiatives

After the recent financial crisis, covered bonds in many Asian countries have been in the spotlight. European covered bonds have attracted a number of Asian investors for many years, but the recent developments suggest that Asian issuance will play a significant role in investor decisions.

The first Asian covered bond issuance was initiated by the Japanese Shinsei Bank, which tried to launch a structured covered bond in 2008. According to an industry expert, however, Shinsei could not finalize this issuance partly due to the turbulence in the market condition after the bailout of Bear Sterns in the US and the subsequent requested spread which was significantly (i.e. "a couple of hundreds bps") higher than expected The Ministry of International Trade and Industry of Japan assembled a roundtable to study covered bonds in 2009 and the Development Bank of Japan (DBJ) also launched a similar initiative; in addition, DBJ released a report in July 2011 to advocate legislation for covered bonds in Japan. The Cabinet Office under the Noda Administration released a strategic plan to revitalize the Japanese financial sector, which included the possibility of enacting the legal framework for covered bonds with the feasibility study for DBJ to be concluded by December 2012. However, since 2012, when Prime Minister Noda lost the elections, the new Abe Administration has not issued any further comments regarding the direction of the covered bond legislation.

On the one hand, some industry experts are of the opinion that there is no immediate need for covered bond funding since the banking sector has abundant liquidity; nowadays, national champion banks can raise funds with just one single digit bps above JGBs, with corresponding maturities by senior unsecured debt instruments. On the other hand, other industry experts claim that prompt enactment is critical, considering the possibility of abrupt changes in the market environment in the future. They also claim that covered bonds may attract foreign investors if denominated in currency other than JPY.

**Korea** is the forerunner of the covered bond market in Asia.

The first (structured) covered bond in Asia was issued by Koomin Bank in 2009, on the basis of general law. The first statutory covered bond in Asia was also issued in Korea by KHFC under KHFC law in 2010. KHFC have also issued covered bonds in the US market. The deal executed on 15 July 2010 had the following characteristicss:

- 144A / Reg S
- USD 500 mn notes with 5.5-year maturity and 4.125% coupon
- KHFC's first ever overseas funding in the international capital markets
- Asia's very first statutory covered bonds
- Book size was USD 2.75bn with orders from 130 accounts

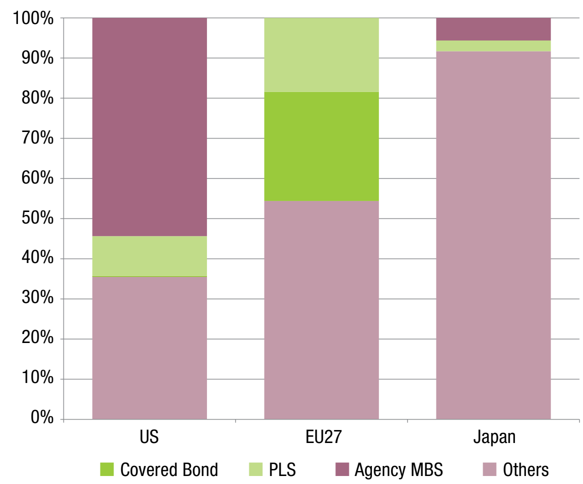
In order to expand the issuer base, the Korean government has been advocating the following legislation:

- 23 October 2012: Legislation Notice of Covered Bond Act
- 29 January 2013:Approval from Cabinet Meeting
- 26 June 26 2013: Approval from Sub Committee of National Assembly

Although these pieces of legislation are not yet enacted, the framework is quite similar to many European jurisdictions;

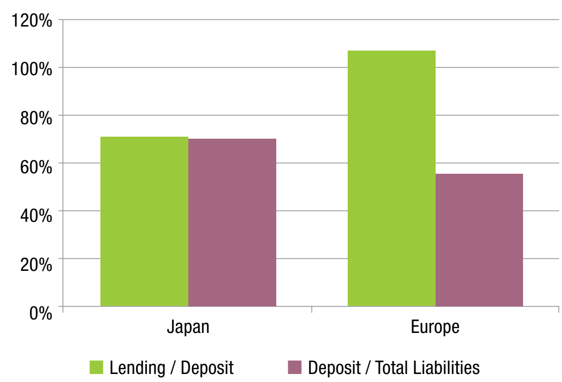
| | |
|---|---|
| **Eligible Issuer** | Banks<br>Korea Housing Finance Corporation / Korea Finance Corporation<br>Equity capital of KRW 100bn (USD 92mn)<br>Capital ratio of 10% or above |
| **Cover Assets** | Residential mortgage loans (LTV 70% or lower)<br>Loans extended to central / local governments<br>Government bonds and municipal bonds<br>Cash or certificate of deposits (not exceeding 15% of total cover pool) |
| **Minimum Collateralization Ratio** | 105% of the outstanding amount of the covered bond |
| **Issuance Limit** | Within 8% of the issuer's total assets |

**Figure 4** ▶ Funding sources of mortgages




*Source: EMF, ECBC, AFME, FRB, JHF*

**Figure 5** ▶ Deposit in the Balance Sheet in Japan and Europe 2011




*Source: ECB, BOJ*

[3] The Koomin Bank deal was done with structured covered bond (there was no legislation in place at that time). The KHFC deal was doen with statutory covered bonds, since it was based on KHFC Law. However, under the KHFC Law, KHFC is the only eligible issuer of covered bond and new legislative initiative is under way to expand the issuer base in Korea.

KHFC estimates that potential market size for Korean covered bond could reach the equivalent of USD 72 bn.

In other countries, such as Singapore, Thailand, Mongolia and India, as well, the possibility of introducing covered bond legislation is being examined. In some countries, cover assets may include SME loans and infrastructure development loans.

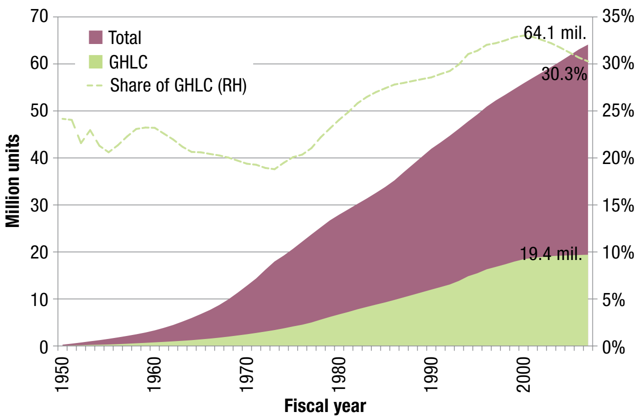
## 5. Country specific issues: Japan

### From primary markets to secondary markets

In Japan, the GHLC was established in 1950 to originate fixed rate mortgages funded and subsidized by the Government of Japan and enhance the quality of housing. From 1950 to 2007, GHLC has financed 19.4 million housing units amounting to JBY 187 trillion, which represents around 30% of the market share in Japan. (**Figure 6**)

The GHLC provided fixed rate mortgages at a concessional rate by borrowing from the Fiscal Investment and Loan Program under the Ministry of Finance and using a subsidy from the General Appropriation of the Government of Japan. In the late 1990s, prepayment surged on outstanding GHLC originated mortgages amid a liberalization of mortgage markets, coupled with the declining interest rate and an accommodative monetary policy. Borrowers of the GHLC could prepay the loan without penalty, however, the GHLC was required to pay a penalty to the FILP if it were to prepay, resulting in an increase in the loss of the GHLC.

**Figure 6** ▶ Housing starts and GHLC's share




*Source: MLIT, JHF*

**Figure 7** ▶ From GHLC to JHF

| | GHLC → | JHF |
|---|---|---|
| **Established** | 1950 | 2007 |
| **Ownership** | 100% Owned by the Government of Japan | |
| **Mission** | ■ Provide liquidity to mortgage markets to low and medium income household ■ Enhance quality of housing | |
| **Main Products** | Fixed Rate Mortgages | |
| **Main Business** | Origination in primary mortgage market (Compete with private sector) | Secondary market operation (Support private sector) |
| **Main Funding Source** | Borrowing from the Government (MOF FILP) | Mortgage Backed Securities (MBS) |
| **Subsidy** | Yes | No (in principle) |

Note: JHF still originates mortgages for such exceptional cases as disaster mitigations. In such cases, JHF still have access to funding from the MOF FILP and subsidies from General Appropriations

However, it became difficult for the Government of Japan to appropriate the subsidies to compensate the deficit of the GHLC because fiscal conditions deteriorated in the aging society. A series of economic stimulus measures to sustain economic growth after the collapse of the bubble also contributed to the fiscal constraints.

Criticism from private financial institutions, mainly commercial banks, also intensified for the over presence of GHLC, because they wanted to expand retail lending as demand from corporate sector weakened.

However, commercial banks which depend on retail deposits for their funding found it difficult to provide fixed rate mortgages, for which there was strong consumer demand.

Against this background, reform of the Japanese mortgage market became necessary in order to achieve the public mission of providing fixed rate mortgages and enhancing the quality of housing by collaborating with the private sector.

In 2001, the Government decided to wind down the GHLC and in 2007 it was replaced by the JHF. Both the GHLC and the JHF are government-owned, share common missions to provide fixed rate mortgages and enhance the quality of housing. But their business model is different. The GHLC was competing with commercial banks in the primary mortgage market, while the JHF supports commercial banks and mortgage banks via its secondary market operations. (**Figure 7**)

### Recovery from the Great East Japan Earthquake on 11 March 2011

**Figure 8** ▶ Tsunami affected areas

*(Photo taken by JHF staff in Tohoku Regional Office: © JHF 2013)*

On 11 March 2011, a massive earthquake with a magnitude of 9.0 $M_w$ struck the Northeast of Japan (Tohoku region). It was the largest earthquake on record in Japanese history. The Great East Japan Earthquake was an unprecedented national crisis; it was also a compound disaster of earthquakes, tsunami and a nuclear accident and impacted the whole nation.

The number of dead is 15,858, and the number of missing is 3,067 (as of 1 May 2012). There was massive destruction of public infrastructures, including electricity, gas and water supplies. Immediately after the Earthquake, nearly half a million people were evacuated. There was also significant damage to the housing stock: 129,520 units are identified as being totally destroyed and another 256,420 units were heavily damaged as of1 May 2012.

The Government has been mobilizing all its efforts towards recovery from the Earthquake. 52,858 emergency shelters were completed by 1 May 2012 and many evacuation centers have already closed.

Compared to the Haiti Earthquake in 2010, the number of houses destroyed was almost the same in Japan, but the death toll was significantly lower. This is partly because most of the destruction of houses in Japan was caused by the tsunami, not by the earthquake.

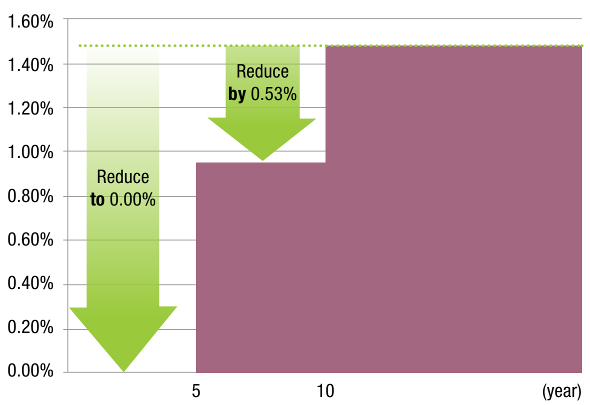
The tsunami came 30 to 90 minutes after the earthquake and people had enough time to evacuate, as long as they were not trapped in the collapsed houses. An amendment of the construction code in 1981 required enhanced resilience to seismic shock for building structures in Japan, and this contributed to saving tens of thousands of lives on this occasion. This illustrates the importance of ex-ante Disaster Approaches

Just before the earthquake in Japan, there was another earthquake in Chili, and a tsunami alert was issued. However, no major tsunami came across the Pacific. In retrospect, this caused some people to think this would be the same case, which was not. It is vital to enhance the methods of disseminating tsunami alerts as well as the methods of evacuation, especially for elderly people, who need special assistance.

In relation to the 2011 natural disaster, as a government agency, the JHF has been offering two types of support. The first is designed for new borrowers. The JHF is providing special concessional mortgages for those who will purchase or construct a house with subsidies (**Figure 9**). The second is for existing borrowers. The JHF is extending borrower outreach programs to modify outstanding mortgage terms as well. These include a five year grace period. The JHF receives a subsidy from General Appropriations of the Government of Japan to implement these programs.

In order to extend borrower outreach, the JHF needs to allocate significant human resources as well. The JHF expanded capacity at its Tohoku-regional office to provide better consultation to the victims as significant attention has to be paid to psychological conditions.

**Figure 9** ▶ Interest rate reduction for disaster mitigation loan




Note: interest rate is as of August 16, 2013

The housing market faces other major challenges as well. Most of those houses destroyed were located along the seaside. Many of those houses survived the earthquake, but were wiped away by the tsunami. Considering the recurrence of tsunami in the region, it is recommended that houses should be reconstructed on higher ground rather than at the seaside which may suffer a further inundation. If the victims have a sustainable source of income, they may transfer to owner-occupied houses. Otherwise, public rental houses may be constructed. Another proposal is to construct a medium and high rise building along the seashore which could accommodate people when there is not enough time to evacuate to a higher site. However, relocation of this scale is unprecedented and there are constraints regarding availability of housing sites in these regions on top of the cost associated with the site developments. Fishermen used to live along the seaside because of accessibility to ports where they made their living. How livelihoods can be secured is an integral part of reconstruction, together with constructing housing. We cannot ignore the dignity of these people.

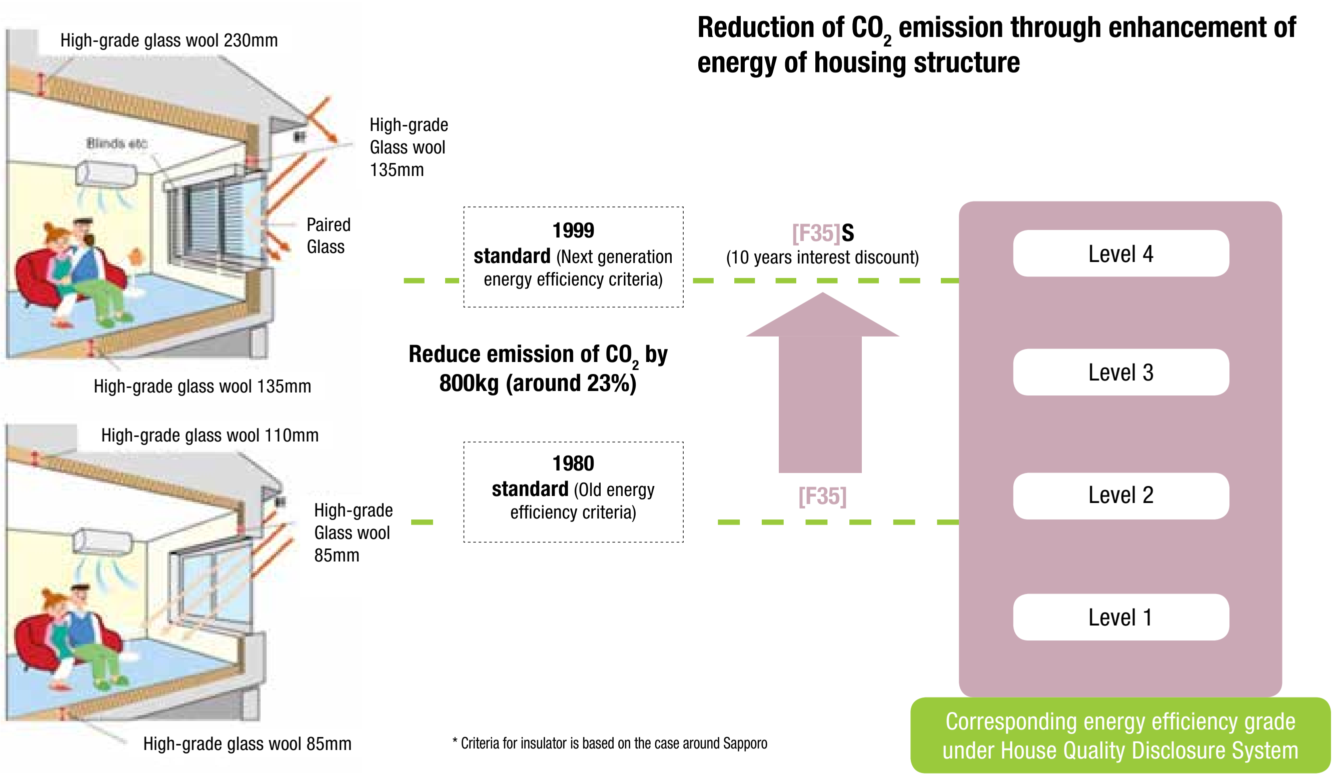
Disaster prevention and mitigation play a significant role in financing housing markets and are of great interest for many Asian countries; Volcano eruption at Pinatubo, Philippines in 1991, Sumatra-Andaman earthquake in 2004, flooding in Thailand in 2011 and so on.

## Enhancement of energy efficiency – green mortgages

Japan has an extremely energy-efficient society; Japanese energy consumption per GDP is the lowest in the world. However, Japan is committed to further enhancing energy efficiency. Incidentally, the 11 March earthquake triggered constraints for the electricity supply and this also necessitated the acceleration of policy reactions to some extent.

In order to address policy issues to alleviate global warming and improve resilience of houses to earthquakes, the JHF received grants from the government to lower the interest rate for borrowers who construct or purchase higher quality houses (**Figure 10**). These subsidies contributed to enhancing the competitiveness between fixed rate mortgages (FRMs) and adjustable rate mortgages (ARMs), however these subsidies were intended to be transferred to borrowers, and not to balance out the deficit of the JHF.

**Figure 10** ▶ Enhancement of energy efficiency




* Criteria for insulator is based on the case around Sapporo

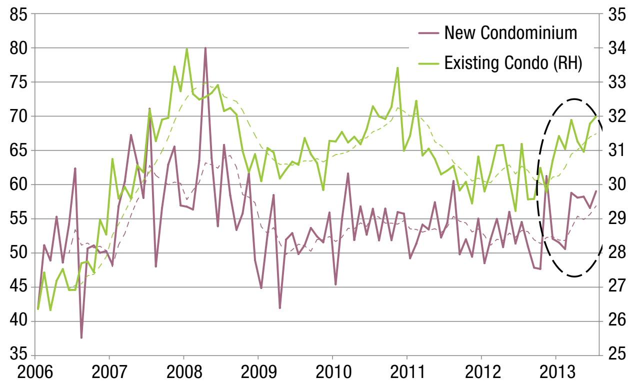
## Abenomics

After the collapse of the bubbles in the early 1990s, the Japanese economy has been suffering from the "lost decades", and 15 years of deflation. In the meantime, Japanese society has faced demographic challenges; i.e. an aging population. Pessimistic views have circulated on the future of Japanese economy and these have been reinforced by a self-fulfilling, negative feedback loop (Kobayashi, 2009).

In order to exit such a negative feedback loop, the Japanese Government, after the inauguration of new administration, launched a strategy composed of three elements called "Abenomics". One of the elements is a new phase of monetary easing by the Bank of Japan announced on 4 April 4 2013.

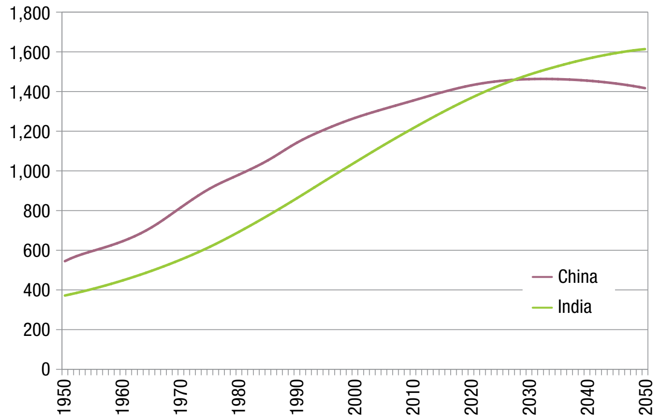
The confidence of Japanese consumers has been improving recently, with expectation of inflation picking up. Capital markets appear to be stabilizing after facing some turbulence. Housing markets are booming once again (**Figure 11**) and hopefully this trend will continue as confidence in the future of Japanese economy strengthens.

**Figure 11** ▶ Average price of condominium unit in Tokyo (in mn of JPY)




*Source: Real Estate Information Network System, Real Estate Economic Institute Co.,Ltd*

**Figure 12** ▶ Populations of India and China (Million)




*Source: United Nations, Department of Economic and Social Affairs, Population Division World Population Prospects: The 2010 Revision (June 2011)*

# 6. Country specific issues: other Asian countries

## India

India has the second largest population in the world and its population is expected to exceed that of China in 15 years (Figure 12). The growth of the population and migration to large cities are strong drivers of housing demand. According to the National Housing Bank of India (NHB), a shortage of housing units is 19 million in urban areas and 44 million in rural areas estimated for the period 2012-2017. The disparity of income levels between urban and rural areas has been accelerating urbanisation despite the fact that 25% of residents in urban areas live in slums.

The volume of transactions of existing housing stock is very low due to the complicated registration system. The mortgage market is still at an embryonic stage partly due to the small proportion of the middle-class employed by the formal sector. Extending mortgages to the informal sector entails significant concerns regarding credit risk management. Two third of mortgages are originated by commercial banks which are regulated by the Reserve Bank of India (central bank) and one third are originated by housing finance companies which are regulated by the National Housing Bank (NHB).

One of the major challenges for the development of mortgage markets is the availability of long-term funding. The securitization market is still at a very nascent stage and very stagnant after the recent financial crisis. The development of new funding instruments such as covered bonds is being also encouraged. Recently, the International Finance Corporation (IFC) extended its technical assistance to introduce a mortgage insurance system in India.

## Thailand

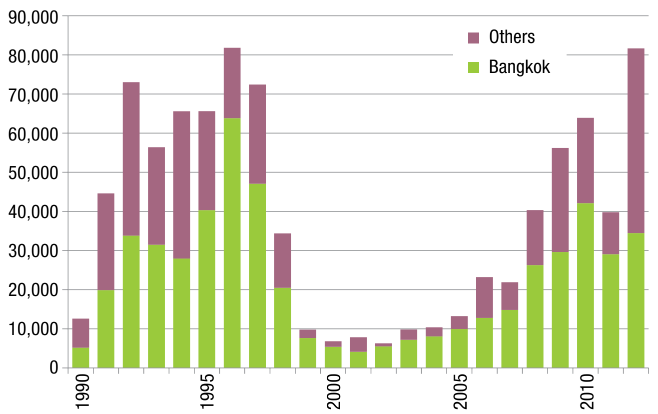
The Thai economy is at a transitory stage: shifting from being a developing country to being a developed one. Per capita GDP (USD 6,000) and outstanding mortgage balance per GDP (20%) is almost at the same level as China. The only difference is population (65 million in Thailand) which is only one twentieth of China's population (1.3 billion). As more people ascend to the middle class, demand for housing and mortgages will increase.

The Thai economy was heavily hit by the Asian Currency Crisis in 1997. Since then, the supply of housing has declined significantly. From the beginning of the 21st century, the supply of housing started to recover. (**Figure 13**) In 2011, there was a temporary decline due to flooding and, in 2012, the supply of apartments reached the pre-crisis level.

Thailand has one of the oldest GFIs in Asia: the Government Housing Bank. The GHB was established in 1953, only 3 years after the establishment of the GHLC in Japan. The main funding source for the GHB is deposits through its 185 branches nationwide. The GHB is competing with commercial banks, but maintains around 30% of market share (**Figure 14**) due to a good reputation backed by a long history.

Following the Asian Currency Crisis, the Secondary Mortgage Corporation (SMC) was established in 1997 with the aim of developing the secondary market. Since its establishment, SMC has issued 3 MBS. The Ministry of Finance which supervises both GHB and SMC is supportive of the developments of the Thai secondary market and is advocating the introduction of covered bonds, mortgage insurance and reverse mortgages.

**Figure 13** ▶ Number of condominiums registered in Thailand (units)




*Source: Bank of Thailand*

**Figure 14** ▶ Market share in Thailand by outstanding mortgage balance

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| **Commercial Banks** | 53.6% | 54.7% | 57.0% | 58.0% | 58.9% |
| **GHB** | 38.3% | 37.2% | 34.7% | 33.2% | 31.1% |
| **GSB** | 7.2% | 7.4% | 7.6% | 8.1% | 9.3% |
| **Others** | 0.9% | 0.7% | 0.7% | 0.7% | 0.7% |

*Source: GHB*

## Malaysia

Per capita GDP in Malaysia has exceeded USD 10,000, which is the highest among the south-east Asian countries, except for Singapore. The outstanding mortgage balance per GDP is above 30%, which is comparable to other advanced Asian countries, such as Korea, Japan and Singapore. The relatively well-developed mortgage market in Malaysia can be partly attributed to Cagamas which was established in 1986 to develop the secondary mortgage market. The creation of the secondary mortgage market was a result of the liquidity crunch in the 1980s and the public policy objective of a "homeownership democracy".

As of 2012, there are 27 Commercial Banks and 16 Islamic Banks in Malaysia. Commercial Banks' contribution to housing loans was 85%. The average growth in Islamic home financing has been 26% in 5 years, and as of 2012, it represented 15.7% of primary mortgages.

Cagamas Berhad, the National Mortgage Corporation, commenced operations in 1987 to promote home ownership and the growth of the Malaysian secondary mortgage market. Cagamas issues debt securities to finance the purchase of housing loans from financial institutions and non-financial institutions. Funding at a reasonable cost encourages further expansion of financing for houses at an affordable price.

Cagamas purchases both conventional and Islamic loans and other financing tools and funds the purchases through the issuance of conventional and Islamic debt securities. Loans and other financing tools are purchased either on a "with-recourse to the originator basis" (PWR); or on a "without-recourse" basis (PWOR). Mortgage Guarantee Program (MGP) offers 'first loss' protection on a mortgage portfolio while the mortgage assets remain on the Originator's books. (**Figure 15**) The Cagamas model is well regarded by the World Bank as a successful secondary mortgage liquidity facility.

## Mongolia

In Mongolia, the mortgage market was virtually non-existent during the socialist regime. Housing was provided by the government directly to citizens. However, a market economy was introduced in the late 1990s and the mortgage market started to develop, together with the establishment of the Mongolia Mortgage Corporation (MIK) in 2006. As of 2011, the outstanding amount of mortgage loans in Mongolia stood at MNT 656 bn (USD 0.5 bn).

Under the old land ownership tradition, people were entitled to own a lot of up to 700 square meters. However, rapid urbanisation and migration into Ulaanbaatar created "Ger" area around the nation's capital. It is extremely cold in winter and heating depends mainly on coal but at the same time smog is a major concern for human health. In this regard, the upgrading of housing units together with the development of urban infrastructure, including supply of electricity, is essential. Many donors, including IFC, the Bank aus Verantwortung (KfW), USAID, the Asia Pacific Union for Housing Finance (APUHF), the European Bank for Reconstruction and Development (EBRD), have extended technical and financial assistance. If the mining industry continues to boom, the Mongolian economy will expand rapidly and mortgage markets are expected to expand accordingly.

## Korea

Per capita GDP in Korea is USD 23,000, just half of the Japanese, and close to the level of Portugal or Greece. Korea has a population of 50 million10 million of which live in Seoul and 15 million live in the Seoul metropolitan area. There is a strong demographic concentration in the capital region.

The Korean Government established the Korea Housing Finance Corporation (KHFC) in 2004 to replace the Korea Mortgage Corporation (KoMoCo) under the joint ownership of the Ministry of Strategy and Finance, the Bank of Korea and the Ministry of Land, Infrastructure & Transport.

The vast majority of mortgage products in Korea were adjustable rate mortgages. According to KHFC, market share of fixed rate mortgages was 3.1% in 2011, but increased to 14.2% in 2012 due to favorable regulatory provisions on LTVs. A new regulation was introduced to differentiate the maximum LTV for ARMs ( 60%) and FRMs (70%) which is expected to encourage the use of the latter. The Korean government has set a goal to increase fixed rate mortgage loans up to 30% of the total mortgage loans by 2016 in order to control household debt.The KHFC is promoting reverse mortgages as well.

## China

China became the second largest economy in 2011. It has the largest population in the world, but population growth is decelerating due to the one child policy introduced in 1979. Unlike other Asian countries, migration to the urban area is restricted, though urbanization is inevitable.

The first residential mortgage loan in China was issued by the China Construction Bank (CCB) in 1986[4]. The CCB used to be a state owned bank, but was privatised in 2004. The CCB issued the first MBS in China in 2005.

The outstanding mortgage balance was RMB 6.6 trillion (USD 1.04 trillion) at the end of 2011[5], and the annual growth rate was 14.8%. Non-performing loan rates appeared to be stable at 0.3% for 2011.

Controlling house prices is one of the major challenges for policy makers in China. Relevant authorities have introduced measures, but Chinese residents have a strong propensity to invest in tangible assets, such as real estate, to hedge inflation. China learned a lot from the Japanese experience in the 1980s and is trying to avoid the rapid change of the foreign exchange regime that may trigger unintended consequences on property markets. So far, the adjustment of the RMB against the USD has been conducted in a controlled manner and appreciation of the RMB to the USD is gradual. The intervention in the foreign exchange market, however, has led to tremendous accumulation of foreign exchange reserves and has resulted in disruption of monetary policy to some extent. Recently, attention has focused on the unregulated financial intermediation sector, similar to the US shadow banking system, and whether or not it could trigger another financial crisis.

### ▶ Regional Initiative at APUHF

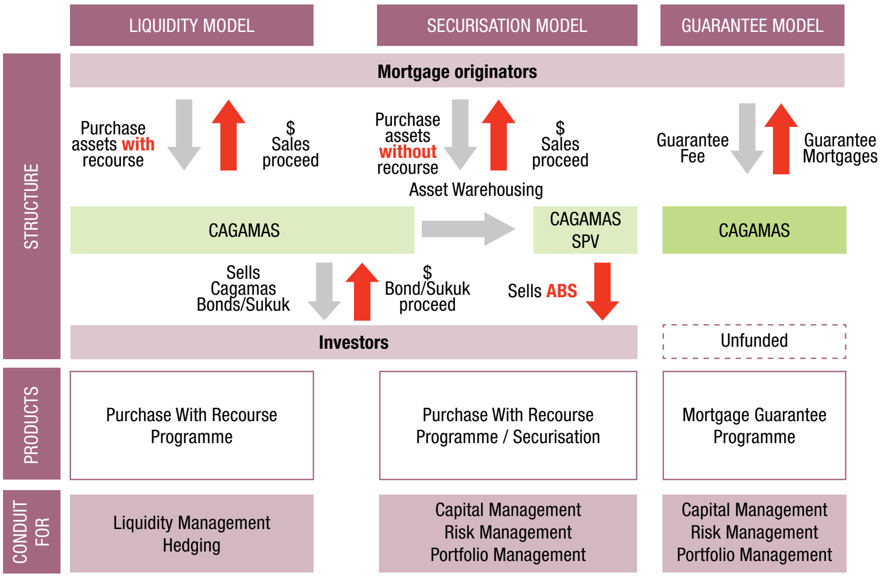
Until recently, regional mortgage industry representations did not exist in Asia, due to the heterogeneous nature of mortgage markets and the heterogeneous needs regarding mortgage market policies. However, it was soon recognized that many developing countries in the region have common challenges such as rapid urbanisation and the need to finance housing for the poor. Several international organizations including UN-ESCAP, UN-Habitat, the World Bank and others have extended assistance on these challenges in the region and such initiatives resulted in the creation of Asia-Pacific Union for Housing Finance (APUHF) in 2010.

The secretariat function of APUHF is undertaken by NHB, India, and a number of international conferences have been held to provide a basis and a platform for exchange of ideas, views, experiences, events, practices, products, products in different countries of Asia.

[4] An Early Assessment of Residential Mortgage Performance in China http://www-rcf.usc.edu/~ydeng/papers/DengZhengLing_ChinaMortgage_Lusk.pdf

[5] "China Financial Stability Report" published by Peoples Bank of China (PBOC), which is the central bank of Peoples Republic of China.

**Figure 15** ▶ The role of Cagamas in Malaysia mortgage market




*Source: Cagamas*