

Housing Finance in East Asia

Loïc Chiquier

Head, Housing Finance Practice
Financial and Private Sector Development

The World Bank

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Housing Finance in East Asia

I) Background

Residential mortgage markets have revived since the crisis of 1997. This evolution raises opportunities but also challenges for policy makers and regulators, from the perspective of financial sector soundness and accessibility for low-income households.

As part of the financial sector flagship report,¹ the study focused on **six countries** (South Korea, China, Hong Kong (China), Thailand, Malaysia, and Indonesia). These markets differ in terms of scale, structure, depth, risk exposure, and accessibility. Advanced economies like Singapore, Japan, or Australia are not covered, nor are nascent markets where systems are just being created (Mongolia, Vietnam, Laos). The case of the Philippines is not studied either, short of updated data. Hence, the paper does not provide a complete picture of housing finance markets throughout the region, nor does it pay sufficient tribute to the nuances and intricacies of each country's own evolution. Other key aspects of real estate markets (commercial property, rental markets) are also not analyzed.

A thorough study requires the analysis of three distinct national markets: housing market, residential mortgage market, and bond market, all three of which have changed across Asia since the crisis. Two country studies for Indonesia and Thailand – accessible on the World Bank FPD web site - provide this level of analytical scrutiny,² but this chapter rather offers broader observations for the region.

The **rapid urbanization in East Asia** - where the urban population is growing by 3% per year vs. a worldwide average of 0.5% - combined with some demographic changes is fueling a steady increase of the housing demand in Asia, thus exposing the housing finance system to scaling up and affordability challenges. The increase of the urban population will be impressive in China from 42.7% by the end of 2004 to an estimated 52% by 2020 (including a rapid increase of the number of lower middle income households). The urbanization pressure is also intense in countries as Thailand or Indonesia where the percentage of the urban population is low (41% and 30% respectively) but is increasing, in contrast to city states like Singapore or Hong-Kong (China).

In the case of China, the demand for housing is also fueled by a **lack of alternative attractive investments** (insurance products, capital markets) to mobilize the accrued savings of households (under-remunerated through bank deposits). This factor also contributes to the irresistible expansion of housing investments and by consequence of the housing finance system. Consequently, the risks to be managed are larger. The

¹ Published by the World Bank in June 2006 (main author: Ms. Swati Ghosh).

² Thailand and Indonesia were assessed through WB-contracted consultants. Additional reports on Hong Kong (China) and Malaysia can be found in the volume 2 of the Asia financial sector flagship book (prepared by main domestic public institutions involved in mortgage markets: HKMC, Cagamas Berhad).

evolution has also been accentuated by the **rapid increase of housing asset prices in comparison with households' incomes**, as observed in some large urban centers (the trend is less visible and not worrying yet on any national scale). In most of the largest cities except in China, house prices have not exceeded their pre-1997 crisis levels, but have been steadily rallying in particular since 2002 at a high pace.

During the 1997 crisis, housing finance systems were affected by higher rates, depressed housing prices, rising unemployment and declining incomes. The quality of property related loans (credit to developers and to corporate collateralized by real estate) was more affected than individual mortgage loans, which proved resilient to external shocks even when credit underwriting conditions were stretched. For example in Hong Kong (China), the level of NPL of residential mortgage loans did not exceed 1.5% vs. 6.5% for overall lending, although house prices declined by more than 60%.

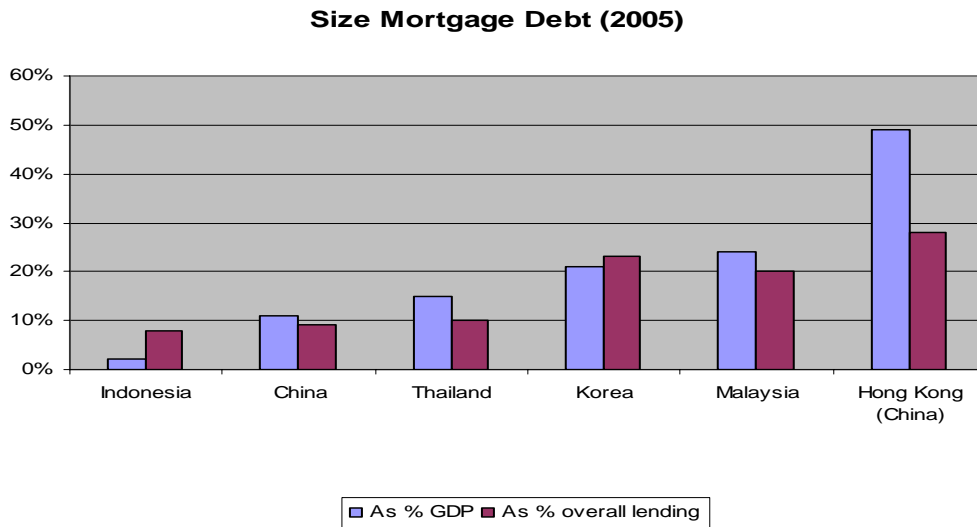
Several reports explain how improper real estate finance systems caused and/or amplified the broader crisis (including lenders myopia, collateral based credit underwriting, inaccurate appraisal methodology, improper information about real estate markets and prices, loose financial regulations, not monitored key indicators like unsold inventories, vacancies, and land prices). To a large extent, the past crisis is not visible any longer through the existing portfolios.³ China is specific as its housing finance system has been expanding since the crisis rather as a domestic housing policy decision.

II) The Revival of Primary Mortgage Markets

Since then primary mortgage markets have been growing in East Asia (Graph 1), along with the macroeconomic recovery and the financial sector liberalization coupled with improved risk-based regulations for banks, and the development of bond markets. Even after excluding Hong Kong (China) and Singapore, East Asia displays the most advanced level of mortgage markets compared to any other region for emerging economies.

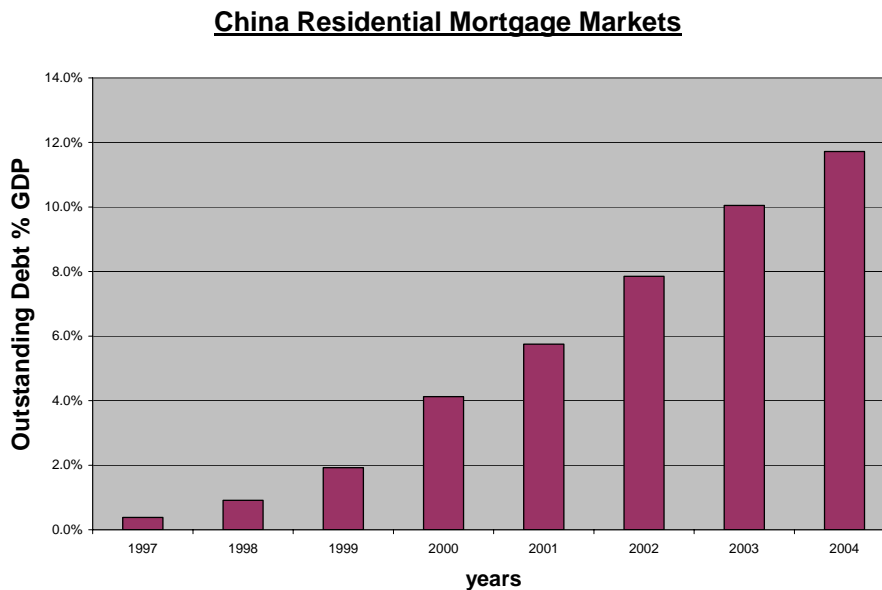
³ Except for non-performing real estate loans which were not written off yet in Thailand (not individual housing loans).

Graph 1 Size of Residential Mortgage Debt (early 2005)



In Korea, mortgage markets have also expanded rapidly as a result of strategic decisions by banks to diversify lending into retail markets. In some less developed economies, the level of mortgage debt has just regained its pre-crisis levels (Indonesia, Thailand). In the case of China, the pace of expansion of mortgage debt has been impressive (Graph 2).

Graph 2 Evolution of Residential Mortgage Markets in China



So far, the **quality of the residential mortgage portfolio has been excellent** despite a rapid pace of growth in lending. By the end of 2004, only 1.5% of NPL was reported in China and 0.53% in Hong Kong (China) by the end of 2005. Caution should be exercised about China as this recent portfolio has not been tested by any recession yet, foreclosure

rights and property registration raise concerns, as well as banks underwriting policy and internal risk management capacities. In most countries may be except for the Philippines, residential mortgages perform better than any other lending sector.

The vulnerability and concentration exposure rather comes from other property related loans (to developers and commercial properties), as in the case of Hong Kong (China) and Malaysia. In China, banking loans to developers record a 10.5% NPL by 2004.

The growth of residential mortgage loans is largely driven by commercial banks, which have been accruing excesses of liquidity through short-term deposits and savings. For example in Hong Kong (China), the average loans-to-deposit ratio of banks has been declining from 100% by the end of 1998 to 57% by the end of 2005. Similar trends are observed throughout the region. In that context, banks compete for low-risk retail lending opportunities, notably through residential mortgages, which also require less capital requirements (Basel I and II), and facilitate the cross-selling of other retail products.

During the 1997 crisis, banks experienced severe losses in corporate lending and have since been turning to attractive retail and mortgage markets. For example in Korea in 1998, 85% of housing loans were still made by the public National Housing Fund and the Housing Commercial Bank whilst the private banks were hardly active in that sector. By March 2005, housing loans to households (mortgage and home equity loans) has been the fastest lending area in Korea (23% yearly growth between 1996 and 2003), and banks now dominate this market as housing loans represent 62% of their retail loans and 24% of their overall lending (by March 2005).

The expansion of the portfolio was driven by a steadily growing demand, higher house prices in the large urban centers and the steady decline of mortgage credit rates to more attractive levels (at least up to the first semester 2005), permitting to a larger creditworthy portion of the population to have access to housing finance. This evolution of rates is caused by generally improved macro conditions. The decline of market rates was also an incentive for banks not to rely too much on government securities.

Most markets offer more attractive conditions for their mortgage credits, with adjustable credit rates within an **affordable range between 5% and 8%**. Most of the portfolio is indexed on prime lending rates, base lending rates or official inter-bank lending index (see next section about the recent development of longer fixed rate periods). Indonesia may differ as the relative macro volatility has kept mortgage rates at a higher level (17%-18%), which prevents any fast expansion at least through conventional mortgage markets (CPI indexed loans could provide affordability gains).

Table 1 **Mortgage Rates offered by banks (2006, adjustable rate loans)**

China	Hong Kong (China)	Indonesia	Thailand	Malaysia
5.51%	5%-6.5%	15%-17%	6%-8%	5.5%-7.5%

The contractual maturities of these housing loans may be 20 or 25 years (even up to 30 years in Thailand or China) but the actual average life of the housing loans is between 10 and 15 years (much less still in Korea). Prepayment rates remain in average high (circa 10% per year in Hong Kong (China), 15% in Indonesia) because of more competitive lenders, reactive consumers to the variation of their ARM rates, and some general culture bias from households against mortgage debt (as observed in many emerging markets).

Since the end of 2005, mortgage rates have increased on an average by 1%-1.5%. This move was caused by broader market evolution and decisions adjusted of Central Banks. It has contributed to a slow down in the growth of property markets (still increasing prices but at lower pace than before), but without altering some fundamentals of the housing demand. Any further significant rise in mortgage rates could dampen both the growth of housing finance markets and depress some specific housing sub-markets, without triggering a financial sector crisis of the magnitude observed in 1997.

Other factors to explain the expansion of mortgage markets have been **improvements to the infrastructure of mortgage markets**. For example in Thailand, appraisal norms have been improved and a new credit bureau which includes retail loans has been established, while a project of creating a Real Estate Information Center is still on going, and a new mortgage insurance project is actively pursued by the Government Housing Bank, which finds great interest to re-allocate part of the risks and promote affordability, in particular given its escalating lending production and as a result much larger concentration to real estate markets versus the commercial private banks.

More should be pursued throughout the region and notably in China to strengthen such vital building blocks, such as a modern, reliable and cost efficient system of property title registration, new credit information systems and more effective and speedy foreclosure proceedings (largely untested in an expansion phase during which collateral prices rise). In Indonesia, the eviction after a mortgage foreclosure requires a special court order, further delaying the collateral recovery process.

Since the crisis, most lenders have improved their organization, mortgage lending underwriting and servicing standards, IT systems and introduced new scoring tools.

But in China, mortgage lending remains a new activity for most of the banks, which compete through volumes without adjusting to costs and risks their credit underwriting and servicing policies. Although PBC has liberalized mortgage markets in 2005, banks are not pricing such loans according to costs and risks, but rather compete through volumes by applying uniformly the floor level set up by PBC for long-term loans (5.51% in April 2006, increased to 6.24% in August 2006, before applying any 10% discount). The new fixed rate mortgage loans do not reflect any premium in line with the additional market risk. Steps to enhance their risk management are therefore needed. Meanwhile, regulatory authorities have to enforce strict lending safeguards mostly through LTV limits (70% in the whole China as in Hong Kong (China), even higher limits in Korea).⁴

⁴ 40% and 60% LTV limits according to whether it is speculative or not and the location of the housing investment.

These stringent LTV thresholds aim at preserving the soundness of the banking systems, as mortgage portfolios keep expanding and some real estate markets are perceived to go through possible adverse cycles. But they also have adverse effects on the affordability of lower income households, notably among younger families, given the difficulty to accrue such a considerable level of prior savings. As the infrastructure of mortgage markets improves (e.g. effective foreclosure, database on housing markets, credit information systems, mortgage default insurance products, smarter subsidies, etc.) and lenders improve their risk management capacity (notably through their appraisal, credit underwriting, pricing and servicing functions), these barriers should gradually be lifted.

The crisis aftermath has **avored the rise of private mortgage lenders over specialized public lenders**, as seen in Korea and Indonesia (declining market share of BTN, and fiscally costly restructuring programs of the bank). The housing banks in the region (mostly in Thailand and Indonesia) now operate now as commercial banks and are supervised as such. They lend both to the unsubsidized middle-income households markets (then in competition with the private banks) but also often lend to lower-income households (and distribute explicit subsidies from the Government for that purpose).

A soundly managed public housing bank like GHB in Thailand holds 39% shares of mortgage markets (and a much higher proportion of new long-term loans to lower income groups) and is consequently aiming at promoting a mortgage insurance industry in Thailand (to deal with credit risk) and to securitize part of its growing loans as early as 2006 (because of the resulting funding pressure).

A key feature of Asian housing finance system is the dominance of **uncapped adjustable rate loans**, which have been attractive during a phase of declining short-term market rates, but which convey larger credit risk in the long run, should any adverse economic shocks result in rising market rates. Some Thai lenders do propose partial limitations on the future rise of repayments through various caps and extended terms.

The origination of mortgage loans offering **longer periods of fixed credit rates** (or at least capped floating rates) remains a key objective, which appears to be pursued through public sector specialized financial institutions,⁵ in order to (i) reduce the vulnerability of the financial system, and (ii) to facilitate the accessibility of housing finance for lower-income households. This business development has yet to result in a significant share of the production, but the recent phase of rising rates may help to commercialize them. .

In order to reach this objective, the funding structure of mortgage markets should also be diversified from their dependence on short-term deposits **to longer-term mortgage backed securities** which can transfer part of the interest rate risks to institutional investors (HKFC in Korea wants to promote long term fixed rate mortgage loans).

⁵ The Korean HKFC is pushing long-term FRMs to be securitized. The Thai Government Housing Bank has been trying to commercialize loans with longer periods (5 and 10 years) and fixed rates. The Hong Kong (China) HKMC is also promoting its Fixed Adjustable Rate Mortgage program that would extend fixed rates for periods up to 5 and 10 years.

III) Limited Affordability of the Housing Finance System

Despite the more attractive credit conditions, the affordability is limited by high house prices and high down payment requirements as well as from the large number of low and informal income households who are not served by banks.

In addition to the critical lack of caps applied to the prevailing adjustable rate portfolios and the under-developed stage of fixed rate mortgage loans in the region, a survey of housing finance markets also suggests other missing products or infrastructure:

- (i) absent consumer information package adapted to mortgage lending;
- (ii) lack of indexed loans in Indonesia or Philippines still exposed to inflation;
- (iii) lack of reverse mortgage loans for the elderly (who may dispose of housing assets but limited pension inflows);⁶
- (iv) few home equity loans with proper regulations (except for Korea where these products already exist);
- (v) Relatively inefficient and untargeted housing lending by provident housing funds (China, Philippines), if the proportion between housing borrowers and employees imposed a mandatory contribution is by construction small;
- (vi) with the notable exception of Malaysia, no developed system of Islamic house financing debt along with appropriate long-term funding instruments;
- (vii) banks active in mortgage lending remain limited by high origination and servicing costs, as a barrier against small loans for lower income clients, notably as the lending industry remains bundled (few outsourced functions).

Given the large informal labor market in Asia (in Indonesia 74% of the labor force does not earn documented and stable wages) and rising housing prices, housing finance systems remain confronted with challenges of accessibility. Even in countries where the size of the mortgage portfolio is decent as in Thailand, a majority of households still does not leverage debt from any credit institution and rather relies on equity financed self construction, which results in delayed and expensive access to homeownership, incremental construction, slum proliferation, pressure for more subsidies, etc. In Indonesia, the estimated proportion of such equity-financed self construction is 65%.

In addition to improving the accessibility of housing finance, other saving and credit products need to be developed with adequate reforms and support, in order to cater for the needs of informal and low income groups:

- (i) housing micro finance (critical and efficient outreach of part of the population for slum upgrading, home improvement, progressive construction),
- (ii) residential leasing loans (Thailand has initiated such development through a hire purchase program funded by the GHB);⁷

⁶ Such a project was prepared but shelved in 2005 as perceived as premature in Hong Kong (China).

- (iii) contractual housing savings schemes (to help informal and low income groups to build both equity and a favorable credit score, at least in regions where housing prices do not escalate too much).

Such products would improve the existing housing stock and living conditions. They may have to be distributed mainly through non banks through an adjusted regulatory framework (like housing microfinance which is picking up rapidly in the Philippines as part of slum upgrading projects). In Indonesia, finance companies cannot compete on mortgage lending against banks.

Residential rental markets also remain unequally financed, although this activity represents a large business in Hong Kong (China) (including with a large subsidized stock).

Korea proposes a specific affordability challenge despite the rapid expansion of the housing finance system, as the market is mostly made of 3 or 5-year bullet interest-only loans, which would be better labeled as home owner loans than traditional mortgage loans. This situation exposes borrowers to significant credit risks, should rates rise at the renewal phase. As mentioned before, risks have been kept low through severe equity regulatory rules, at the detriment of the affordability of the housing finance system. Under the impulse of the public secondary mortgage agency created in 2004, fixed rate long-term mortgage loans are promoted to be funded by long-term MBS.

New initiatives are already under way to introduce national systems of **mortgage default insurance for lenders**, hopefully through public private partnerships, which would help active housing lenders to better manage and reallocate their credit risk with less of down-payments from households (cf the positive experience of the HKMC as seen in Box 2). This is the case in Thailand where a project is quite advanced and in China where local guarantee funds need to be revisited through a more efficient national system. Such development would require modifications to the insurance regulatory framework, and further implementation work to avoid any excessive concentration of risks in the hands of the State, appropriate standards to avoid adverse selection and moral hazard behaviors.

In addition, to release land and urban development constraints, more work is necessary in some countries to implement a housing policy that would include a sufficient budgetary contribution to **“smart” housing finance subsidies**, which should be socially targeted according to the incomes and affordable housing conditions, allocated in a transparent way, market efficient in leveraging debt down the market from credit institutions (not only banks but also finance companies, saving associations, micro-lenders).

The development of housing finance is constrained by **land supply rigidities and urban development regulations as observed in some countries**, where housing prices may rise faster than household incomes despite favorable credit conditions. This is visible in some largest cities in China (in the few main economic poles which attract the demand)

⁷ The first five years of rental payments by the households correspond to an important credit risk assumed by the main public housing developer NHA, not by the GHB bank.

despite the tighter regulations imposed by authorities on developers, investors and local governments against speculative housing and in favor of affordable housing.

On the contrary, in Malaysia or Indonesia, housing price to income ratios seem to remain stable and affordable (ratio between 3 and 3.6 years in Indonesia) thanks to a comprehensive land and housing policy. The case of city states like Singapore or Hong Kong (China) is quite different and specific to their land and housing markets.

Another limiting factor in some cases will be the difficulty to scale up construction finance in the area of affordable housing without any undue exposure to risks (many regulators limited such banking lending after the crisis), given market unfriendly urban development and construction rules, and the under-capitalization of developers.

IV) The Slow Development of Secondary Mortgage Markets

As a funding source of national housing finance systems, secondary mortgage markets still remain by and large under-developed, when compared to:

- (i) the much larger and growing size of primary mortgage markets;
- (ii) the efforts undertaken by governments to improve the legal and regulatory infrastructure for securitization (several laws and decrees passed in most countries including a comprehensive MBS law in Korea, several amendments, decrees, and regulations in Thailand);
- (iii) the financial sponsorship of governments to create and support secondary mortgage companies in nearly all the countries of the region [Hong Kong (China) HKMC created in 1987, Thai SMC created in 1998, Indonesian SMI created in 2005, Malaysian Cagamas created in 1987, Philippines, the Korean HKFC nationalized in 2004, and maybe soon in China where a similar project is discussed while pilot “private” issuances are tested].

The slow development of MBS markets is partly caused by **the incompleteness of the legal, regulatory and infrastructure background** (tax neutral SPV, perfected true sale, smooth loan transfer, adjusted bond disclosure and accounting rules).

In Thailand, the 1997 law on securitization had to be corrected in 2005 by an emergency decree in order to alleviate barriers against the facilitated transfer of mortgage loans. In Indonesia, tax problems remain to be solved (notably VAT) in order not to jeopardize the cost efficiency of securitization. In Korea, although a prior legal framework for securitization existed and had been widely used for ABS, the legislator opted for a specific MBS law in order to fix some issues related to the transfer of mortgage loans (individual consent of borrower, dissuasive taxes or stamp duties, etc.). In Hong Kong (China), the common law system and a clear regime about trusts has built a quite supportive and flexible framework for securitization purposes.

In China, different legal and regulatory routes are experimented (trust certificates traded on interbank bond market or investment fund certificates traded on stock market). Several regulatory problems were fixed in order to enable the two pilot securitization deals in 2005 (off balance sheet accounting, tax neutrality of the SPV, investment rules for banks and trust companies, etc.). Yet more rules need to be consolidated on themes like perfected true sales, international rating agencies, disclosure and investment rules, etc.

In most countries, there is also **no private external credit enhancement system**, including pool guarantees or individual mortgage insurance, so the structuring of the transaction has to rely on expensive internal enhancement for the issuer (leaving little capital relief) or public guarantees which transfer part of the risk into fiscal liabilities.

The **accounting standards** – cf. Financial Accounting Statements #140 for securitization accounting and Basel 2 securitization – raise additional difficulties for authorities in each country's environment (and then costly uncertainties for market operators and investors), in particular to recognize the off balance sheet sale of the assets (for qualified true sales without direct or indirect recourses by sellers, through independent special purpose vehicles), and valuation problems for some MBS classes, given their uncertain future cash-flows combined with the absence of market value (when securities are not traded on secondary markets). These difficulties need to be fixed - even if imperfectly - by regulators to avoid any abusive use of securitization, but usually do not represent the main hindering factor against the development of securitization.

Another technical difficulty to be overcome is to set up the conditions for these innovative MBS securities to be treated as collateral for repo markets, which would enhance their liquidity and thus attractiveness.

The development of secondary mortgage markets also requires **sizeable, standardized, and seasoned primary mortgage markets**, which should be documented with many reliable and updated data related to cash-flows and exposure to risks, requiring lenders to make significant infrastructure investments in information technology and adequate procedures. This is not always the case in Asia although secondary market agencies should have contributed to encourage this standardization. In practice many lenders conduct different credit policies, and portfolios are neither well very standardized nor documented. This may represent for the next years a serious obstacle in China.

Yet, even in countries where the environment is more favorable [like Korea, Hong Kong (China) or Malaysia], the main other reason comes from the **market itself, as liquid and solvent banks do not want to sell their profitable mortgage loans**. This trend is encouraged by the adjustable rate nature of their portfolios which limits their exposure to financial risks (see Boxes 1 and 2). Further market competition and the introduction of Basel 2 requirements may gradually change this reluctance as there is more awareness that securitization represents one effective risk management tool.

Box 1: HKMC as a Secondary Mortgage Agency in Hong Kong (China)

The HKMC was established in March 1997 as a specialized and public-owned secondary mortgage company. Its objectives are similar to other companies created in Asia: (i) to provide liquidity and risk management tools for the competing mortgage lenders, and (ii) to develop private bond markets and securitization. Its sole shareholder is the Hong Kong (China) Exchange Fund (authorized capital of HK \$ 3 billion). The company was created under a situation of a liquidity crunch, but now very liquid and well capitalized commercial banks have limited interest in securitizing their best performing mortgage loans. As a result the net funding contribution of the HKMC to mortgage markets has not been significant (HMC owns about 5% of the overall portfolio, mostly funded by simple bonds vs. MBS).

Banks intensively compete to transform their shorter-term saving & deposits into low-risk long-term and adjustable rate mortgage loans (their average loan to deposit ratio declined from 100% by the end 1998 to 56% by the end of 2005). Nearly all of the large residential mortgage industry - 49% of the GDP and 28% of all bank lending- is made of uncapped adjustable rate loans, mainly indexed on the Prime Lending Rate (typically minus 2% or 2.5%) or on the more volatile Hibor (growing market share because of a widening negative spread below the Prime Lending Rate). The residential mortgage portfolio has demonstrated its excellent resiliency even during adverse times, and has now reached a historically low record of NPL ratio (0.53%). In contrast, the other real estate loans (another 22.7% of all bank lending made of loans to developers, commercial property lending) are riskier and expose banks to a concentration problem through the property related sector.

The HKMC has been funding its mortgage purchases by issuing bonds (large debt issuance program, but also retail bonds and MBS pass through). Since 1999, it has been gradually extending a successful mortgage default insurance program for lenders, which sells a limited first loss guarantee for mortgage loans exceeding the regulatory limit of 70% Loan-to-Value (the program may upgrade LTV ceilings up to 95%). This insurance program is partly reinsured by the private sector, and has permitted with little paid claims to extend the affordability of housing finance for households not disposing of a sufficient down payment. The penetration ratio of this insurance program through the new mortgage production has been steadily rising to 20% by the end of 2005 (for a total of 35,000 households).

In Hong Kong (China), the initial perception of a strategic need of banks to liquify their large mortgage stock was in practice opposed by the later growing liquidity of the finance system after the crisis. HKMC had a more positive impact on the whole mortgage industry by developing a sustainable mortgage insurance program.

Exceptions may be found through specialized lenders already confronted to both funding and equity pressure, like the GHB of Thailand which is expected to pioneer a sizeable mortgage securitization program in 2006. But no lender in Thailand has ever securitized its loans to the state owned Secondary Mortgage Company, which had no positive impact on markets, but has been going through internal operational and governance difficulties.

The development of fixed rate products, additional rules for a safer assets –liabilities management and the gradually introduced Basel 2 regulatory requirements for credit risks should gradually change this dynamic, notably for some smaller banks or finance companies confronted with a liquidity and/or equity pressure, but no large development should be expected, when compared to the securitization through ABS of other receivables including NPL loans.

Yet, alternative ways to any costly and complex securitization program exist in order to access domestic long-term bond markets, as implemented by Cagamas Berhad in Malaysia (Box 2) for 15 years before moving more rapidly to securitization in the last two years. This company has mostly been acting as a liquidity facility, and as a result has been an efficient catalyst of the growth of housing mortgage markets in Malaysia (helping lenders to manage their risks, and helping to develop private bond markets).

Box 2: Malaysian Secondary Mortgage Company

Cagamas Berhad was created in 1987 as a private specialized company to help housing lenders manage their financial risk and expand their lending, as well as to develop private bond markets. Capital came mostly from the financial institutions whilst 20% of shares are held by Bank Negara. The Company has been purchasing residential loans from competing lenders (most of the loans are adjustable rate), on a full recourse base and for limited periods, funded by issuing private bonds. Cagamas has been rather operating as a liquidity facility rather than a securitization conduit. Key regulatory and stamp duty privileges were granted to its refinanced loans and issued bonds, in order to reflect the low risk nature of its activities, and to compensate for quotas of social housing loans set upon all credit institutions. The privileges related to its bonds were removed in 2004, as Cagamas competes with other issuers.

The environment for its development has been favorable: (i) a well developed bond market infrastructure, (ii) a relatively stable macroeconomy, (iii) an efficient system of property title registration, (iv) a pro-active housing policy which permitted the production of affordable housing, and (v) some well regulated and competing private credit institutions.

Its funding of mortgage markets reached 41% at the peak of the crisis (operating as a private funding buffer in adverse times) to be reduced to 12.6%, as more liquid banks mobilized alternative funding. Its catalyst effect has been decisive on the growth and affordability of mortgage loans, as banks extended longer term loans, with the knowledge that they may always tap Cagamas funding. It has been a major issuer of private bonds (still 14% of all private bond stock as of 2005). The Company has managed well to diversify its financing products according to the evolution of the market needs. In addition to housing loans, it started to purchase conventional and Islamic hire purchase with full recourse in 1998 and 2001 respectively. The structure of the lending industry also changed with a lesser role for specialized lenders. The Company started securitizing in 2004 the housing loans made to civil servant by the Government, whereas private lenders are more reluctant to securitize their best assets which comprise of mortgage loans. A refinancing window has also been operated for Islamic housing debt. Now Cagamas is changing its strategic course by exploring the securitization of non-housing loans, in addition to housing assets.

More work is needed to **accelerate the development of mortgage securitization** (remove all the final legal, regulatory, accounting and tax obstacles). But it is also recommended not to rely exclusively on the development of mortgage backed securities through state sponsored secondary mortgage agencies.

Studies may explore the development of other forms of simple and private mortgage securities, maybe more robust, cost effective and simple to implement, at least during a transition phase before scaling up securitization in a cost effective way.

The two main suggested areas to explore – for a country like Indonesia for example - would be as follows:

- (a) **Liquidity facility** that leaves the credit risk (along with most of the margin) to the primary lenders (Cagamas model until 2004, cf Box 2) before reaching any second securitization phase. Other countries like France, Mexico, Switzerland, Jordan and even the US (Federal Home Loan Banks) have successfully developed such variants.
- (b) **Covered bonds** issued directly by the primary banks as on balance sheet funding instruments; the rating of such bonds would be enhanced by a cover pool mostly made of safe mortgage loans (matching principle), the bond investors benefiting by law of a privilege over bankruptcy. Large lenders may access bond markets at favorable conditions without having to sell their best mortgage loan assets.

Such products have been successfully developed in Western Europe (Denmark, Germany) and Eastern Europe (ex: Czech Republic, Hungary) but also on a large scale in Chile. Their development required some legal and regulatory work to ascertain both the bankruptcy privilege and the matching requirement during the life of the bonds (including eligible mortgage assets, replacing requirements, specific register for the cover assets, adjusted bond disclosure and oversight system, etc.) in unambiguous and protective terms for the investors.

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