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Securitisation in Asia and the Pacific: implications for liquidity and credit risks[1]

A surge in structured finance in Asia and the Pacific has been driven by the securitisation of consumer loans and mortgages, a largely liquidity transforming activity. The securitisation of corporate debt in the region has so far seen relatively few deals but has a largely untapped potential to enhance the allocation of credit risks.

JEL classification: G150, G180, G210 and O160.

In recent years, financial markets in Asia and the Pacific have seen significant growth in the securitisation of domestic assets.[2] This growth has been based largely on the repackaging of residential mortgages and consumer finance assets rather than of corporate debt. In the countries hit by the 1997 Asian crisis, the new laws and regulations that allowed securitisation were in some cases spurred by a need to deal with the flood of non-performing loans that flowed from the crisis. While a few transactions based on corporate debt were undertaken for this purpose, the recovery from the crisis was accompanied by a rise of households as the dominant class of borrowers. Hence, the great bulk of securitisation deals in the region have been based on household debt.

In general, there are two main advantages to securitisation. First, it can turn ordinarily illiquid assets into reasonably liquid instruments. Second, it can create instruments of high credit quality out of debt of low credit quality. Since securitisation in the Asia-Pacific region has been based largely on residential mortgages and consumer loans, in relative terms it has tended to enhance liquidity rather than reallocate credit risk.

In the next section we explain the basic securitisation techniques. Following this, we provide a brief overview of the growth and composition of securitisation in the Asia-Pacific region. In the third section we consider the

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[2] For the purpose of our discussion we define domestic market securitisation as the creation of local currency denominated securities collateralised by pools of loans that have been originated locally. In most cases this issuance is targeted primarily at investors in the same country where the deal is originated.

implications of securitisation for liquidity and credit risks of mortgages and consumer loans. The fourth section considers the same issues for corporate loans. The final section concludes.

Securitisation techniques

Securitisation involves pooling similar assets together in a separate legal entity or special purpose vehicle (SPV) and redirecting the cash flows from the asset pool to the new securities issued by the SPV. The SPV is a device to ensure that the underlying assets are insulated from the risks of default by the originator of the assets – ie the structure is "bankruptcy remote" and the transfer of assets is a "true sale".[3] In the case of mortgage-backed securities (MBSs), for example, this structure ensures that even if the original lender of the underlying mortgages defaults on its own debt, its creditors will not have recourse to the assets in the SPV. The securities that are issued by the SPV typically differ in a number of respects from the underlying pool of assets, most importantly in terms of liquidity and credit risk. In a given securitisation, they will largely either be more liquid or have less credit risk than the original assets, or in some cases both.

Securitisation transforms assets ...

One class of securitisations is primarily directed towards transforming ordinarily illiquid claims into a more easily tradable liquid "asset-backed security" (ABS). The assets that tend to be securitised in this way are chiefly borrowings by households such as residential mortgages, credit card debt or auto loans. By their nature, these obligations tend to be rather small and highly heterogeneous. Nonetheless, the diversification delivered by the pool means that credit losses will be more predictable. An investor does not need to understand the risks of the individual loans in the pool, only the parameters by which the loans were chosen and their average performance based on historical experience. This economy of required information combined with larger denominations helps make the resulting ABS more liquid. In the case of a "residential mortgage-backed security" (RMBS), a third party may provide credit enhancements to increase credit quality, but in most cases household debt ABSs are about enhancing liquidity rather than transforming credit risk.

... in terms of either liquidity ...

... or credit risk

A second class of securitisations is primarily directed towards transforming low or medium credit quality assets into high credit quality financial assets. This risk transformation is achieved by means of a subordination structure in which certain tranches of securities are created to absorb losses from default. Moreover, the specific structure of tranches may be designed to match investor demands for different levels of credit risk. The resulting security is generically called a "collateralised debt obligation" (CDO). One class of assets that is securitised in this way is corporate bonds which already trade in a secondary market. Thus, when securitised the resulting "collateralised bond obligation" (CBO) may well be less liquid than the assets in the pool. Another type of collateral is bank loans to companies, which are

[3] See Gorton and Souleles (2005) for a discussion of the use of SPVs as a way to lower bankruptcy costs.

typically highly illiquid. When securitised the resulting "collateralised loan obligation" (CLO) is likely to be more liquid than the underlying assets. Nevertheless, both CLOs and CBOs result in senior tranches of securities that are of higher credit quality than those in the pool. This implies that CDOs tend to be about transforming credit risk rather than enhancing liquidity.

Growth of securitisation in Asia and the Pacific

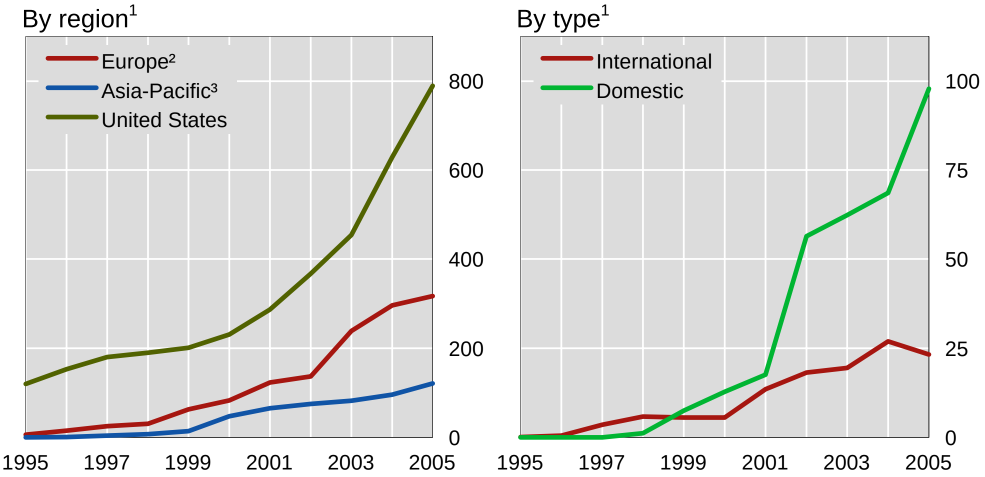
High growth in Asian markets

Recent years have seen remarkable growth in securitisation around the world. While ABS issuance in Asia and the Pacific has not been as strong as in Europe or the United States, the region has contributed significantly to global growth (Graph 1, left-hand panel). At first, Asian assets were securitised largely to be sold abroad. Since 1999, however, securitisation in the region has been predominantly domestic rather than international, with assets increasingly being securitised to be sold in the country of origination (Graph 1, right-hand panel).

Issuance of ABSs in the region has been dominated by Japan, Australia and Korea, which account for around two thirds of overall issuance (Graph 2 and Graph 3, left-hand panel).[4] In addition, Hong Kong, Malaysia, the Philippines, Singapore, Taiwan (China)[5] and Thailand also provide a steady flow of assets for securitisation. By contrast, the ABS markets of China and Indonesia are still in the early stages of development.

ABS issuance by region

In billions of US dollars



[1] Data for 2005 are for first three quarters only. [2] EU members. [3] Australia, China, Hong Kong SAR, India, Japan, Korea, Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand.

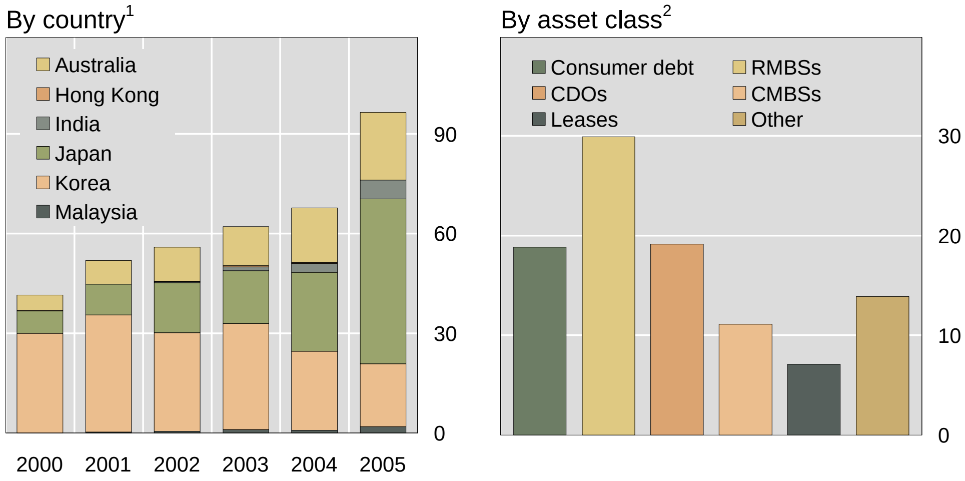
Sources: Dealogic; Fitch; HSBC; Moody's; Standard & Poor's; Thomson Financial Securities Data; national rating agencies.

Graph 1

[4] Overall issuance includes both domestic and international issues. International issuance is defined as securitisation of local assets into securities denominated in foreign currencies, in most cases targeting foreign investors.

[5] Hereinafter Taiwan.

Domestic issuance of ABSs in Asia-Pacific



[1] In billions of US dollars. [2] Annual average 2000–05, in per cent.

Sources: Dealogic; Fitch; JPMorgan Chase; Moody's; Standard & Poor's; Thomson Financial Securities Data; national rating agencies. Graph 2

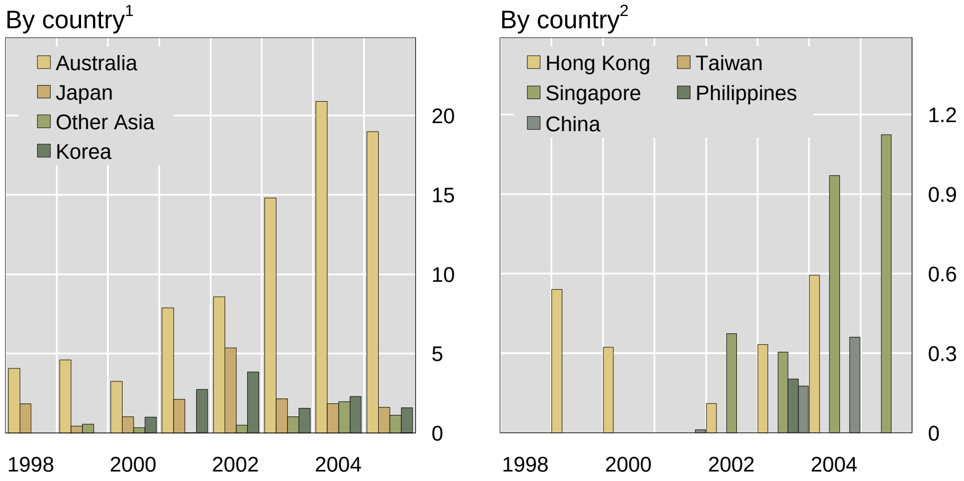
It began with NPLs after the Asian crisis ...

An important impetus behind the growth of domestic securitisation in the region was the 1997 Asian crisis. Such securitisation required new laws and regulations that would allow the creation of the appropriate SPVs.[6] The crisis gave rise to large amounts of non-performing loans (NPLs), and authorities saw securitisation as a way to dispose of these loans. By this time, Australia, Hong Kong, Japan and New Zealand already had the necessary regulatory and legal frameworks in place, but the countries hit by the crisis did not. Hence, Korea, Malaysia, the Philippines and Thailand introduced some new elements of their securitisation frameworks in the wake of the crisis (Deacon (2004)). Other countries did so later, including Taiwan in 2001 and India in 2002. Similar to the pattern seen in other Asian economies, the Chinese authorities published regulations in late 2005 to enable asset securitisation companies to take over non-performing assets from banks and public financial institutions (Zhang (2005); see box).

Reflecting the way some of the markets began, it is not surprising that the pattern of growth in Asia has been somewhat different from that seen in the United States and Europe. In the latter two cases, securitisation started with residential mortgages and consumer debt. By contrast, in some Asian markets residential mortgages and credit card receivables were deployed for ABSs only in a second stage. To be sure, the growth of the underlying markets for residential mortgages and other household debt in the region over time led to a dominance of ABSs based on such debt (Graph 2, right-hand panel). Nonetheless, the initial securitisation of NPLs seems to have lent some impetus to the development of significant markets for CDOs, commercial mortgage-backed securities (CMBSs) and securitised leases.

[6] Although new legislation may not be necessary to allow SPVs in common law countries, new regulations often are.

International issuance of ABSs in Asia-Pacific



[1] In billions of US dollars. [2] In millions of US dollars.

Sources: Dealogic; Fitch; HSBC; Moody's; Standard & Poor's; Thomson Financial Securities Data; national rating agencies. Graph 3

Securitising mortgages and consumer debt

Growth mainly in MBSs …

… and consumer debt

The relative strength of MBSs and securitised consumer debt in Asia and the Pacific has varied across markets and over time. MBSs have played a prominent role in the Australian market as well as in Hong Kong, Japan, Korea and Malaysia, where new laws and government-sponsored agencies have been established to promote the development of the corresponding segments.[7] The RMBS segment is quite prominent in Australia, where it currently represents 70% of all securitisation.[8] As for consumer debt, credit card securitisation led the way in Korea until late 2003 and more recently in Thailand, while broader pools of retail consumer loans have been a visible part of the emerging Indian ABS market. In India, rapid securitisation growth has been based on consumer loans reflecting investors' familiarity with the underlying assets and the relatively short tenor of securitised issues.[9] Up to now, MBS issuance in India has been hampered by the relatively long maturities and poor secondary market liquidity, as well as investors' low appetite for and poor understanding of prepayment risks.

[7] More generally, there has been growth in property-related and mortgage-related securities across the region. Additional examples include large real estate investment trusts (REITs) and CMBS deals in Hong Kong and Singapore.

[8] See RBA (2004) and Battelino and Chambers (2006) for discussions of factors that have contributed to the growth of the RMBS sector in Australia.

[9] See ICRA (2005) and Sharma and Sinha (2006). The consumer loans used for securitisation include auto loans, student loans, credit cards and unsecured personal loans.

Securitisation in China: promising first steps[①]

Guonan Ma

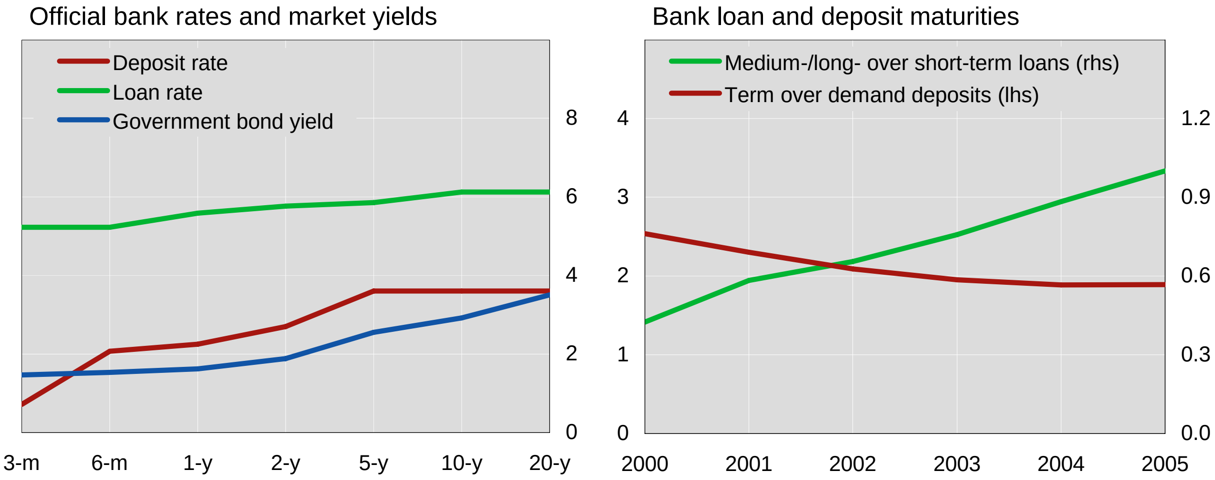
After a decade of debates, experiments and half measures, genuine securitisation transactions finally made their debut in China last year, paving the way for a potentially big expansion in the years ahead. In 2005, the Chinese government accelerated policy initiatives to set up the regulatory framework for securitisation, and domestic ABS issuance went from practically zero to more than $2 billion (CNY 17 billion). Going forward, the pace of Chinese ABS market development will depend on the interaction of a number of major factors influencing Chinese financial markets.

From the mid-1990s to the early 2000s, there had been only a few China-related ABS deals, most of which were either cross-border or offshore issues. It was only in 2003–04 that two landmark domestic NPL securitisation deals established the precedent of an onshore bankruptcy-remote SPV and the first ever domestic true sale in China without guarantee of the originator.

Since early 2005, government policies and market forces have worked together to accelerate the development of the domestic ABS market. First, the Chinese leadership has intervened to coordinate the efforts of 10 regulators and government agencies, in a push to improve the fragmented regulatory framework governing credit markets. The most important effort has been the joint administrative decree in April 2005 by the People's Bank of China and the China Banking Regulatory Commission on pilot schemes of credit asset securitisation originated by financial institutions. In the absence of other matching laws, this decree sets out a relatively complete framework for the securitisation process. Second, for most of 2005, secondary market bond yields fell below official bank lending and deposit rates in China (see graph), prompting more non-financial borrowers to directly tap the credit securities market, in some cases through securitisation.

As a result, the scale of ABS issuance in only a few months of 2005 exceeded that of the previous 10 years. Combined, two pilot bank issues, one MBS and one CLO, raised nearly $1 billion. Such securities are now trading in China's interbank bond market. Two other issues by non-bank corporate originators raised more than $1 billion, though a bank guarantee was used for credit enhancement. These two non-bank deals took place entirely outside the PBC/CBRC framework mentioned above, with the securities traded on the country's two stock exchanges.

Interest rates and bank asset/liability maturities in China



Sources: People's Bank of China; Bloomberg.

[①] This box draws on Zhang (2005).

While some questions remain about the structures of the above-mentioned deals, they seem to broadly qualify as securitisation transactions and may indeed serve as possible templates for future domestic transactions, paving the way for growth in the nascent Chinese ABS market. They may also contribute to the emergence of a more coherent legal framework needed for ABSs.

Looking forward, the prospects for China's ABS market depend, in part, on the interaction of a number of important forces. One is competitive deregulation among regulators. This can be healthy but can also risk hampering the establishment of a unified regulatory framework for the overall Chinese credit markets. Another factor is the ability of non-financial borrowers to raise funds via various credit instruments. Currently, bank loans still dominate corporate financing in China. But as more prime-rated non-financial corporations can directly tap the credit securities markets, commercial banks will wish to gain more exposure to structured securities. A third factor is differing incentives for securitisation deals across Chinese banks. While the top-tier big four banks enjoy abundant liquidity and fresh capital injections and thus are more willing ABS investors, policy banks and some second-tier banks could face more binding capital constraints and greater duration gaps (see graph) and hence be keener to securitise their credit assets. Fourth, changes in regulation might broaden the size of the investor base. Until very recently, Chinese mutual funds and insurers have not been permitted to invest in ABS products, so that investors have been largely confined to commercial banks and non-financial corporate players. Finally, although mortgage business in China is set to expand in the coming years, legal uncertainties over eviction and foreclosure could hinder the development of MBSs as an asset class.

A number of stylised facts suggest that securitisation of mortgages and consumer debt in the Asia-Pacific region has tended more towards enhancing liquidity than towards credit risk transformation. First, the most striking feature of mortgage securitisation is large-scale diversification, eg selected Korean and Malaysian mortgage securitisations have relied on pools of more than 100,000 loans and 60,000 individual loans, respectively (Table 1). Second, in most cases securitised bonds based on consumer debt in the region do not have significant subordination, ie there is virtually no use of tranches with different credit risk profiles. Third, even though governments in the region are trying to promote MBS markets by providing credit enhancements, in many countries credit enhancement agencies are only expected to hold capital in the 2–3% range against these guarantees. This implies that the role of these enhancements in upgrading the credit quality of the structured securities has been limited.

Structure of selected Asian MBS deals

	Korea[1]	Malaysia[2]	Hong Kong[3]
Total	KRW 500 billion	MYR 1.55 billion	HKD 2 billion
Number of loans	103,819	61,743[4]	2,316
Average loan size	KRW 4.8 million	MYR 25,361	HKD 480,072
Senior tranches (%)	95.8	100	100
Issuer	Korean Housing Finance Corporation	Cagamas MBS Berhad	The Hong Kong Mortgage Corporation Limited
Government-sponsored	Yes	Yes	Yes
Underlying assets	Residential mortgages	Gov staff housing loans	Residential mortgages
Rating agencies	Domestic	Domestic	International

[1] MBS 2000–2 Trust. [2] Cagamas MBS 2004–1. [3] Bauhinia MBS Limited Series 2004–2. [4] As of 31 May 2005.

Source: Issuers cited. Table 1

Securitising corporate debt

Quality gap

Securitisation provides an alternative way of addressing a fundamental limitation of the corporate bond market in Asia, namely the gap between the credit quality of the bonds that investors in the region would like to hold and the actual credit quality of potential borrowers. In the recent past, Asian authorities have tried to bridge this gap by promoting credit enhancement facilities. The experience with these facilities, however, has not been entirely successful.

The problems of credit enhancement facilities in Asia

Credit enhancement facilities in Asia

In Asia, local and regional credit guarantee facilities have provided various forms of credit enhancements. The creation of these facilities was motivated by a desire to compete with foreign monoline insurers in the provision of guarantees on Asian credits. In 1995, the Asian Development Bank (ADB) along with a number of other institutions established the first multilateral guarantee agency in the region, the Asian Securitisation and Infrastructure Assurance (ASIA). The 1997 Asian financial crisis, however, led to heavy losses on ASIA's Indonesian and Korean exposures, and in January 1998 a downgrade of the agency to below investment grade effectively led to its closure (Oh and Park (2003)).

Another example of credit enhancement facilities that ran into trouble comes from Korea. Before 1997, it was mandatory for Korean bond issuers to obtain bond guarantees. The crisis in 1997, however, led to the failure of two major guarantee providers, the Korea Guarantee Insurance Company and Hankook Fidelity and Surety Company. Since then, the Korean market has been moving slowly towards a structure in which guaranteed bonds no longer dominate issuance, the government focuses more on prudential oversight and private sector investors actively trade credit risk.

Structured finance as a way to bridge the quality gap

Governments in the region are beginning to consider the securitisation of corporate debt as an alternative means of matching investor demand for high-grade securities with the lower credit quality of most borrowers. Securitisation that uses lower-rated corporate paper as collateral can be structured to provide largely AAA-rated note tranches for investors. Clearly, such structures only work if there are also investors who are willing to hold the subordinated tranches, including the equity tranche which absorbs the first losses. In Asia, first-loss tranches tend either to receive government support or be held by the sponsoring bank or by a foreign bond insurance company.[10]

An SME securitisation

An interesting illustration is a recent Singaporean securitisation called SME CreditAssist, a pilot transaction initiated by a Singaporean government agency with the express goal of giving small and medium-sized enterprises (SMEs) better access to funds. While bond markets have remained relatively

[10] This structure is consistent with all issuers facing a moral hazard problem. That is, issuers will tend to hold some or all of the first-loss risk (equity tranche) or pay for credit enhancements to overcome a moral hazard barrier. See DeMarzo and Duffie (1999).

inaccessible to younger and smaller SMEs, loans to these enterprises are often perceived as too risky for banks. The conceptual breakthrough of the Singaporean scheme was to originate new loans according to a set of predetermined guidelines with eventual securitisation in mind. More than 400 such SME loans totalling SGD 102 million were pooled, and in April 2006 a set of structured floating rate notes backed by this pool were rated by international rating agencies and sold publicly. More than 80% of the structure was investment grade debt; the remaining equity tranche was in the form of subordinated notes.[11] Parts of the equity tranche were held by the Singaporean government, which implies that the deal did rely on a degree of government sponsorship. Thus, it remains to be seen how viable securitisations of SME loans will be without such government involvement going forward.

The degree of credit risk transformation

Securitisations transfer credit risk

Discussions with rating agencies and market participants suggest that a higher degree of credit risk transformation – which can be achieved through over-collateralisation, tranche subordination and credit enhancements – may be required in many instances in Asia. Due to a limited availability of corporate debt collateral, Asian CDOs often need to be backed by lower-quality and less diversified collateral pools than those in the US and European markets.[12] An additional element for some Asian countries, particularly in NPL securitisations, is that there is more uncertainty about what happens in the event of default. Therefore, for such securitisations an even higher degree of credit risk transformation is frequently needed given the low quality of the underlying assets.

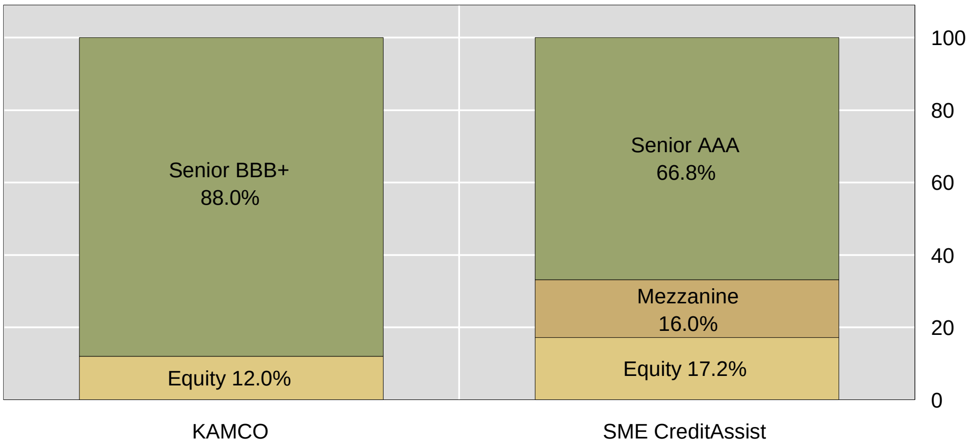
SME and NPL securitisations

The extent of credit risk transformation for securitisations of corporate debt in Asia can be gauged in part by looking at the subordination structure of individual deals. For the SME CreditAssist deal, the equity tranche was 17%, suggesting a rather low degree of diversification in the underlying assets compared to RMBSs (Graph 4). For the NPL securitisation deals of Kamco, the leading Korean asset management company, the equity tranches have ranged from around 10% to almost 30% (Fung et al (2004)). Despite significant participation by the government-sponsored Korea Development Bank, Kamco holds all or most of the equity tranche for most of these NPL securitisations, suggesting a high degree of residual risk in this first-loss tranche (Schmidt (2004)).

[11] The structure included 67% AAA-rated, 7% AA-rated, 6% A-rated and 3% BBB-rated notes, and an equity tranche of 17% subordinated notes. The notes were priced in the range of 50 (AAA) to 190 (BBB) basis points over the Singaporean swap offer rate. Based on conversations with DBS Bank of Singapore as well as Lu and Redimerio (2006) and Chang and Hardee (2006).

[12] As discussed in Amato and Remolona (2003), the difficulty in diversifying credit risk may also be an important factor for the pricing and structuring of credit risk in more mature markets.

Subordination structure for Kamco[1] and SME CreditAssist



[1] Korean Asset Management 2000-1 Limited.

Sources: Deutsche Bank; Fitch; Standard & Poor's. Graph 4

Concluding thoughts

Completing markets

The increased use of securitisation is helping complete Asia's financial markets through the creation of entirely new securities desired by investors. We have argued in particular that securitisation allows markets to enhance assets in two ways. First, it allows the transformation of otherwise illiquid assets, such as mortgages and consumer loans, into more liquid instruments. Second, it allows markets to overcome a mismatch between assets with high credit risk that are available and investors' preferences for assets with low credit risk. Going forward, more mature and therefore more active and transparent markets for ABSs are likely to encourage price consistency in credit markets by linking the pricing of diversified portfolios to the pricing of the underlying credits. The use of securitisation may also provide possibilities for risk sharing and transfers between loan originators, such as banks.

Policy issues

At the same time, there are policy questions linked to the growing use of securitisation techniques in the region. One such issue is the longer-term implications of relying on direct or indirect government guarantees in developing domestic MBS markets. The presence of government guarantees may distort competition and result in undesirable concentrations of risk held by government housing agencies. A similar possible policy issue concerns the potential implications of a reliance on assessments by domestic credit rating agencies in the structured finance markets that obviates the perceived need to develop better accounting standards and disclosure rules. A further challenge in some markets is the limited access to good historical data for household finance products. While several countries have successfully focused on setting up or enhancing existing credit information depositories, in the case of mortgages there is still only limited availability of data on non-payment and prepayment. Finally, as more complex financial instruments are introduced into the region, the demands on the institutions responsible for market oversight and prudential regulation are bound to increase.

Undue reliance on ratings

Data availability a challenge

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