OECD Journal: Financial Market Trends
Volume 2011 – Issue 1
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# Outlook for the Securitisation Market

*by*

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*Securitisation issuance has slumped in recent years, with the market having become increasingly dependent on central bank and government support in both Europe and the United States. Despite facing a number of threats that could inhibit a recovery in the shorter term, the securitisation market is expected to recover over a longer term horizon. Funding costs have improved, but investor confidence in the asset class remains weak, and the impact of regulatory reform is as yet difficult to fully assess.*

*A long-term sustainable recovery for the securitisation market remains in the hands of regulators and policy makers. They must be awake to the possibility that a recovery in securitisation markets could be a prerequisite to unlocking credit markets in general and supporting a wider global economic recovery.*

*JEL Classification: A1, E6, F3, G1, G2, G3.*

*Keywords: Securitisation, Mortgage-backed securities, Bond Market, Financial Markets.*

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## I. Introduction to structured-finance securitisation[1]

*The US subprime securitisation market was a catalyst for the global credit crisis*

The US "subprime-cum-securitisation" crisis was a key catalyst for the global liquidity crisis that mutated into a full-blown credit crisis, bringing the international financial system to the edge of the abyss[2]. In hindsight, the numerous structural shortcomings of the structured- finance securitisation market - particularly in the US - may have seemed obvious. The misalignment of incentives was evident in every link along the structured-finance securitisation chain. Proper risk evaluation was not always undertaken by professional investors and intermediaries, while too much faith was put in credit rating agencies whose own methodologies for valuing complex structured finance products were at times flawed. In addition, other gatekeepers of the public trust including auditors, securities lawyers, regulators and supervisors failed, to varying degrees.

*Securitisation provides benefits to both issuers and investors*

Securitisation has traditionally offered banks with a key source of long-term funding, and thereby allowed for improved balance sheet management. It has been credited with increasing the availability of credit, while decreasing its cost. Investors also benefit from securitisation by gaining direct risk exposure to diversified sectors of the economy. More generally, the key benefit of structured finance securitisation was said to be the ability to disperse and redistribute credit risk to a broader and more diverse investor base.

*Yet risk concentration increased; and the market became illiquid at the first signs of financial stress*

Ironically, risk concentration turned out to have risen sharply, and was a key contributor to the widespread banking sector losses witnessed during the global financial crisis. In the run-up to the financial crisis, banks were allowed to significantly leverage up their balance sheets with limited disclosure, concentrating both their investment and funding needs in an asset class that proved to be illiquid at the first signs of financial stress. Financial stability was also weakened because securitisation led in several instances to a lowering of banking standards[3]. A number of new structured products became overly complex and opaque, while risks were seriously underpriced[4]. The considerable size of the securitisation markets made them an important factor in the global "liquidity-cum-credit crisis".

*The European securitisation market did not suffer to the same extent as the US*

However, it is important to note that not all structured-finance securitisation was as unsound as was the case in the US subprime mortgage sector[5], which by itself represented less than 10% of all US securitised mortgages. Securitisation acted primarily as a legitimate funding tool in Europe, as opposed to securitisation being an "*end in itself"* for capital arbitrage reasons as was often the case in the US. Moreover, there was much less disengagement by European underwriters (and hence, more "skin in the game") than by their US colleagues, and regulation and underwriting standards were seen to be significantly more robust in Europe. It was never really a credit story for the European

securitisation market, but one of investors taking mark-to-market losses as securitisation markets became illiquid and prices fell. A survey conducted by Bishopsfield Capital Partners in June 2010 revealed that 73% of investors believed losses were attributed to market re-pricing rather than actual credit impairments.[6] In addition, 65% of respondents agreed that "securitisation as a general investment type had truly been damaged by the credit crisis." There's no doubt that the securitisation asset class in general was tarnished by the fallout from the US subprime crisis.

***Structured-finance default rates were considerably lower in Europe***

However, in *Europe* this under-pricing mainly reflected liquidity risks, while credit risk was often properly priced. For the most part, collateral performance has remained strong in the past few years. Indeed, the resilience of the European structured-finance market can be evidenced in the post-crisis default data compiled by rating agencies such as Standard & Poor's. From mid-2007 to the end of 2010, only 0.95% of all European structured-finance issues defaulted, compared to 7.7% of US structured-finance issues, and 6.3% among the universe of global corporate bonds (Table 1).

**Table 1. European structured-finance default rates (mid-2007 to Q4 2010)***

| ABS | Structured Credit | CMBS | RMBS | **All European** | | **All US structured finance*** | | **All Corporate**** |
|---|---|---|---|---|---|---|---|---|
| 0.16% | 2.86% | 2.74% | 0.07% | **0.95%** | | **7.71%** | | **6.34%** |

*by initial issuance volume ** by number of ratings

*Source:* Standard & Poor's.

***The securitisation market is expected to recover in the longer term***

In the wake of the crisis, structured-finance securitisation issuance has dropped sharply. Key segments of the market continue to rely on government-backed liquidity and asset purchase programs. Yet despite the aforementioned structural shortcomings, it seems likely that in the long run, structured-finance securitisation will once again become an important channel for debt markets; in the shorter term, securitisation may even rebound to support the global economic recovery, provided certain important pre-conditions are in place.

***But faces a number of threats in the short term***

This article identifies key threats to these pre-conditions, which in turn could inhibit or delay a recovery in structured-finance securitisation markets.[7] To that end, the article will assess the recovery of securitisation from the perspective of funding costs, regulatory reform, and investor demand. At the same time, however, it is likely that the structure of securitisation products may differ from those in the past. For example, products may be simpler in structure, offering more transparency and a

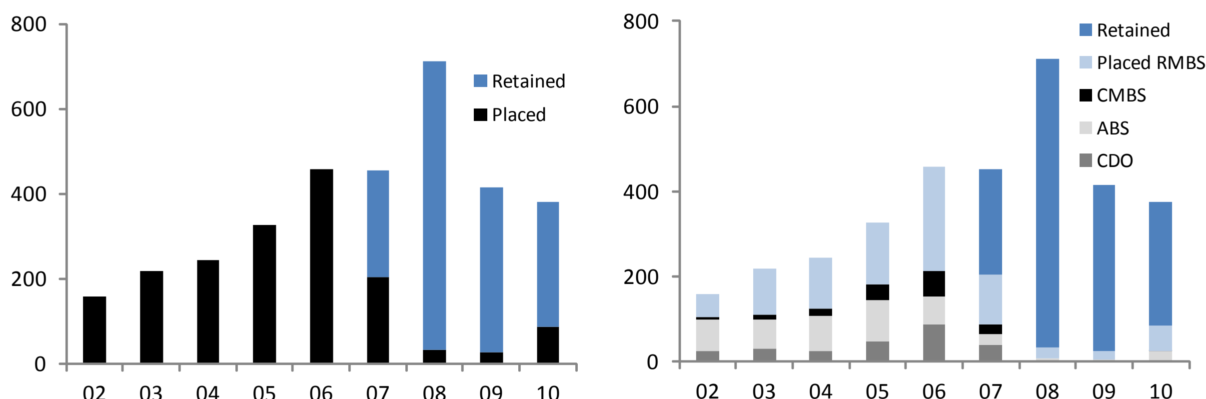
higher quality of collateral than before the credit crisis[8]. As such, this article will assess investor demand in the context of tested single-layer structures, improved disclosure, and heightened regulation.

## II. Securitisation issuance levels

*Issuance levels slumped following the global financial crisis*

Prior to the global financial crisis, benign economic and financial conditions fuelled an explosion in global securitisation issuance, peaking at around USD4 trillion in 2006. Following the crisis, issuance of private-label securitisation slumped. Although there have been some signs of a re-emergence in European issuance in 2010, key segments of the securitisation market continue to rely on support from the ECB's liquidity program, and is aptly named "retained[9]" issuance (Figure 1).

**Figure 1. European securitisation issuance 2002-2010, EUR bn**




*Source:* AFME (Association for Financial Markets in Europe).

*Placed issuance is beginning to slowly recover in Europe*

European "placed" issuance totalled EUR88 billion in 2010, made up largely of UK and Dutch prime RMBS (residential mortgage-backed securities). While this figure was a marked improvement on the EUR25 billion of placed issuance recorded in 2009, it fell significantly short of the EUR460 billion of placed issuance seen at the height of the market in 2006. Perhaps the best indication of a recovery taking shape in Europe is the increase in "placed issuance as a proportion of total issuance", from 6% in 2009 to 23% in 2010. Looking at the issuance "retained" by financial institutions, a majority continues to be backed by RMBS, although 2010 has also seen a surge in WBS (whole business securitisation) loans in the UK, and SME (small and medium-sized enterprise) loans in Spain.

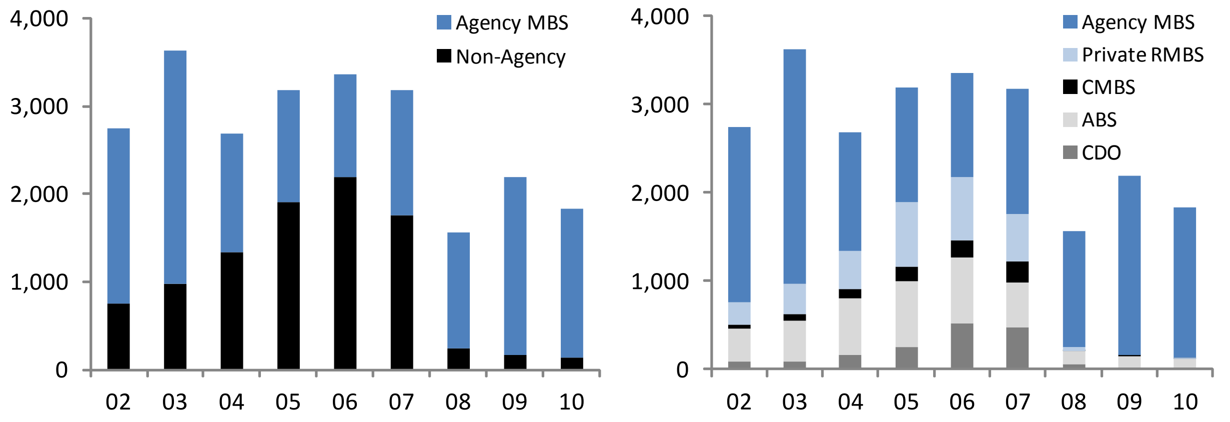
*US securitisation remains dependent on the*

At the peak of the market in 2006, issuance of structured finance securitisation in the United States was almost four times that of Europe issuance[10] (Figure 2). In the US, the federal mortgage agencies (including

*federal mortgage agencies*

Freddie Mac, Fannie Mae and Ginnie Mae) are currently funding more than 90% of US mortgages, and as a result are crowding out any near-term recovery in private-label issuance.

**Figure 2. American securitisation issuance 2002-2010, USD bn**




*Source:* SIFMA (Securities Industry and Financial Markets Association).

*US non-agency issuance has yet to show signs of recovery from the slump in 2008*

Indeed, US non-agency issuance fell from USD2.2 trillion in 2006 to a mere USD129 billion in 2010. This 2010 non-agency issuance figure was largely confined to the relatively vanilla segment of ABS (asset-backed securities, excluding mortgages) - in most part made up of auto loans and student loans. In 2010, issuance of collateralised debt obligations (CDOs) and home equity loans (HEL) in the US were almost negligible compared to the peaks reached in 2006.

## III. Securitisation market outstanding

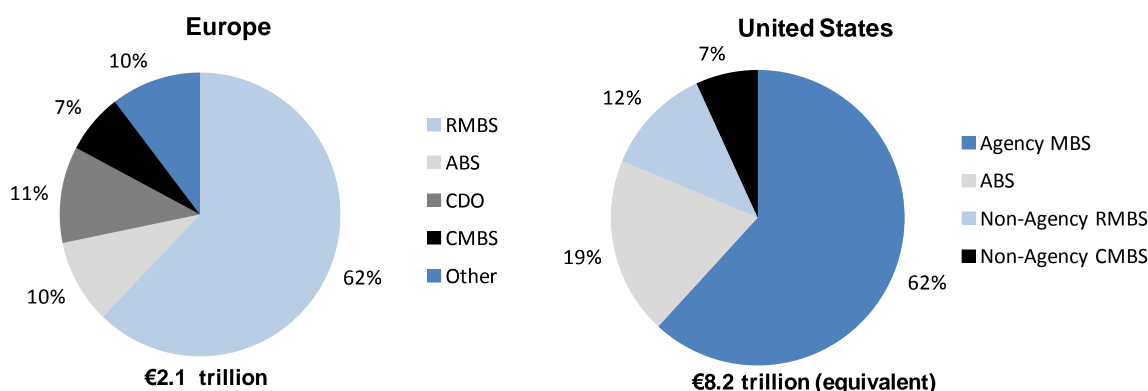
*Over half of European securitisation is retained by banks (vs. almost zero at the start of 2008)*

By the end of the March 2011, more than half (51.7%) of the €2.1 trillion in outstanding European securitisation was estimated to have been "retained" by originating banks[11]. The growing share of retained issuance (from almost zero at the beginning of 2008) is both a stark reminder of the funding difficulties faced by European banks, and also the significant role the ECB is playing as liquidity provider to the European banking system. Total securitisation outstanding in the US market was equivalent to €8.2 trillion (or four times that of European issuance) at the end of 2010.

*Two-thirds of securitisation is comprised of RMBS*

The charts below provide a breakdown of total securitisation outstanding in both Europe and the US at the end of 2010 (Figure 3). Around two-thirds of the European market was comprised of relatively-vanilla RMBS securities, while around two-thirds of the US securitisation market was based on MBS products issued by the US federal mortgage agencies.

**Figure 3. European and US structured-finance outstanding (Dec. 2010)**




*Source:* SIFMA (Securities Industry and Financial Markets Association) and AFME (Association for Financial Markets in Europe).

## IV. Securitisation as a source of funding

***Securitisation funding costs are beginning to improve***

The volume of structured-finance securitisation issuance remains at low levels, with net issuance projected to again be negative in 2011[12]. Prior to the crisis in 2008, European issuance was to an important degree driven by funding needs, while capital relief was an additional driver of issuance in the US. Securitisation is less likely to offer banks capital relief advantages in the future, as regulators increasingly require on-balance sheet consolidation[13] of securitised products. Securitisation has therefore become just one of a handful of funding options. On a more positive note, the funding costs related to securitisation have returned to more competitive levels following the dramatic widening in spreads witnessed during the global credit crisis. The ECB's liquidity programme[14] has been an important driver of gross issuance in recent years given the eligibility of securitisation products (such as MBS and ABS), as has the repackaging of existing downgraded structures.

***In Europe, spreads are on a par with unsecured bank debt, but significantly wider than spreads on covered bonds***

If we compare the funding costs of alternative financial securities at the end of 2010, we find that the spreads on European prime RMBS were at similar levels to those of senior unsecured bank debt. Prime RMBS spreads in the two key European markets (UK and the Netherlands) had narrowed to around 150 basis points above euribor by the end of 2010[15] , from peaks of more than 350 basis points in 2008. In comparison, lower-rated senior unsecured bank debt could be issued at similar spreads relative to the swap curve[16], while covered bonds could be issued at significantly lower spreads (around 25-50 basis points above the swap curve in the case of German Pfandbriefe). Covered bond issuance has surged in the past year since the asset class benefits from lower funding

costs and relatively preferential regulatory treatment.[17]

*Spreads are also improving in the US, but agencies continue to crowd out private-label issuance*

In the United States, the federal mortgage agencies now fund more than nine out of ten new mortgages, largely crowding out private origination. By May 2011, only two private-label RMBS deals had been launched since the onset of the financial crisis, the most recent transaction at a relatively tight 50 basis points above government-guaranteed agency levels[18]. While funding costs are returning to more favourable levels for issuers, investor demand remains timid and secondary market activity relatively illiquid.

*Other factors are more likely to be inhibiting the recovery*

While spreads have narrowed and securitisation has become more attractive as a diversified source of bank funding, a number of other factors are likely to inhibit a complete recovery in the near term. Key segments of the market continue to rely on government-backed programs, which have the effect of crowding-out private-label issuance; the full impact of regulatory reform efforts remains unclear; and investor confidence remains shaken. The costs and reputational risks associated with wide-ranging regulatory reform could inhibit a recovery in securitisation, prompting investors to demand higher premiums from the asset class in the future.

## V. Investor demand remains weak

*Investor confidence in securitisation has yet to recover*

Investors were badly burnt by securitised assets during the global credit crisis, and the reputation of the entire asset class was tarnished. Capital flight and illiquidity infected the wider market for collateralised products. Investors are now burdened with more uncertainty regarding regulatory changes and increased due diligence requirements. In the current economic climate, investors have again become risk-averse, and continue to be burdened by legacy structured product that remains on their balance sheets.

*The banking sector was the key pre-crisis investor , but remains under pressure from regulatory change*

Banks have traditionally been the key investor in securitisation markets but are now facing the need to rebuild capital, reduce leverage, and change the mix of assets they have available to meet regulatory liquidity demands. It has been estimated by some market participants that around half of the pre-crisis investor base had disappeared, including bank-sponsored SIV, CDO and ABCP conduits that were responsible for fuelling demand for securitised products at the height of the boom. It also remains uncertain as to which part of the investor community will be capable of filling this void. A full recovery in the demand for securitised products is unlikely if securitisation remains excluded from the list of eligible assets under the Basel III capital and liquidity regulations. Tougher capital requirements contained within Solvency II are also likely to dampen demand for securitised product from insurance companies (see

Section VI of this article for further information on key regulatory changes).

***Investor demand for simpler structures with high-quality collateral is returning***

Investors are also demanding stricter credit terms, improved disclosure, simpler structures, and a reputable originator. These stricter credit terms[19] include prime-only loans with low collateral risk, and clean pools that start out with zero impairment. Yields need to be attractive enough to compensate investors for the limited liquidity available in the secondary market, while heightened sovereign risk has also affected issuance levels in a number of countries. Demand for securitisation could diminish until 2013; some European investors perceive senior bank debt to be carrying an implicit government guarantee until 2013, in light of developments in Ireland.

***Investors are widening their search for yield-enhancing assets***

Nonetheless, demand for highly rated European securitisation is slowly recovering as narrowing corporate bond spreads and returning risk appetite encourage investors to reassess these higher-yielding assets. In 2010, demand was strongest for prime RMBS in the UK and the Netherlands, auto loans in Germany, and credit card receivables in general[20]. Anecdotally, there have been signs that private investor demand is also returning to the market from hedge funds and commercial banks, as they cast their nets wider in search of higher returns. However, hedge fund demand is notoriously volatile, and following a two-year rally in prices, the hedge fund sector cannot be relied upon to provide long-term support to the market.

## VI. Are regulatory reform efforts likely to inhibit a recovery in securitisation?

***The impact of regulatory reform efforts is as yet difficult to assess, although likely to delay the recovery***

Significant regulatory reform efforts are now underway in both Europe and the United States to address the shortcomings of the securitisation market and the wider banking industry. The consensus continues to be that it remains difficult to assess the cumulative effects on the securitisation market. While new regulations are necessary and may make sense on an individual basis, there remains a possibility that the full cumulative impact of regulatory reform (including non-intended and/or interacting consequences) could be unexpectedly high. This uncertainty could preclude or delay some investors from returning to the market in the short term. However, in the medium term, it seems likely that regulatory efforts are likely to bolster investor confidence by helping to realign incentives, improve disclosure requirements, and increase product transparency through the standardisation of data, representations and warranties. The following are a number of key regulatory changes.

### *Risk retention rules*

***Risk-retention rules are likely to increase "skin in the game" for issuers, and marginally raise costs***

The introduction of "risk retention rules" will force issuers to retain an ownership interest of at least 5% in the assets they securitise, thereby addressing a key shortcoming of securitisation by increasing "skin in the game." In *Europe***,** risk retention requirements came into effect in January 2011 under Article 122a of the Capital Requirements Directive (CRD II), and require issuers to retain a material net economic interest of not less than 5% on an ongoing basis. The Article also requires originators and crucially investors to undertake heightened due diligence [21], risk management and disclosure practices on an on-going basis or face punitive penalties. In the *United States*, the 5% retention rule is to be applied as part of the July 2010 Dodd-Frank framework[22]. Retention rules are likely to lead to higher administrative and capital costs for originations and increase the due diligence burden of both issuers and investors.

### *Impact of Basel III liquidity requirements*

***Under Basel III, bank liquidity ratios are likely to exclude securitisation***

Proposed Basel III liquidity requirements are likely to limit future demand for securitised products by the banking sector, which has traditionally been the largest investor in the asset class. In its present form, Basel III banking regulations propose that Asset Backed Securities (ABS) be excluded from the list of securities eligible for meeting the proposed Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) [23]**.** In this context, ABS comprise all collateralised securities, including mortgage-backed issues. In contrast, covered bonds and highly rated corporate bonds attract a more favourable risk weighting[24]. With banks thought to comprise more than one-third of the securitisation investor base, Basel III reforms are likely to lead to a reallocation in investor demand away from structured-finance securitisation and toward covered bonds. While the liquidity ratio requirements are not slated for implementation until 2015, it is possible that they could be incorporated into the upcoming EU Capital Requirements Directive (CRD IV) to support bank stress-testing as early as 2012. Stricter capital requirements for insurance companies contained in Solvency II [25] are also likely to temper investor demand for securitisation.

### *Credit Rating Agency Reform* [26]

***Credit rating agencies are also being targeted by regulators***

Credit Rating Agencies (CRAs) also played a contributing role in the lead up to the credit crisis, with faulty ratings and flawed assumptions leading to significant losses for the holders of securitised products. As a result, rating agencies are now facing a raft of regulatory changes aimed at remedying the shortcomings pertaining to limited oversight, inherent

conflicts of interest, and inadequacies of the "originate-and-distribute" model. Regulatory efforts are targeting improvement in transparency and disclosure requirements, internal governance structures, supervisory oversight, and registration requirements for the credit rating agencies. Moreover, differential rating scales must now be applied to structured finance products, while regulators in Europe additionally require credit rating agencies to disclose the sensitivity of the assigned credit rating to changes in key credit risk modelling parameters. Increasingly, regulators are also toying with the idea of creating institutions that would act as alternatives to rating agencies. Reforms in the United States already propose that federal agencies remove all statutory references to credit ratings from their rules and regulations (Securities & Exchange Commission and Dodd-Frank legislation, Section 939A)[27], and replace them with appropriate alternative standards.

***Collateral eligibility criteria***

***Central banks are tightening their eligibility criteria for securitisation***

Central banks have begun tightening the collateral criteria for securitised products they deem acceptable in their repo operations. In January 2011, the European Central Bank (ECB) raised the haircut applicable to ABS (asset backed securities, including mortgage-backed securities) from 12% to 16%. In addition, to be eligible for repo from March 2011 on, ABS will need to carry two triple-A ratings at issuance, and a single A rating over the life of the security. By mid-2012, the ECB also plans to implement "loan-level reporting requirements" for ABS it accepts in its repo operations, and the Bank of England is expected to implement a similar "loan level data initiative" by the end of 2011[28]. While these loan-level initiatives are likely to improve disclosure and transparency within the securitisation market, the general tightening in collateral eligibility criteria may further deter banks from investing in securitised products in order to generate liquidity. There have been suggestions by some market analysts that the ECB's implicit funding of the securitisation market could inhibit a full recovery in private-label issuance. Until such a time that liquidity support and government guarantee programs are scaled back, a revival in European and US private-label issuance is likely to be limited.

## VII. Housing finance reform and securitisation in the United States

***Federal mortgage agencies monopolise the market for securitised product in the United States***

The Government Sponsored Enterprises (GSEs) of Fannie Mae and Freddie Mac were placed in government conservatorship in September 2008 during the worst of the global financial crisis. In addition to Ginnie Mae, these three government-guaranteed federal mortgage agencies are now funding 90-95% of new US mortgages. The remainder of mortgages are in large part being retained on bank balance sheets. In response to the

housing market collapse and ensuing financial crisis, the US government raised the maximum GSE conforming-loan limit in high-cost areas from USD 417 000 to USD 729 790 in 2008, which had the effect of crowding out private-label RMBS issuance. This temporary increase in the conforming-loan limit is set to expire in September 2011 and fall back to USD 625 000. A return in the GSE conforming-loan limit to its original pre-crisis level of USD 417 000 might become a pre-requisite for incentivising the return of private sector investors to the securitisation market. To additionally encourage competition from the private sector in the shorter term, policy makers have also proposed raising GSE guarantee fees and gradually increasing the qualified mortgage down-payment target. Indeed, a full recovery in the non-agency securitisation market is likely to materialise only after much-needed mortgage reforms are put in place.

***The US government plans an eventual exit of Fannie Mae and Freddie Mac from the securitisation market***

A February 2011 report on US housing-finance reform[29] proposed a number of strategies that could allow for the eventual exit of the Government Sponsored Enterprises (GSEs) from the housing market. The reform plan proposes that "the government's future primary role would be limited to robust oversight and consumer protection, targeted assistance for low and moderate-income homeowners and renters, and carefully designed support for market stability and crisis response". The housing reform white paper also proposes the winding down of Fannie Mae and Freddie Mac in favour of a fully privatised system, with options for either a government backstop or government reinsurance program to support the market during times of stress. While the outcome of the reform effort remains uncertain, the proposed changes are likely to take years to fully implement, and until such a time, the US housing market will remain heavily reliant on government support.

***The proposal to create a US covered bond market might also help unlock credit***

In the absence of a healthy US securitisation market, the proposal by policy makers to create a US covered bond market could also help unlock credit, encourage private sector capital, and support an eventual market exit by the Government Sponsored Enterprises. A bill supporting the US Covered Bond Act was introduced in the House of Representatives in March 2011. It proposed the creation of a US covered bond market that could fulfil the role of funding a wide array of assets, from mortgages to student loans – the very asset classes that securitisation has traditionally funded in the US. However, a number of significant hurdles are yet to be cleared.

## VIII. Conclusions

***Securitisation markets are expected to***

The US subprime securitisation market played an important contributing role in the recent global financial crisis. Significant

***recover at such a time that the impact of regulatory efforts becomes clearer***

regulatory reform efforts have since been undertaken to improve the disclosure and transparency for this asset class in general, the eventual and cumulative effects of which are yet to be fully assessed. Once pre-conditions for a recovery are in place, investor confidence is expected to return, allowing securitisation to once again become an important channel for both debt markets and the general economy over the medium term.

***In the shorter term, a recovery in issuance may be inhibited***

During this transition period, it is important for market participants and regulators to weigh the costs associated with regulatory changes versus the benefits that securitisation can offer though the redistribution of credit risk. The risk remains that should a recovery in securitisation fail to materialise, banks will be forced to raise capital from other sources in order to meet heavy securitisation redemption schedules over the coming years. The financial sector depends upon a well-functioning securitisation market, one that is built on simple structures and a high level of transparency and disclosure. Creating the appropriate regulatory framework at the current point in time will help ensure sustainability of the securitisation market over the longer term.

***Long-term recovery in the securitisation market remains in the hands of policy makers and regulators***

A sustained recovery in private-label securitisation is unlikely to occur until policy makers have enough confidence in their economies to allow securitisation markets to be weaned off government support. In this context, important steps are being put in place that should allow the banking sector in developed countries to return to a modicum of good health. Improvement in housing market conditions is also important to re-establish confidence among consumers, investors and financial sector participants. In the medium term, the US Administration is planning an eventual exit from the securitisation market by its government-sponsored agencies, in favour of a return by private interests in the housing-related securitisation markets. This process is likely to take a number of years.

## *Notes*

1. Structured finance securitisation refers in this document mostly to private-label securitisation products. Another category of securitisation is linked to the pass-through securities issued by the US federal mortgage agencies (*e.g.* Fannie Mae and Freddie), (IMF, 2009). Covered bonds could also be considered a form of structured finance, but we will treat them as a separate category as they do not involve tranching or SPVs, instead remaining on the balance sheet (see Blommestein *et al.,* 2011).

2. Blommestein (2008a).

3. Altunbas *et al.* (2009).

4. Blommestein (2008b).

5. Even in the US, not all securitisation can be classified as "unsound". For example, securitisation of several prime assets (such as automobile loans) can be considered as "proper" securitisation activity.

6. Nawas and Yeoh (2010).

7. Without putting in place the pre-conditions for "sound" securitisation (that is, the creation of a framework with proper incentives for valuing credit risks), banks will face (ceteris paribus) a structural contraction of their funding sources.

8 Blommestein (2008a).

9. European banks create internally-structured securitisations (typically Residential Mortgage-Backed Securities) that can be used as collateral for liquidity generation via the ECB, in turn freeing up their own balance sheets for further lending.

10. Reflects an average EUR/USD daily exchange rate of 1.26 in 2006, when comparing non-agency issuance in the US to placed issuance in Europe.

11. AFME (2011). Compare this to 7% retained issuance (as % of total issuance) at the end of 2007.

12. Barclays Capital (2011).

13. Recent US FASB accounting changes (SFAS 166/167) will make it more difficult for issuers to use off-balance sheet treatment for securitisations (on-balance-sheet treatment is required when the bank has "control" of the assets). Other recent changes to capital requirements will affect re-securitisations (in Europe), ABCP conduits, and the exposures of bank trading books.

14. The ECB accepts ABS as collateral for its regular repo operations, meaning that institutions with a euro zone banking licence can access ECB liquidity against their ABS holdings. ABS holdings are considered as eligible collateral in ECB monetary policy operations.

15. In December 2010, UK prime RMBS (35% of European RMBS market) had narrowed to +150 basis points and Dutch RMBS to +142 basis points (22% of market). Data from JP Morgan European ABS Outlook: H1 2011.

16. The iBoxx Senior Financials Index was priced at around 140 basis points above the swap curve, Dec. 2010 (Markit).

17. See Blommestein *et al.* (2011).

18. California-based REIT Redwood Trust launched the US$290m the Sequoia Mortgage Trust 2011-1 RMBS transaction in February 2011 (See Reuters' article "IFR-Sequoia details bolsters case for RMBS market revival" dated 1 Mar 2011). In comparison, investor resistance was evident in the US CMBS market in July 2011. Investors forced Goldman Sachs and Citigroup to restructure and improve the credit enhancement on two CMBS issues they were bringing to the market, and improve pricing on the lower-rated tranches.

19. The increase in credit enhancement was in most cases not the result of investor pressures but driven by underlying fundamentals.

20. AFME Securitisation Data Report Q4:2010.

21. Investors are now required to "demonstrate a minimum level of due diligence when investing in structured finance securities". This regulation is designed to reduce investor reliance on credit ratings.

22. The US retention rule excludes both federal mortgage agencies and Qualified Residential Mortgages (QRM) that have a down payment of more than 20% (or a loan-to-value ratio of less than 80%).

23. In addition, Basel III stipulates that securitised products that were previously held in trading books, must now meet the higher capital requirements that apply to the banking book. These changes, in turn, will also result in higher capital requirements for securitisation, on the margin.

24. Covered bonds and corporate bonds rated AA- or higher will be classified as Level 2 liquidity assets in the LCR calculation. Level 2 assets are subject to a 15% haircut and are capped at 40% of total liquid assets. In the NSFR calculation, covered bonds and corporate bonds rated AA or higher are required to finance only 20% of their exposure via stable, long-term sources of funding (compared to 100% for securitisation issues).

25. Solvency II is a EU directive, establishing the framework for risk-based capital assessment of insurers.

26. See Fitch Ratings (2011) for more complete information regarding regulatory changes affecting credit rating agencies.

27. The SEC proposal would see credit rating references removed from the S-3 form (a key document for primary offerings of public securities), applicable to companies that have issued more than $1 billion in debt securities over a three-year period.

28. See Bank of England (2010).

29. The Department of the Treasury and the U.S. Department of Housing and Urban Development (2011).

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*Annex A*
## Securitisation Structures

"Securitised products" can be identified and classified in a number of ways. The following classification of securitisation structures focuses more on the US market but could be equally applicable to Europe and Asia.

### *1. Mortgage-Backed Securities (MBS)*

#### (i) **Pass-through mortgage-backed securities**

Pass-through MBS are the most common and simplest structure in the US market. Mortgages are pooled together by the US federal mortgage agencies or private-label originators, and a pro-rata share of all interest and principal repayments is "passed through" to investors. The pool of mortgages is packaged together and a single security is created. There are three US federal mortgage agencies. The two Government-Sponsored Enterprises (GSEs) are best known as Freddie Mac (Federal Home Loan Mortgage Corporation) and Fannie Mae (Federal National Mortgage Association). The GSEs are chartered by Acts of Congress and were owned by private shareholders prior to the global financial crisis, but are now under government conservatorship, which provides them with an effective government guarantee. The third US federal mortgage agency is Ginnie Mae (Government National Mortgage Association), and is responsible for guaranteeing mortgage-backed securities backed by federally insured or guaranteed loans - in most part from the Federal Housing Administration (FHA) and Department of Veteran Affairs (VA).

#### (ii) **Residential mortgage-backed securities (RMBS)**

RMBS are debt instruments secured by residential mortgages. They differ from pass-through securities in that more than one security is created from the same pool of mortgages. These multiple securities – or tranches of the RMBS structure – have different credit characteristics, and typically provide a trickle down repayment structure to the benefit of investors in the higher-rated securities.

#### (iii) **Commercial mortgage-backed securities (CMBS)**

CMBS are debt instruments secured by commercial property such as offices, shops, factories and warehouses, as well as apartment complexes and hotels. They enable banks to pool and repackage their commercial property loans. Similar to RMBS, a CMBS structure contains a number of tranches or securities.

#### (iv) **Collateralised mortgage obligations (CMO)**

Collateralised mortgage obligations repackage pass-through mortgage-backed securities into a number of different bond tranches with different maturities, better meeting the needs of investors by reducing the prepayment risk that is prevalent within RMBS structures. To compensate for this reduced prepayment risk, CMOs offer lower interest rates than a conventional pass-through security.

### *2. Asset-Backed Securities (ABS)*

In the context of this classification, asset-backed securities are defined as collateralised-bonds backed by assets other than real estate. *(Under an alternative classification structure, the term ABS could be interchangeable with the term "securitisation" which also encompasses mortgage-backed securities).*

Asset-backed securities are collateralised by the cash flows attached to a specific pool of underlying assets that may include loans, leases or receivables, and are typically issued by special purpose vehicles (SPVs). These underlying assets can include:

(i) **Auto loans**: vehicle loans as the underlying collateral.

(ii) **Credit card receivables**: receivables on credit cards as the underlying collateral.

(iii) **Consumer Loans**: personal loans as the underlying collateral.

(iv) **Student Loans**: student loans as the underlying collateral (prevalent in the US).

(v) **Equipment Leases**: leases on business equipment as the underlying collateral.

(vi) **Whole Business Securitisation (WBS) Loans**: can be likened to securitised leveraged buy-outs (LBOs). They are based on the residual cash flows from an operating business, and often involve the pledge of shares. WBS loans are most prominent in the UK market.

(vii) **Home Equity Loans (HEL)**: a loan using the equity in one's home as collateral.

(viii) **SME loans**: collateral is based on loans to small and medium-sized enterprises (and are similar to lease ABS). SME loans can also include mezzanine debt and are most prominent in the Spanish and German markets.

***3. Collateralised Debt Obligations (CDOs)***

Collateralised Debt Obligations (CDOS) are structured asset-backed securities (ABS) that are issued by special purpose vehicles (SPVs), and collateralised by debt obligations (bonds and loans, in addition to other asset-backed securities). They differ from simple ABS products in that the related SPV issues several tranches offering varying degrees of risk and return to meet the needs of investors. These include senior tranches (typically rated AAA), mezzanine tranches (rated BB to AA), and junior or equity tranches (unrated). The trickle-down repayment structure of a CDO implicitly creates leverage for the holders of below-senior tranches, which therefore carry a significantly higher premium. The more common CDO classifications are CLOs and SF CDOs, but can include a number of less-familiar structures:

(i) **Collateralised Loan Obligations (CLO):** backed primarily by leveraged bank loans resulting from the leveraged buyout (LBO) activities of private equity or M&A investment banking interests. CLOs can also include the repackaging of other loans/assets from a bank's balance sheet into a CDO structure.

(ii) **Structured Finance CDO (SF CDO) or ABS CDO:** CDO structures backed by other asset-backed (ABS) and mortgage-backed (MBS) securities. In 2006, it was estimated that more than 50% of all CDOs were categorised as Structured Finance CDOs, and not atypically would contain the lower-rated (mezzanine or BBB) tranches from subprime RMBS structures.

(iii) **Other CDO Structures:** include Collateralised Bond Obligations (CBOs - whose assets can include high-yield or emerging market debt); Commercial Real Estate CDOs (CRE CDOs); or Collateralised Insurance Obligations (CIO CDOs).

(iv) **Derivatives of CDOs:** the more exotic CDO structures include Synthetic CDOs (whose underlying assets are Credit Default Swaps or CDS); and CDO squared (a CDO of CDOs).