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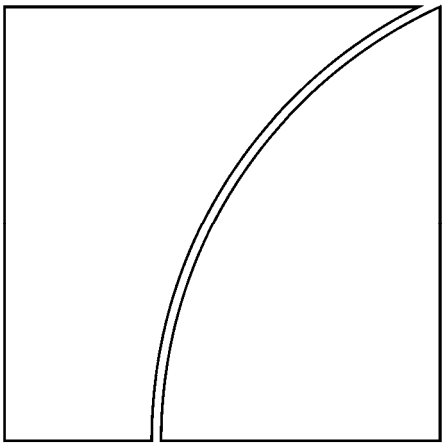
The Joint Forum



Report on Special Purpose Entities

September 2009

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C/O BANK FOR INTERNATIONAL SETTLEMENTS
CH-4002 BASEL, SWITZERLAND

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I. Executive Summary and Overview

The number and complexity of special purpose entity (SPE) structures increased significantly over the prior several years through 2007 in conjunction with the growth of markets for securitisation and structured finance products, but have declined since then. It must be emphasised that the usage of SPE structures is not inherently problematic in and of itself. SPEs have been used for many years and have contributed to the efficient operation of the global financial markets by providing financing opportunities for a wide range of securities to meet investor demand. In instances where parties to an SPE possess a comprehensive understanding of the associated risks and possible structural behaviors of these entities under various scenarios, they can effectively engage in and benefit from using SPEs. The current market crisis that began in mid-2007, however, essentially "stress tested" these vehicles. As a result, serious deficiencies in the understanding and risk management of these SPEs were identified. While recent market events have resulted in a dramatic reduction in issuance of securities using SPEs, we expect that SPEs will continue to be used for financial intermediation and disintermediation going forward. These structures provide institutions and investors with a variety of uses and benefits.

We offer the observations in this document at a time when international financial sector policymakers are discussing how best to reform the regulatory and supervisory processes relating to how firms use SPEs. This paper is intended to meet two broad objectives. First, it is meant to serve an informational purpose by describing the variety of SPE structures found across the financial sectors, the motivations of market participants who rely on them, and how effectively certain structures achieve the transfer and management of risks (eg credit risk, interest rate risk, liquidity risk, market risk and event risk). A second objective is to suggest policy implications and issues for consideration by the supervisory community and market participants. Recent regulatory reform proposals under discussion (eg relating to accounting and capital adequacy frameworks) will likely affect how future SPEs are structured and used.

Features

An SPE is a legal entity created at the direction of a sponsoring firm (which may also be referred to as the sponsor, originator, seller, or administrator). The sponsor is typically a major bank, finance company, investment bank or insurance company. An SPE can take the form of a corporation, trust, partnership, corporation or a limited liability company. An SPE is a vehicle whose operations are typically limited to the acquisition and financing of specific assets or liabilities. In this respect, a distinction should be drawn between asset securitisations and liability securitisations. Asset securitisations are usually undertaken by banks and finance companies, and typically involve issuing bonds that are backed by the cashflows of income-generating assets (ranging from credit card receivables to residential mortgage loans). Liability securitisations are usually undertaken by insurance companies, and typically involve issuing bonds that assume the risk of a potential insurance liability (ranging from a catastrophic natural event to an unexpected claims level on a certain product type).

The application of SPEs across financial sectors and to different asset classes is broad. For example, these structures are employed in programs for residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), collateralised debt obligations (CDOs), collateralised loan obligations (CLOs), asset-backed commercial paper (ABCP) programs, and structured investment vehicles (SIVs).

Repackaging vehicles are another significant business that involves SPE vehicles, one which permits clients to acquire tailored exposure to a variety of asset classes and risk profiles

though a single instrument. For example, an investor that is seeking a structured return might request that a financial institution structure a transaction that combines otherwise unrelated credit components (exposure to one or more corporate entities), interest rate components (fixed, floating, inflation-linked, etc) and maturity components (bullet, scheduled maturity, etc) that are not currently available "packaged together" in the marketplace.

In contrast to asset securitisations, in the insurance sector institutions have used SPEs in products that transfer exposures to liabilities, such as bonds that transfer catastrophic event risk to the capital markets. Additionally, financial guaranty providers have created transformer structures that incorporate credit default swaps to provide the equivalent of guaranty insurance.

A defining feature common to many SPEs is that of bankruptcy remoteness, whereby an SPE's assets are isolated from any creditors of its sponsoring firm should the latter go into bankruptcy. This feature can be achieved through a variety of methods, including limiting the SPE's purpose, indebtedness, assets, and other liabilities (or non-financial obligations), as well as by ensuring through its corporate governance process that decisions regarding bankruptcy will be made from the point of view of the SPE itself (not its sponsor or other affiliate). A "true sale" of assets from the sponsor's balance sheet to such a bankruptcy-remote SPE should ensure that the recourse of investors to assets held as security in the SPE is unlikely to be successfully challenged. In the US, the legal separateness of SPEs is considered fairly well established. However, bankruptcy remoteness may be harder to achieve in certain jurisdictions, or may be less certain where securitisation is a relatively recent development. These factors may explain why the use of SPEs is not as prevalent in such jurisdictions.

In some jurisdictions, most transactions involving SPEs are treated as on-balance sheet, while similar transactions in other countries will appear off-balance sheet. This distinction between on- and off-balance sheet treatment for accounting purposes, however, does factor into how transparent these vehicles have been in the international financial system.

Motivations

SPEs and the securitisation transactions that employ them can be viewed as a way of disaggregating the risks of an underlying pool of exposures held by the SPE and re-allocating these risks to those parties most willing to take on those risks. This purpose is therefore a motivating factor for both originators and investors.

Originating or sponsoring institutions can use SPEs for risk management purposes, such as to transfer credit, interest rate, market, event, or insurance risks to other parties. Originators may also use SPEs to access additional sources of funding and liquidity, or to reduce funding costs. Smaller institutions may use SPE structures to pool exposures and thereby gain greater and more cost-effective access to the capital markets.

In some cases, sponsoring firms may be motivated to use SPEs to achieve off-balance sheet accounting treatment for assets, leading to improved financial and capital ratios for the firm. Generally, off-balance sheet treatment is easier to achieve under US GAAP than under IFRS. However, recent changes to US accounting rules relating to SPEs that are effective in 2010 will significantly reduce the ability of certain transactions to qualify for off-balance sheet treatment.

Regulatory capital also serves as an important motivating factor for engaging in transactions involving SPEs. In particular, differences between the Basel I and Basel II regulatory capital frameworks present different incentives to enter into particular transactions. These

differences manifest themselves along two dimensions. One is the difference in the treatment for on-balance sheet loans, and the second relates to differences in treatment of retained exposures in securitisation transactions.

Investors may be motivated to purchase securities issued by SPEs to gain exposure to new asset classes or possibly to avert regulatory and internal limits, such as those relating to name concentrations or credit quality. In the case of synthetic transactions, investors may find it beneficial that they would not have to fund credit exposures at the outset.

The relative importance of these motivating factors may vary across jurisdictions. For example, European financial firms generally have less ability to remove assets from their balance sheets by using SPEs. However, this is offset by the fact that risk-based capital requirements are not as closely tied to accounting in Europe. In contrast, while US firms currently can more easily remove assets from their balance sheets, the US implementation of Basel I required more capital for certain exposures than in Europe.

Risk Transfer

Vehicle types that tend to achieve a high level of risk transfer for originators include CDO/CLOs, SIVs (with notable exceptions), and RMBS structures. In contrast, high risk retention (implying a need for potential credit support on the part of the sponsor or originator) is generally more likely with programs such as covered bonds, certain ABCP conduits, and credit card securitisations.[1]

The current market crisis has highlighted several areas where firms may have misestimated the degree of risk transfer associated with certain SPE structures. Several factors will determine the level of risk transfer. One factor is whether the originator has retained a position in the capital structure and, if so, what position. The issue becomes more complex given that tranches initially retained at deal inception can be subsequently sold or else transformed through re-securitisation processes. Originating firms also have an asymmetric informational advantage in knowing more about the exposures than investors, which could potentially allow them to structure a deal to most efficiently transfer risk away from themselves.

Another important risk element relates to the existence of triggers in many structured finance transactions, such as early amortisation triggers in revolving securitisation structures and market value triggers in SIVs. Triggers may potentially be interrelated (as could happen in the case of re-securitisations, resulting in two layers of triggers) or else highly correlated (leading to procyclical effects). Beyond these contractual elements, considerations of factors such as reputational risk and franchise risk could lead originators to provide non-contractual support to investors in SPEs.

Due Diligence and Risk Management

Market participants interviewed suggest that originating firms may, in instances, conduct unequal levels of credit due diligence on assets depending on whether they intend to retain the related risks on their own balance sheets or transfer them to an SPE. In particular, CDO assets that are specifically originated or purchased (and temporarily warehoused) to be sold

[1] It should be noted in advance that not all covered bonds entail use of an SPE; only a subset of them do so. See the description of covered bonds under Appendix 1 for more details.

to an SPE may undergo a less rigorous credit underwriting process when compared to credits that the originator intends to retain. On the other hand, most ABCP conduit sponsors seem to apply the same level of due diligence whether or not assets are intended for an SPE, subjecting them to comparable concentration and exposure caps. In between these two extremes are such receivables as small-and-medium-enterprise (SME) and leveraged loans, where the range of origination practices varies by institution and vehicle.

For ongoing risk management purposes, many sponsoring firms will maintain a single database that aggregates both on balance sheet exposures and off-balance sheet (SPE) exposures. (This is fairly common for credit card securitisations, where originators view risks on a "managed asset" basis.) However, firms may exclude certain vehicles in this aggregated risk analysis, if they judge those exposures to have been materially transferred. CDO transactions, thought to be done at a greater arm's length, and SIVs are two types of vehicles more commonly omitted from such management information and modelling.

In contrast, some firms either do not perform aggregated risk management analysis to include SPEs, or else do so infrequently (for instance, semi-annually). Firms may also not consider the breadth of roles they may play in relation to an SPE on an ongoing basis. For instance, a bank could have a liquidity facility, swap, and reserve fund linked to a single SPE, but each of these elements could be analysed separately by different business units without the firm necessarily rolling up its overall exposure to this SPE.

Several market participants interviewed noted that, until the market disruptions, some senior managers were unaware of the full extent of their firm's overall linkage to and obligations (explicit or implicit) toward their SPEs. There is no clear pattern that larger institutions understood the risks better than smaller ones. In fact, senior managers at small firms – particularly those operating in a niche or monoline sector, who rely on SPEs in their funding strategy – may have an enhanced understanding of these entities.

It was also observed that some investors did not seem to have conducted adequate independent due diligence to understand the risk profiles of SPE transactions that they had invested in. Geographic distinctions were noted for certain sub-sectors of the securitisation markets. For instance, investors in US RMBS transactions seemed primarily unaware of issues surrounding credit quality and asset performance. In contrast, European SPE investors were more surprised by structural features of the transactions and their inability to access analytics and modelling resources for bonds held.

Policy Implications

The use of SPE structures is not inherently problematic in and of itself. Rather, poor risk management and a misunderstanding of the risks of SPE usage can lead to failures. In cases where parties to SPEs possessed a comprehensive understanding of the associated risks and possible structural behaviours of these entities under various scenarios, they have effectively engaged in and reaped benefits from their SPE activities. However, it is unclear that the poor credit quality of assets sold into SPEs can be attributed to the existence of these structures, which were simply the legal form in which such assets were held to issue bonds backed by them. Nonetheless, it is important to address why some of the recent failures of SPE usage occurred.

This report offers a series of recommendations directed at regulated firms, other market participants and supervisors. In Section V additional detail and elaboration is provided for these recommendations. These recommendations are provided in no particular order of priority:

1. Supervisors should ensure that market participants assess all economic risks and business purposes of an SPE throughout the life of a transaction, distinguishing between risk transfer and risk transformation, and be particularly aware that over time the nature of these risks can change. Supervisors should ensure that such assessment is ongoing and that management has sufficient understanding of the risks.

2. Market participants should be able to assess and risk manage factors that increase transaction complexity, such as structural features of an SPE, including triggers and the roles of parties involved.

3. Firms and supervisors should ensure the governance process of an SPE is commensurate with the complexity of the structure and the degree of active intervention and discretion required of the parties participating in an SPE.

4. Firms should monitor on an on-going basis the quality of transferred exposures in relation to the risk profile of the firm's remaining portfolios and the impact on its balance sheet components, and supervisors should where appropriate assess systemic implications of risk dispersion to transferees.

5. Firms should have the capability to aggregate, assess and report all their SPE exposure risks in conjunction with all other firm-wide risks.

6. If at inception or at any point throughout the life of an SPE there is a likelihood or evidence of support by the financial firm, including non-contractual support, then the activities of that SPE should be aggregated with those of the institution for both supervisory assessment and internal risk management purposes.

7. Supervisors should support market participant's efforts towards greater standardisation of definitions, documentation, and disclosure requirements of SPE transactions and provide for the communication of any material divergence from these standards to investors in individual transactions.

8. Supervisors should regularly oversee and monitor the use of SPE activity, and assess the implications for regulated firms of the activities of SPEs, in order to identify developments that can lead to systemic weakness and contagion or that can exacerbate procyclicality.

Overview of Report

Section II provides a summary of market developments that contributed to the growth of the securitisation markets that relied heavily on the use of SPEs. Also described is the confluence of factors that played a part in the market crisis that began in mid-2007.

Section III focuses on the motivations of sponsoring firms and investors for employing SPEs. For originators and sponsors, these may include risk management, funding, accounting, or regulatory capital considerations.

Section IV describes the potential for informational asymmetries and problematic incentives to hamper the use of SPEs, examines potential issues and deficiencies in risk management, and explores ways in which risk transfer can potentially be over- or underestimated by both originators and investors.

Section V presents a series of policy issues and recommendations for consideration.

Appendix 1 is a primer on common types of SPE structures and programs, such as RMBS, CMBS, CDOs, ABCP conduits, structured investment vehicles (SIVs), repackaging vehicles, and transformer structures.

Appendix 2 continues with a more technical discussion of common features of SPEs. Legal forms, methods of achieving asset transfer, and accounting and regulatory capital considerations are discussed. Additionally, the roles of key parties to SPEs (eg the sponsor, originator, and servicer) are described, as well as issues related to the control and management of these entities.

Appendix 3 explores how the risk and return of assets in SPEs can be allocated among various parties and counterparties. Different forms of exposure can result from holding certain tranches and residual interests or from providing liquidity and credit guarantees. This section also includes a discussion of triggers, where the cash flows are redirected should a particular event occur.

Appendix 4 provides global data on the use of SPEs by financial institutions according to vehicle type and geography.

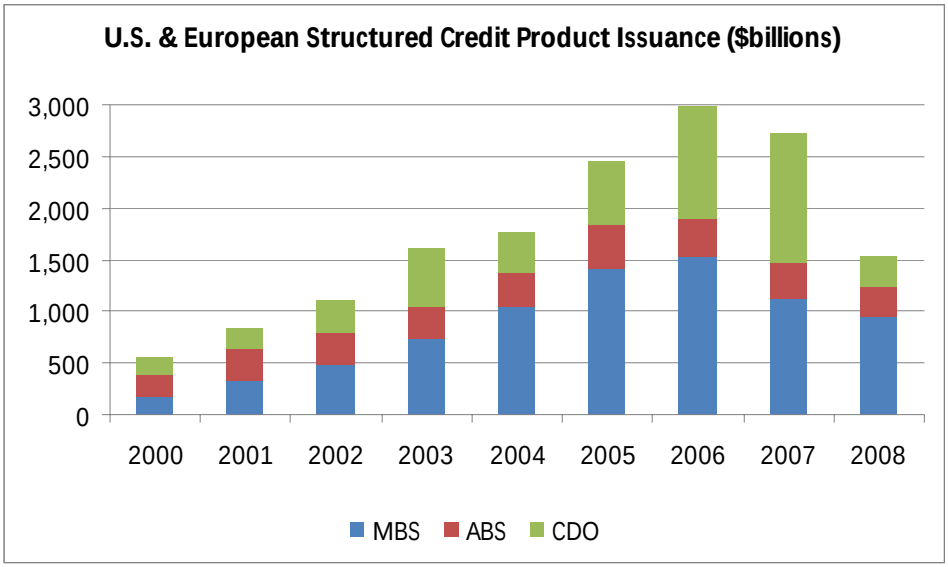
Appendix 5 provides the list of members of the Joint Forum Working Group on Risk Assessment and Capital.

II. Market Background

The current dislocation in the financial markets, which began in mid-2007, is generally considered to be one of the most severe in modern history. The causes are widespread and complex, but include macroeconomic factors, financial market factors, as well as the results of risk disintermediation, often using SPEs. Arguably, the origins of the financial crisis can be traced to the former two factors, but were exacerbated by the usage of SPEs.

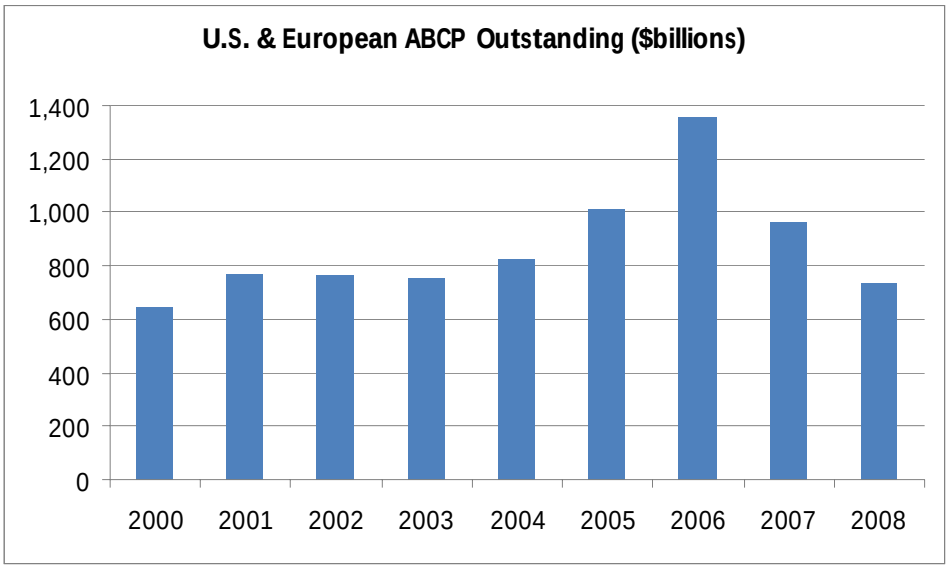
As macroeconomic factors drove the growth of consumer, residential and corporate credit new investors sought exposure to these asset classes, or existing investors sought means of gaining higher yields from these asset classes. The structured finance market, through which such assets were securitised using SPEs, was the mechanism to gain exposure to these asset classes. Although securitisation had been used by mortgage lenders selling exposure to residential mortgage assets since the 1980s, the market had expanded exponentially since the mid-1990s. Furthermore, in the mid-2000s the appetite for more highly structured products – for instance, those that "resecuritised" the lower-rated tranches of previous securitisations – increased particularly rapidly as risk, valuation and structuring tools became more widely available and frequently suggested that such investments carried minimal credit risk, as did the AAA ratings assigned to certain tranches of such securitisations and re-securitisations.

This led to the proliferation of products, such as collateralised debt obligations (CDOs), which were attractive due to their ability to securitise and re-securitise existing debt and apparently diversify away some of the risk, while nonetheless providing a yield pick-up compared to similarly rated asset classes. These products became increasingly complex, and consequently the risk grew that investors and ratings agencies could be incorrectly gauging the risk both of the underlying assets and (by extension) the bonds backed by these assets. Furthermore, the strong investor appetite for bonds backed by these assets created such a strong demand that the origination standards for the assets – for instance, the criteria for underwriting residential mortgage loans or for extending credit to small-to-medium size enterprises (SMEs) – began to weaken, as the originators of the assets could, in any case, pass the risk on to investors through securitisation.



Sources: European Securitization Forum, Inside Mortgage Finance, JP Morgan, SIFMA, and Merrill Lynch

This period also witnessed a rapid growth in the unregulated financial industry – resulting from the use of a range of SPEs to raise money in the capital markets for lending and investing, rather than through the use of bank balance sheets. The use of SPEs ranged from mortgage backed securities to provide funding sources for mortgage lending to structured investment vehicles (SIVs) and asset-backed commercial paper (ABCP) conduits to source funding for investments or commercial lending. In particular, SIVs and ABCP conduits borrow at short maturities (where interest rates are low) and invest in longer-dated, higher-yielding assets (including the consumer and commercial asset classes outlined above). This strategy works provided there is a sustained appetite for the short-term paper issued by these vehicles. However, should this not be the case, there is the potential for the duration mismatch of borrowing short and lending long to be exposed, and can lead to liquidity demands on bank sponsors that usually provide back-stop liquidity to these SPEs. Furthermore, some liquidity providers to SPEs are not regulated depository institutions and thus cannot generally access central bank "lender of last resort" facilities. During periods of market duress, SPEs associated with these liquidity providers are more susceptible to de-leveraging and may face significant liquidity and solvency pressures if unable to refinance short-term liabilities.



Sources: Merrill Lynch

As a result of the factors outlined above, the risk and repercussions of a potential unwind in the credit markets began to grow concurrent with the growth of the unregulated financial system. While it is a simplification to suggest that the bursting of the housing bubble in the US was caused by subprime lending, or to suggest that this same subprime lending directly led to this unwind in the credit markets (in particular, the structured finance market), it is certainly true that the worldwide financial crisis first manifested itself in the US subprime mortgage market. The deterioration in asset quality of the securitisation markets was most significant in subprime mortgage lending, and market participants (including both investors and credit rating agencies) were surprised by the trajectory of a sharp increase in default rates among subprime borrowers. Macroeconomic indicators (such as homebuilder sentiment) seemed to confirm these fears, as did the signalling effect from certain segments of the capital markets (for instance, the sharp sell-off in the ABX.HE index, which references subprime mortgage-backed securities). Institutions that had originated these assets, such as small or mid-size subprime lenders in the US and the UK, subsequently began to approach or enter insolvency either due to the burden of non-performing loans in their origination

pipelines, or due to a lack of access to credit, or due to obligations (such as the repurchase of non-performing loans from SPEs) that they could not fulfil.

The possibility of realising losses on securities backed by consumer and residential assets caused the primary market for such bonds to dry up and the secondary market for such bonds to sell off significantly. As investors sought to sell such bonds into an increasingly non-functioning secondary market, the values of the bonds declined significantly, causing a downward spiral in valuation. Furthermore, there were vehicles (such as SIVs) whose holdings of such assets were linked to triggers that referenced the market price of the bonds they held. When market value declines caused them to breach such triggers, these SPEs had to sell their bonds into this distressed market environment, thus exacerbating these market value declines even further. This also resulted in many of these structures being wound down, leading to a flight of capital from the unregulated sector, as well as losses for the direct investors in these entities and/or the sponsoring banks that (in some cases) absorbed the assets of the SPEs onto their balance sheets.

The technique of securitisation meant that the risk of poor-quality assets had been dispersed throughout the capital markets. As it became clear that the quality of such assets was deteriorating rapidly, market participants sought to avoid exposure to other participants that might be exposed to these deteriorating assets. However, the process of securitisation meant it was hard to gauge the extent of exposure of each individual institution, with the result that market participants simply took the most conservative stance and contracted their lending to many other institutions in absolute terms. This caused the funding markets as a whole (not just the securitisation market) to seize up, even at such short tenors as overnight funding. Many small to medium-sized institutions were unable to obtain funding at any price, and even larger institutions had to pay substantially wider spreads on their short-term borrowing, as market spreads over the underlying policy rates increased to unprecedented levels across the globe. This rapid contraction in, and increased cost of, inter-bank lending led to a liquidity crisis, which central bank intervention sought to mitigate.

Just as the deterioration in credit quality of the assets and higher losses led to the insolvency of certain lenders, so also did the contraction in inter-bank lending lead to the collapse or rescue of institutions that were heavily reliant on this market. Furthermore, if institutions had a joint reliance on the wholesale market and the securitisation market for their funding, they were under even more strain.

Following on from the deterioration in asset quality and difficulties in access to funding was the erosion in the capital base of institutions, frequently due to significant realised or prospective losses on the structured finance investments that they held on-balance sheet. This was exacerbated by the wave of downgrades of structured finance instruments by the credit rating agencies, as the regulatory capital requirements of such institutions frequently referenced such ratings. As a result, institutions found it increasingly difficult to meet the capital requirements that they operated under, contributing to the need for various forms of capital injection from governments.

The events outlined above undermined confidence in the technique of securitisation and led to a deep mistrust of the structured finance market. Almost all indicators of health in this particular market segment – primary issuance volumes, secondary market trading volumes, credit spreads, events of default, rating actions – turned negative, either simultaneously or in quick succession. As a result, the structured finance market contracted in size and seized up in activity, leading to a sharp withdrawal in the consumer and commercial credit that was previously extended by this market, which in turn transferred the impact of the financial market crisis to the broader economy.

This brief and simplified overview of the recent financial market crisis has made reference to what some have called the “shadow banking system” -- a means by which exposure to certain assets and risks were transferred to investors via SPEs. For purposes of this report the term unregulated references the unregulated or lightly regulated entities or sub-sectors within the financial system. The unregulated financial system developed over the past two decades and, between 2000 and 2008, grew in size and scope to play a critical role in providing credit in the global financial marketplace. The system consists of non-bank financial institutions, including (but not limited to) SIVs, ABCP conduits, hedge funds, and money market funds. Like banks, some of these institutions are highly leveraged and borrow short-term in liquid forms to invest or lend long-term in less liquid forms. The use of SPEs, as described in this paper, plays a critical role in the structures employed by the players in this market. The institutions engaged in the unregulated financial system are, like their banking counterparts, not only subject to market and credit risk, but also to liquidity (or rollover) risk, which derives from having large amounts of short-term liabilities funding longer-term, less liquid assets, and the consequent risk that such short-term liabilities may not refinance (ie rollover) if creditors decide to withdraw funding. The firms in the unregulated financial system generally do not have access to the “lender of last resort” support of central banks, as the firms are not regulated depository institutions. During periods of market illiquidity, consequently, these firms can face significant liquidity and solvency pressures if they are unable to refinance their short-term liabilities. A wide range of firms, both banks and non-banks, developed an increasing reliance on “liquidity through marketability”, based on the assumption that it was safe to hold long-term assets funded by short-term liabilities because the assets could be sold quickly in liquid markets if needed. This assumption was valid to a limited extent on an individual firm basis in non-stressed market conditions, but became invalid after mid-2007 as multiple firms sought to liquidate such assets simultaneously under stressed market conditions. As the sub-prime mortgage crisis expanded, participants in the unregulated financial sector increasingly found that creditors would not refinance their paper and there were no new buyers for their short-term debt either. The firms had to de-lever rapidly by selling their long-term assets at depressed prices in order to meet their short-term obligations. This selling activity contributed to the overall decline in asset values throughout the global credit system and the unregulated financial system has consequently been accused of exacerbating the sub-prime mortgage crisis and helping to transform it into a global credit crisis.

III. Motivations for the Use of SPEs

This section describes the motivating factors for the use of SPEs. These factors are separated into two broad categories: (1) motivations of the originators of the assets and sponsors of the transactions; and (2) motivations of investors. This section concludes with a discussion of the interplay of these motivating factors.

SPEs and the securitisation transactions that employ them can be viewed as a way of disaggregating the risks of an underlying pool of exposures held by the SPE and re-allocating these risks to those parties most willing to take on those risks. This purpose is therefore a motivating factor for both originators and investors. The disaggregation of risks is discussed in detail in Appendix 3.

Originator and Sponsor Motivations

Risk Management

SPEs are a risk management tool for institutions that either originate exposures or aggregate exposures purchased from others. To varying degrees, the originator will transfer credit risk, interest rate risk, and market risk to other parties. SPEs also allow institutions to manage their liquidity by providing additional sources of funding.

SPEs used in securitisation-type vehicles can, in several respects, be viewed as a secured borrowing. However, these structures often differ from secured borrowings in important ways. Specifically, one of the primary purposes of SPEs is to legally isolate the assets held by the SPE from the originating institution. For the originator, this has the advantage of potentially limiting its legal obligation to perform on the debts issued by the SPE. If the underlying assets held by the SPE prove insufficient to fully repay the SPE's creditors, the originating institution is often under no obligation to provide additional funds.

SPEs can consequently be used to transfer credit risk from an originator to third parties. The extent of credit risk transfer to third parties depends on which tranches of an SPE's debt and capital structure are sold to third parties versus those that are retained by the originator. For example, the originator might sell the senior tranches, while retaining the most subordinated tranches. If a sufficiently large "first loss" tranche is retained, then that originator might still bear almost all of the reasonably probable credit risk of the underlying exposures, and as such has only transferred the tail risk. The degree of risk transfer is discussed in detail in Chapter IV and Appendix 3.

Another motivation for originating institutions to engage in transactions involving SPEs is to manage interest rate risk. In some structures, the cash flows of the debt issued by the SPE better match the cash flows of the underlying assets than if the originator had issued its own debt to finance the assets. This is generally true for SPEs that are structured as relatively simple passthrough vehicles, where all cash received on the assets is passed through to the investors. For example, in a passthrough mortgage securitisation, the repayment risk (ie the prepayment speed of the underlying borrowers) is borne by the investors, rather than the originating institution. However, this is certainly not always the case, and a stark contrast to the matched funding case are most SIV and some ABCP structures where longer-term assets are funded by shorter-term debt. The motivating factor for the maturity mismatch in these cases is to earn the spread between long- and short-term interest rates in an upward-sloping yield curve environment. Consequently, unlike a mortgage passthrough securitisation, the interest rate and prepayment risk for these vehicles typically lies explicitly with the originator or sponsor.

In addition to credit risk and interest rate risk transfer, structured products also allow for the intermediation of other risks that have historically been associated with insurance companies, rather than banks. For example, some innovative instruments incorporate payments to investors that are based on various indices that measure the severity of natural disasters (these have included the risk of loss from hurricanes, earthquakes, or droughts).

The extent of risk transfer and risk retention achieved in various vehicles is discussed in more detail in later sections (in particular, Chapter IV and Appendix 3).

Funding and Liquidity

In addition to risk management, another key motivation for originators to use SPEs is to access additional sources of funding and liquidity and to reduce funding costs. One of the key functions that SPEs serve is to allow the originating institution to transform less liquid, non-rated exposures into more liquid, rated securities. This transformation can provide the issuing institution enhanced liquidity through an expanded funding base and lower funding costs.

As noted earlier, SPEs are often used in structures that are similar to a secured borrowing, which generally provide lower borrowing costs than borrowing on an unsecured basis. This secured borrowing is linked to the transformation of non-rated assets into some portion of the overall structure being comprised of highly-rated securities. For example, an institution that carries an A stand-alone rating can instead access the capital markets at a cheaper rate by creating an SPE that transforms non-rated assets into tranched securities where the highest rated tranche might be rated AAA and represent 90% of the underlying pool of assets. This allows the issuing institution to access the lower funding costs associated with AAA-rated spreads, which compares favorably with its stand-alone A rating. This funding benefit often outweighs the costs of funding or retaining the more junior tranches typical in such a transaction, where those junior tranches might carry ratings below the institution's stand-alone rating.

SPEs can also provide access to additional sources of funding, including broadening an originator's investor base beyond what might be available through direct borrowing. The legal and financial separateness of the SPE from the originator can help the originator to borrow indirectly from new investors or to borrow a greater amount from existing investors. Some investors have regulatory or internal limits on their exposure to a single name, which can be overcome using SPEs. As one market participant noted, the use of SPEs could, for example, allow an originator to continue to tap an investor that is comfortable with an originator's underwriting and servicing practices related to a particular product, but does not wish to take on any greater exposure to the entire balance sheet and operations of the originating institution.

Some sellers of assets into SPEs such as ABCP conduits – in contrast to the sponsors – are motivated by the anonymity of funding that certain structures provide. For example, one market participant noted that accessing the securitisation markets anonymously through a conduit might have less of a negative signalling effect than drawing on a highly visible bank line of credit.

SPEs can also be used to facilitate the pooling of exposures, which can allow smaller institutions greater and cheaper access to the capital markets. Smaller institutions might not have direct access to the market, but by pooling their exposures with other small institutions, they can more efficiently access the capital markets. Smaller institutions, for example, might face higher liquidity premiums on their issuances because of the small transaction size.

Pooled trust preferred securities are one such example of the benefits of pooling. These structures were popular from the early 2000s until the onset of the current market turmoil because they allowed the issuing institutions to spread underwriting costs across multiple institutions. Multi-seller ABCP conduits are another example. The sellers of the assets into the conduit are often non-financial firms with trade receivables. They find conduit structures to be an efficient way of gaining liquidity. Similarly, smaller financial institutions that might not have a sufficient volume of assets to take a transaction to market are able to sell into conduits and access the securitisation markets. Even larger financial institutions make use of such conduits to warehouse certain types of exposures until they have sufficient volume to execute a separate stand-alone securitisation.

SPEs have been also used in new ways to pool various institutions' exposures during the recent market turmoil. Several more recent market initiatives in the US would take smaller banks' debt issuances that have been guaranteed by the FDIC and package them together in order to issue securities to the market through an SPE. As with the other examples noted above, this would allow smaller institutions that might not normally find it economical to issue debt to take advantage of the FDIC guarantee programme.

SPEs have also been used in new ways to enhance liquidity during the recent financial stress. In particular, SPEs have allowed entities greater access to central bank discount windows. For instance, European securitisation transaction volumes have increased dramatically as European banks have been securitising a greater proportion of their assets in order to access central bank lending facilities, which often require securities as collateral, rather than loans. Even if financial institutions do not actually enter into a financing transaction with a central bank, holding assets in security form allows institutions to access these facilities if the need arises.

Accounting

Another motivation for the use of some SPEs is the off-balance sheet accounting treatment which specifies that, if certain conditions are met, the originator may remove assets from its balance sheet. Similarly, under certain circumstances sponsors can also avoid having the assets appear on their balance sheets, although (as explored in more detail immediately below) such treatment was generally easier to achieve under US GAAP than under IFRS.

By holding assets off-balance sheet, the sponsoring institution might benefit from the ability to show better financial ratios, such as a higher return on assets. In addition, the sponsoring institution might be able to show higher tangible capital ratios (depending on the extent to which off-balance sheet items are added back to on-balance sheet items), and will not have to reserve against the assets in the SPEs. The ability to move assets off balance sheet could also affect regulatory capital ratios in certain jurisdictions in which capital adequacy requirements are based on the amount of reported balance sheet assets. The leverage ratio in the US is one such example.

The ability to achieve off-balance sheet accounting treatment is affected by the accounting regime to which the originating or sponsoring entity is subject. Generally speaking, off-balance sheet treatment is easier to achieve under US GAAP than under IFRS. However, the US FASB new accounting rules related to SPEs that are effective in 2010 will significantly reduce the ability of institutions to use SPEs to achieve off-balance sheet treatment. As a result, US accounting changes will significantly alter the motivations for originators in using SPEs. These accounting changes will also affect leverage and risk-based capital ratios, and could have an important effect on the management of regulatory capital adequacy requirements by firms. These implications are discussed in more detail below.

A full discussion of the accounting treatment of SPEs under both US GAAP and IFRS can be found in Appendix 2.

Regulatory Capital

In this section, we will review the regulatory capital motivations for originating institutions in various securitisation transactions. The discussion focuses on comparisons of the Basel I requirements with those under the Basel II framework for banks and, to some extent, securities firms. The differences between the two regimes will likely alter the relative regulatory capital incentives to enter into particular transactions as institutions move from the Basel I to Basel II regime. These differences manifest themselves along two dimensions. One is the difference in the treatment for on-balance sheet loans, and the second relates to differences in treatment of retained exposures in securitisation transactions. A further complicating factor is that several elements of the Basel II framework that are modifications to Basel I were adopted years earlier in Canada and the US. Thus, in these two jurisdictions the changes to the incentive structures in moving from Basel I to Basel II are not as pronounced as they might be elsewhere.

Under the Basel I capital rules, banks could realise regulatory capital benefits from engaging in securitisation transactions that transferred asset exposures through SPEs. This incentive was due to the fact that a single risk weight (ie a risk-invariant capital requirement) was applied to most types of corporate and retail exposures recorded on balance sheet. Banking organisations subject to the Basel I-based rules saw a way around these non-risk sensitive capital requirements through the use of SPEs. By removing assets from their balance sheets that had a high regulatory capital requirement relative to the market's assessment of economic risk, banks were able to optimise their deployment of capital.

For example, a bank might view the 8 percent Basel I risk-based capital charge applied to high-quality corporate exposures as being excessive, and therefore might engage in securitisation activities of these receivables to benefit from a slightly lower capital charge resulting from other aspects of the risk-based capital rules. In the bank's view, this slightly lower charge might be more rational in terms of the true risks and capital needed for corporate lending activities.

The shift to Basel II, on the other hand, materially affects the extent to which risk-based capital is a motivating factor for securitisation transactions. This is because the on-balance sheet capital charges could be significantly lower under the Basel II requirements than under Basel I. If Basel II allocates capital in a manner that is more closely aligned with a bank's internal assessments of economic capital (which is often the case), then that bank's motivation to securitise assets for regulatory capital reasons is reduced.

For instance, prior to the recent market turmoil, some market participants believed that the on-balance sheet capital charge for residential mortgages would be fairly low under the Basel II framework. As such, it would reduce the risk-based capital incentive to securitise mortgages. In contrast, the on-balance sheet capital requirements for credit card securitisations were thought to be relatively high when compared with the requirements were those assets securitised through an SPE. Therefore, the regulatory capital incentive to securitise credit card assets might continue under Basel II.

While the regulatory capital motivations for engaging in SPE transactions will change as a result of Basel II, due to the on-balance sheet changes in capital requirements, the motivations will also be affected by the differences between Basel I and Basel II's treatment of retained exposures in securitisation transactions. As noted above, Basel II includes more risk-sensitive approaches for measuring capital requirements for positions that an originator purchases from an SPE to which the originator transferred assets. Under Basel II, capital

requirements for highly-rated securitisation exposures would be considerably less and capital requirements for deeply subordinated tranches would be far higher than they would be under Basel I. These differences likely will be less pronounced for US banks because of changes made to the US risk-based capital rules in 2001 to include features that are very similar to the Basel II treatment of securitisation exposures. For this reason, some US banks have indicated that the move to the Basel II framework is not expected to materially change their motivations for securitising assets.

Leverage ratio requirements in the US and Canada provide a related incentive for banks operating in these countries to securitise and remove assets from their balance sheet under both Basel I and Basel II. This is because these requirements do not differentiate between credit risk by exposure type, such that the riskiest corporate loan and a US Treasury bond are treated the same under both Basel I and Basel II, Therefore, regulatory capital relief can be achieved for purposes of these leverage ratio requirements when assets are securitised and removed from a bank's balance sheet even if the securitised assets would otherwise receive low regulatory capital charges. In Switzerland, a new leverage ratio calculation recently introduced under a separate decree for the two largest institutions excludes domestic loan exposures; therefore banks have an incentive to securitise and remove foreign loan exposures, but not domestic exposures, from the balance sheet.

Another important distinction between the US implementation of Basel II and other jurisdictions is that the US rules generally require an originating institution to derecognise assets under accounting rules in order to receive risk-based capital relief.[2] In contrast, the Basel II rules implemented in most other jurisdictions focus on whether a sufficient amount of risk has been transferred to third parties before derecognising assets for Basel II risk-based capital purposes. Because of the link to accounting in the US, the changes to US GAAP relating to the sale and deconsolidation of assets that have recently been issued and are effective in 2010 will have a major impact on regulatory capital incentives – both in terms of leverage and risk-based requirements. Some US banking and securities firms noted that the accounting changes could have a more material impact on their motivations than regulatory capital changes. In contrast, one European banking organisation stated that Basel II would reduce regulatory capital as an incentive to securitise.

Other countries have also implemented capital rules to conform to their unique prudential needs, and some of these modifications could significantly alter the role of regulatory capital as an incentive to engage in SPE transactions. In Spain, one institution noted that securitisation is used primarily for residential mortgages where the loan-to-value (LTV) ratio is greater than 80 percent, while covered bonds are used for LTVs below 80 percent. This is attributable to certain regulatory limitations on the covered bond market, which provides more efficient funding for this financial institution. This is partly because the firm does not gain any material capital relief if it were to securitise rather than use the covered bond market, thus making it indifferent between these two funding sources from a regulatory capital perspective, and only sensitive to differences in asset-based restrictions between the two funding sources.

A full discussion of the regulatory capital treatment of SPEs under both Basel I and Basel II can be found in Appendix 2.

Regulatory capital treatment can also affect the use of SPEs by insurance companies. For instance, the use of SPEs in "sidecar" structures that enable insurers to reinsure certain lines

[2] This is true for a traditional securitisation, but not true for synthetic securitisations.

of business with third-parties allows these same insurance companies to expand capacity and write new business. Likewise, when contingent liabilities are transferred to third parties via the issuance of catastrophe bonds ("cat bonds") the insurance company can achieve regulatory capital benefits.

Other Motivations

The enhanced liquidity and the reduced credit risk exposure resulting from the use of SPEs has also contributed to the growth of the originate-to-distribute business model. The originator is able to earn fees from the origination process, sell assets through an SPE and use the proceeds to repeat the process and generate more assets. In addition, fees are earned by providing administrative and other management-related services to the SPE.

By using SPEs, originating institutions are also better able to sell assets without selling customer relationships. In many cases, the underlying obligors whose assets have been sold into an SPE will not know that their obligations have been sold, and the originating institution's business relationship with its customer could remain unaffected.

It is also worth noting that, despite the positive incentives for originators to use securitisation vehicles to transfer some or all of the risks of their loans, many banks did not avail themselves of these opportunities. Rather, some institutions made only limited use of the developing structured finance transactions. One bank offered the following explanation of their relative avoidance of SPEs. The overarching principle was that the institution was averse to originating assets that it would not be comfortable owning. In addition, it suggested that it did not have confidence that it could reasonably quantify certain risks that are typically retained in certain securitisation transactions, such as liquidity risk. This bank also noted that the complexity introduced with the apparent intention of avoiding specific regulatory or accounting requirements raised a significant concern.

Finally, the insurance industry has been the most recent entrant in utilising SPEs as a form of risk transfer and capital relief. Several reasons have contributed to this industry's use of SPEs. First, after the emergence of huge catastrophic risk, particularly with Hurricane Katrina in 2003, the industry reassessed the level of risk to which it was exposed. The insurance industry concluded that new sources of capital were necessary to maintain the solvency of the industry and, therefore, turned to the capital markets. The capital markets represented a much deeper source of capital beyond the traditional equity markets. Through the use of CAT bonds for example, insurance companies could transfer unpredictable risk to the capital markets. Other vehicles, such as sidecars, could provide a new source of reinsurance for a sponsor's portfolio.

As these insurance securitisation products emerged, capital markets investors accepted them for two reasons. First, investors were looking for higher yielding products which insurance securitizations provided. Second, insurance securitisations provided uncorrelated risk with investors' existing portfolios.

Investor Motivations

This section discusses the motivations for investors to purchase securities issued by SPEs.

Just as a transaction utilising an SPE can be viewed as secured borrowing from the originator's perspective, such transactions can be viewed as secured lending from a third-party investor's perspective. The SPE serves the function of providing legal isolation of the assets from the seller. In such instances, an SPE is generally deemed to be bankruptcy remote – ie the SPE would be isolated and protected from any bankruptcy of the originator.

This allows the investor to focus on the risks associated with a certain set of exposures, rather than having to assess the entire business of the originator and its associated overall creditworthiness.

The legal separateness of SPEs is considered fairly well-established in the US, UK, Canada and certain other jurisdictions (especially those with developed capital markets). In the US, two SPEs are typically required to achieve bankruptcy remoteness due to the existence of the equitable right of redemption. Bankruptcy remoteness may sometimes be harder to achieve in certain other jurisdictions. There can also be less certainty on the legal robustness of insolvency remoteness in some jurisdictions where securitisation is a relatively recent development. This factor might explain why the use of SPEs is not yet as prevalent in those jurisdictions.

As noted earlier, one motivation for purchasing securities issued by SPEs is the ability to avoid certain regulatory and internal limits. Limits on exposures to a single institution can be avoided by investing in securities issued by an SPE established by the same institution to which direct loans might also be made. In this context, some market participants noted that name concentration limits might be one constraint on the covered bond market (as opposed to securitisation proper), because the originating institution remains the obligor in a covered bond transaction, even though that particular obligation is secured by assets that are sometimes (but not always) ringfenced in a separate SPE.

SPEs also make it easier for investors to gain exposure to new asset classes. For example, in order to diversify its investment portfolio, an insurance company might want to hold securities with retail credit products as the underlying assets. By investing in securities issued by SPEs it is able to do so without having to be fully involved in the credit underwriting process. Similarly, catastrophe bonds are attractive investments for investors wanting diversified portfolios (such as pension funds, institutional investors and hedge funds), in that such bonds show no correlation with equities or corporate bonds and provide risk diversification.

The usage of SPEs can also benefit investors that face restrictions on the credit quality of investments that they can make. For example, either due to regulatory or internal limits, an investor or class of investor might be limited to investing in only exposures rated in the highest investment grade by a credit rating agency. The tranching of credit risk through the use of SPEs can create highly rated securities where none existed before, because the highest-rated position benefits from the subordination of the lower-rated and unrated positions. Indeed, investment limits and the desire to meet investor demand for highly-rated, short-term securities might have contributed to the growth of the ABCP and SIV markets, because these transactions allowed lower-rated, longer-term instruments to be sold into an SPE, which then would issue highly rated, short-term instruments, such as commercial paper. Such commercial paper was attractive to some investment vehicles, such as money market funds, that face regulatory restrictions that allow them to invest only in short-term, highly rated securities.

Another example of using an SPE to address regulatory restrictions is found in the insurance industry, where monoline insurers are generally prohibited from or severely restricted when serving as the counterparty in a credit default swap (CDS) transaction. These firms can only guarantee another entity's obligations, not an asset. To circumvent these limitations, an SPE is used so that the insurance company is providing insurance to a firm, the SPE, which may hold only one significant asset, the CDS.

In some cases, for instance in the case of customised asset "repack" vehicles, SPEs are formed to meet a particular investor's needs. For example, an investor that is seeking a structured return might request a financial institution to structure a transaction to meet that

particular investor's objectives. This structured return might combine credit components (for instance, exposure to one or more corporate entities), interest rate components (fixed, floating, inflation-linked, etc) and maturity components (bullet, scheduled, etc) that are not currently available "packaged together" in the marketplace (for instance, because the corporate entities have issued no such bonds themselves), and consequently the exposure has to be created via a "repack" vehicle.

As with originators, the enhanced liquidity offered by holding a security issued by an SPE, rather than the illiquid underlying loans, is an added benefit for investors. These securities can be more easily traded in secondary markets or used as collateral in securities funding transactions. It must, of course, be noted that the benefits of this particular incentive have been eroded to some extent since the onset of the financial market crisis as secondary market liquidity in all segments of the structured finance market has become extremely thin.

Regulatory capital requirements for banking and insurance organisations also create an incentive for these institutions in their role as investors to invest in more highly-rated tranches issued by SPEs. Basel I, as modified in the US and Canada, as well as Basel II, both provide for differentiation in capital requirements based on the credit ratings published by the recognised credit rating agencies. Because the Basel II framework is more risk sensitive, it is likely to have a material effect on bank investors in terms of their interest in various types of securities. In addition, the higher a particular security in a securitisation transaction is rated, the lower will be its risk-based capital requirement. Consequently, Basel II should increase incentives for institutions to invest in more highly rated tranches, in contrast to Basel I's lack of differentiation. A number of insurance frameworks have for many years also recognised ratings quality in their capital adequacy regimes.

Interplay of Motivations

As highlighted above, a number of factors influence both originators and investors to make use of SPEs and to purchase the notes issued by SPEs. The interaction of these motivating factors makes it difficult to make simple assignments of relative importance to each element that an institution would consider when deciding whether to securitise assets or to invest in securities issued by SPEs. For example, financial institutions in Europe generally have less ability to remove assets from their balance sheets through the use of SPEs. However, this is offset by the fact that the risk-based capital requirements are not as closely tied to accounting as in the US. In contrast, while institutions in the US historically have been more easily able to remove assets from their balance sheets, the US implementation of Basel I required more capital for residual, subordinated interests than in Europe. As another specific example, banks might engage in credit card securitisation to gain regulatory capital benefits; however, these benefits are tempered by other capital constraints that these institutions face from other market players, such as credit rating agencies, some of which give little recognition for the accounting removal of credit card assets from bank balance sheets.

The relative importance of motivating factors can also vary from one institution to another. For example, one market participant noted that the primary motivation for securitising mortgages was the regulatory capital relief, while another stated that it was primarily driven by lower funding costs. Likewise, some of the market participants interviewed for this paper stated that regulatory capital relief is the main driver for institutions to sell assets into SPEs. However, securitisation activity occurs even in countries where only limited regulatory relief is granted, such as in Spain.

ABCP conduits are a good example of the interaction of different motivations and how these motivations have evolved over time. One market participant noted that an important motivation for establishing conduits was the regulatory capital benefit for the sponsoring

organisation. However, this market participant also noted that the changes to the US regulatory capital requirements that increased capital requirements for liquidity facilities provided by the sponsoring institution had reduced the capital incentives and that Basel II would further reduce regulatory capital relief as a motivating factor. However, this type of structure is not expected to disappear, because the banking organisation's clients that sell assets into these conduits continue to find value in the structures. Even if consolidated with the sponsor for regulatory capital purposes, ABCP provides an additional source of funding (ie capital markets). The value of conduits has been highlighted through the recent market turmoil as the sellers of assets have found that the conduits continued to function and provide access to funding even when most other funding sources were unavailable. From the investor's perspective, ABCP has become a core, liquid short-term holding for many investors that cannot be easily replaced by other products.

Tender option bonds (TOBs) provide another example. The tax-exempt status of these bonds appeals to the investor demand for tax-exempt cash flows as a source of revenue. Money market mutual funds are the principal buyers of TOBs, and these types of funds are subject to regulations that address the permitted types of bonds and their weighted-average remaining maturity. These maturity and credit quality guidelines that constrain money market funds, combined with the broader demand for tax-exempt instruments, make these attractive investments for certain investors.

Finally, trust preferred securities (TRUPs) provide yet another example of the interplay of motivations in the use of SPEs. From the originator's perspective, one key motivation is the tax advantage of TRUPs over other types of issuance. TRUPs are considered a debt instrument for tax purposes, thereby allowing institutions to deduct the interest paid on them in calculating taxable income. Another key motivation for issuers is that TRUPs are treated as equity for regulatory capital purposes for bank holding companies. Similarly, for insurance companies TRUPs can be included as part of surplus by insurance regulators. A final key factor that affected the structuring of TRUPs was the recognition, at least partially, of these securities as equity by the credit rating agencies. TRUPs are consequently an illustrative example of the fact that many of the more innovative capital instruments that have been developed over the past decade involved the efforts of structurers (using SPEs) to balance the interests of originators and investors across the multiple dimensions of regulatory capital, tax, and credit rating agency methodology.

IV. Degree of Risk Transfer and Risk Management Issues

The process of securitisation (whether it be of assets or liabilities) typically follows a pre-defined sequence that can be summarised as follows: the creation of an SPE, the transfer of an exposure to certain assets or liabilities to this SPE, and the redistribution of exposure to these same assets or liabilities via (any combination of) the issuance of notes by the SPE, the retention of various forms of residual interest by the transferor to the SPE, and the assumption of risk by third parties other than the noteholders or originator (guarantors, liquidity providers, etc). This typically results in some degree of disaggregation or unbundling of the risk/return profile of the assets or liabilities. In other words, the risk and return of the assets or liabilities typically becomes redistributed among a wider number of parties and counterparties, each of which has a different form of risk exposure to the assets or liabilities, a different level of seniority versus others that are also exposed to the assets or liabilities, and a different degree of alignment of interest both with other exposed parties and with the performance of the assets or liabilities in general.

Appendix 3 outlines the processes and outcomes of this risk/return disaggregation process in more detail, as well as delineating in more specific terms the different forms of exposure that different parties and counterparties can ultimately have to an SPE. In terms of holders of securities issued by the SPE, these range from secured bonds to subordinated loans to residual equity. In terms of those that do not hold notes issued by the SPE, but instead have alternative contractual relationships with the SPE, these range from liquidity providers to swap counterparties to those who have guaranteed the performance by the SPE of its obligations.

The principal means by which different parties and counterparties assume exposure to an SPE is summarised in the table below. (Note that each of these is elaborated in more detail in Appendix 3.) These are split into internal or structural forms of risk/return exposure (for instance, holding securities issued by the SPE) and external or third-party forms of risk/return exposure (for instance, providing financial commitments to the SPE).

Internal/Structural Risk and Return Components

1. Senior Tranches
2. Mezzanine Tranches
3. Junior Tranches
4. Seller Shares
5. Vertical Slices
6. Equity / Residual Interests
7. Overcollateralisation
8. Reserve Funds / Subordinated Loans
9. Residual Income / Excess Spread
10. Management Fees
11. Other Types

External/Third-Party Risk and Return Components

1. Liquidity Facilities
2. Servicer Advances
3. Swaps
4. Letters of Credit
5. Guarantees
6. Monoline Wraps
7. Repurchase Commitments
8. Other Types

In each case, these are parties that have explicitly either retained or assumed some form of risk exposure to the SPE, as opposed to other parties that might have simply undertaken to provide services (for instance, administrative services) to the SPE. It should be noted that the originator of the assets can assume any number of the functions or exposures outlined above, but similarly it can typically also transfer any number (or all) of these functions or exposures to third parties, who then assume the risk and return thereof instead.

The final outcome of this process of risk disaggregation – if measured by the extent to which the originator has transferred to investors and/or third parties the risk of the assets or liabilities via an SPE, or alternatively retained these risks itself – can vary dramatically. In some cases, the originator has retained practically no residual exposure to the assets; in other cases, the originator has retained practically all of the exposure. The degree of risk transfer achieved, as well as potential asymmetries, anomalies, and abuses thereof, is discussed in more detail below. Actions that can obfuscate the reality or illusion of risk transfer (for instance, the provision of non-contractual support to an SPE by a sponsor or originator) are also examined. Furthermore, the critical issue of risk management of SPE exposures and relationships, for both originators and investors, is also explored in this chapter. Finally, the question is asked – to what extent do both originators and investors generally understand the degree of risk transfer and/or retention that has occurred? In each case, the focus in this chapter will be primarily upon the working group's findings, insights and implications regarding risk disaggregation, transfer, retention and management via SPEs, rather than on the technical details, processes, and attributes of such SPEs (as these are treated separately in Appendix 3).

Degree of Risk Transfer

Instances in which an originator has divested itself of all but minimal exposure to the assets include certain credit arbitrage CDOs and certain RMBS, in which the residual exposure maintained by the originator can be minimal or non-existent. Likewise, in a "repack" SPE that is used to structure tailored notes for a client (for instance, combining highly rated inflation-linked bonds with CDS on a single corporate name) there is almost no residual risk retained by the bank (beyond reputational risk and potentially counterparty risk to the SPE for which the notes were structured).

At the opposite extreme, in a structured covered bond programme in which the assets are held in an SPE as security for noteholders, essentially none of the risk has been transferred from the originator to the noteholders. The originator of the assets (as opposed to the SPE) must make interest and principal payments to noteholders, and any shortfall between the cash flows received by the originator from the assets and cash flows to be paid by the originator to the noteholders must be covered by the originator. Consequently, should the portfolio of assets underperform, the entire risk of such underperformance lies with the originator. It is only when the originator has defaulted or has become insolvent, and the noteholders as a result exercise their recourse to the asset pool as security, that the noteholders first become exposed to the (potentially deteriorating) quality of the asset pool. Even then, much of the risk of the assets continues to be with the originator, because should the assets deteriorate even further to the extent that they are insufficient to protect the noteholders from losses, noteholders have recourse to the balance sheet of the originator. In this respect, the retention of risk by the originator is almost total, with no risks whatsoever being passed on to the noteholders until the originator is insolvent.

Most SPE transactions lie somewhere in between these two extremes. In credit card ABS, auto loan ABS and equipment lease ABS, most foreseeable credit risk is often retained by the originator, while tail risk or catastrophic risk is typically what the investor has assumed. In many ABCP programs, the first-loss or expected loss component is held by sellers of assets

into the conduits through overcollateralisation, while the sponsor assumes virtually all of the other risks.

Types of Tranches Retained

The extent to which risk has been transferred or retained will depend greatly upon whether the originator has retained a position in the capital structure or not, and if so what position. To take the example of CMBS, if the originator has sold both the senior "A" notes and the subordinated "B-piece" it has substantially reduced its risk retention in relation to the transaction, but if it has retained the "B-piece" its risk retention is significantly higher, as it will assume first losses on the collateral. The same could be said of CDOs, as the level of risk transfer versus retention depends on whether the originator has retained a junior, mezzanine, senior or super-senior position in the transaction.

The extent to which risk has been transferred and retained, and how this might vary depending on the tranches retained by the originator, also depends to a great extent on the sizing of the credit enhancement level, or the so-called "attachment point", above which the originator ceases to be exposed to the underlying assets in the SPE. For instance, assume that in a base case scenario a particular portfolio of leveraged loans is assumed to have a probability of default of 10%, and a loss given default of 30%, in which case the static expected loss estimate is 3%. In an extremely stressed scenario, however, it is assumed that the probability of default would triple to 30%, while the loss given default would increase to 50%, giving a static expected loss estimate of 15%. There is also a moderate scenario which lies between these, with a probability of default of 20% and a loss given default of 40%, producing expected losses of 8%.

Given these circumstances, the extent of risk transfer and retention can be summarised as follows:

- If the originator holds a 1% equity tranche in such a transaction, their economic exposure to the assets is negligible and finite – under most circumstances they will expect this equity to be eroded. In other words, the majority of the risk has been transferred to investors, with the exception of a token amount of 1% equity (which may be retained purely for marketing purposes while the transaction is being sold to investors).
- On the other hand, if the originator holds a 30% equity tranche in such a transaction, their economic exposure to the assets is large – under most circumstances (ranging from base case to moderate case to extreme stress) it is the originator, and not the noteholders, that will bear any cumulative losses on the assets. There has effectively been little or no risk transfer to the noteholders.
- If the originator holds a 10% equity tranche in such a transaction, its economic exposure to the assets is such that it is exposed to most losses in base to moderate scenarios, but will cease to take losses under circumstances of extreme stress. The originator of the assets has effectively only purchased "catastrophe insurance" from the noteholders, and should such a catastrophe not materialise, it is the originator that will retain the primary economic exposure to the assets.

Even more gradations of risk transfer can be achieved than outlined above. For instance, if a bank creates a CDO of which it retains the equity tranche and the super-senior tranche, but sells the mezzanine and certain senior (but not super-senior) tranches, it has essentially created a "loss corridor". The bank absorbs base case losses (via the equity tranche), the noteholders absorb further losses under a moderate stress scenario (via the mezzanine tranches), while the bank absorbs any further losses beyond that under a catastrophe scenario (because it is at this point that the super-senior tranche first begins to record

losses). To complicate matters further, if the bank subsequently purchased synthetic credit protection on the equity tranche, it has now retained only catastrophic risk exposure.

The difficulty of measuring the extent to which risk has been transferred or retained can consequently be reduced to the difficulty of measuring the expected loss on the assets under a variety of different scenarios, and simultaneously analysing the risk/return disaggregation process of the SPE.

Another element that makes it difficult to state definitively the degree of risk retention by broad categories of structures is that tranches that might be retained at the inception of a transaction can be subsequently sold or transformed through further structured finance transactions. The process of re-securitisation, or the creation of CDOs that are themselves backed by ABS, has been an activity that has received wide attention. Another such process of re-securitisation that has existed for several years involves the creation of net-interest margin (NIM) securities. NIM transactions involve the packaging of several cash flow streams resulting from excess spread in US RMBS transactions and issuing multiple classes of notes to investors. In European RMBS transactions there are also securities issued that remove excess spread from the transaction in the form of detachable A-coupon ("DAC") securities. A principal difference between NIMs and DACs is that the former typically takes excess spread from the bottom of the waterfall, while the latter typically takes it from the top of the waterfall – but, in either case, the originator's residual interest in the assets has diminished. Similarly, in CMBS transactions excess spread from the assets can be securitised via issuance of an "X" note. Finally, certain sub-components of the excess income may be split out and securitised separately; for instance, mortgage early redemption charge certificates ("MERCs") are securities that are specifically backed only by income receipts from prepayment penalties in UK RMBS transactions.

The risks and structuring of ABS CDOs is thoroughly discussed in another Joint Forum paper, and will therefore not be repeated here.[3]

The conclusion to be drawn from the above is that while to a certain extent the amount of risk transfer in SPEs can be summarised by vehicle type (for instance, risk transfer is generally lower in ABCP conduits than in CMBS), this simplified approach must also be supplemented by a knowledge of at what points in the capital structure the originator has retained risk (junior, mezzanine, senior, etc), whether the "attachments points" of these exposures retained by the originator are exposed to losses under base case, stressed case or catastrophe scenarios, and also whether the originator has in any case separately sold or hedged away such an exposure. The extent of risk transfer between an originator and investors cannot be adequately measured without taking consideration of all these factors on a transaction-specific basis.

The Changing Nature of Risk Transfer under Different Economic Scenarios

The previous example examining losses under various scenarios illustrates that the degree of risk transfer achieved depends heavily on the ultimate performance of the underlying pool of exposures. In other words, the ex ante estimation of risk transfer can be quite different from the ex post or realised level of risk transfer. The recent market environment has highlighted this difference. Notwithstanding the risk management issues discussed below, there is at least some truth to arguments that recent experience in terms of the performance

[3] The Joint Forum, *Credit Risk Transfer – Developments from 2005 to 2007* – July 2008. http://www.bis.org/publ/joint21.pdf

of structured finance positions, particularly highly rated positions, is the result of the realisation of a severe economic scenario.

However, even on an ex ante basis, there are many risk elements that firms retain, and recent events have demonstrated that these risks are not as remote as some might have thought in the past. An important risk element relates to triggers in many structured finance transactions. The technical details of such triggers are described in more detail elsewhere (Appendix 3), but are also elaborated on below because they illustrate how the amount of risk transferred from the originator to noteholders can change if certain triggers relating to the SPE into which assets were sold are breached. Some examples of this phenomenon are noted below.

The first example involves early amortisation triggers in revolving securitisation structures. Early amortisation provisions raise several distinct concerns about the risks to originating banking organisations. First, the seller's interest in the securitised assets effectively is subordinated to the interests of the note holders by the payment allocation formula applied during early amortisation. Note holders effectively get paid first, and, as a result, the seller's residual interest likely will absorb a disproportionate share of credit losses. Second, early amortisation can create liquidity problems for selling organisations. For example, a credit card issuer must fund a steady stream of new credit card receivables when a securitisation trust is no longer able to purchase new receivables due to early amortisation. The selling organisation must either find an alternative buyer for the receivables or else the receivables will accumulate on the seller's balance sheet, creating the need for another source of funding and potentially the need for additional regulatory capital.

Another example involves ABCP conduits. Bank sponsors often provide liquidity facilities to their programs, and in many cases, these banks viewed the liquidity facility as a deeply out-of-the money put option, and expected such facilities to rarely be drawn upon. However, when these facilities are exercised, they are drawn to their full extent. In addition, the draw on these facilities can result in long-dated assets held by the ABCP program becoming the assets of the liquidity facility provider, thus transforming a nominally short-term commitment into a long-term asset. These factors can contribute to significant liquidity demands being placed on the sponsoring institution, particularly when multiple liquidity facilities to multiple conduits are drawn down at the same time.

Account should also be taken of the potential interrelationship between triggers; these can exist both between different SPEs and within a single SPE. The interaction of triggers between SPEs could happen in the case of re-securitisations, whereby tranches of one SPE are repackaged within another SPE (for instance, in a CDO-Squared). It might consequently be possible that there are two layers of triggers for investors, thus complicating any analysis of the probability and impact of breaching such triggers for the investor. There can also be implications arising from the interaction of triggers within a single SPE, with UK RMBS master trusts being a case in point. For instance, there is a trigger (typically tied to the rating level of the originator) that prevents the sale of further assets to the SPE by an originator, and there is also a trigger (typically related to the size of the trust as a whole) that causes the entire structure to go into wind-down if breached. Breaching the first trigger will (unless remedied, which may be impossible) almost inevitably with the passage of time lead to a breach of the second trigger. Consequently, an unavoidable and irremediable downgrade of an originator would indirectly cause its SPEs to go into wind-down via the interaction of these two triggers (even though the SPE is intended to be structured as an arm's length vehicle), thus further exacerbating any funding and liquidity problems the downgraded originator may already be facing.

Even in the absence of stressed economic scenarios, the very nature of the structures used when risk is transferred via SPEs means that the ex ante risk transfer can be very different

from the ex post risk transfer, and the latter is likely to play out in a way that will exacerbate any funding, liquidity or asset quality problems that an institution may be (even temporarily) subject to.

Correlation and Procyclical Effects on Risk Transfer

The tendency of triggers to be tripped at the same time, or to be highly correlated, can have procyclical effects and can lead to downward spirals that essentially reverse any risk transfer that might be thought to have been achieved. High correlation between the performance of underlying exposures in an SPE and the performance of a third-party guarantor that is used as part of the process of transferring risk can also negate the ultimate amount of risk that is transferred. These feedback mechanisms are best illustrated through several examples provided below.

In SIVs there are market value triggers, whereby if the value of the assets in the vehicle falls below a certain level, then the structure goes into wind-down and assets may potentially be sold to repay noteholders. However, the circumstances in which the market value of assets falls to such a level, and in which assets are consequently sold into such a depressed market, can be a self-fulfilling prophecy, in that the assets are almost certain to suffer from firesale values when liquidated (especially if a number of SIVs simultaneously hit similar market value trigger levels). It is the party that holds the equity portion of the SIV – which is typically the sponsor of the SIV – that takes the first losses from any such depressed firesale value on the assets. Although this scenario does not involve an actual specific reallocation of risk from noteholders to the equity holder (unlike certain instances described in the previous section), the trigger built into the structure does potentially either cause or exacerbate a downward spiral that increases the amount of risk that is absorbed by the equity holder. This is because when such triggers are hit they initiate asset sales that depress the market price for such assets; these newly depressed market prices can in turn cause other market value triggers to be hit; this potentially initiates further assets sales, depressing market prices further. These lower market prices can also affect institutions that hold at fair value similar assets as those being sold (the sponsor of the vehicle is often one such institution), since these lower prices could affect the value at which those assets must be marked.

Another example involves multiple triggers being simultaneously breached on a securitisation vehicle due to downgrade of the originating bank. For instance, a bank could potentially be providing multiple services to the SPE holding the assets it has originated – as swap counterparty, liquidity facility provider, and subordinated lender via an unfunded (but contingent) reserve fund obligation. Should the bank be downgraded below the required rating levels for these functions (and these required ratings are typically tightly clustered together), it could simultaneously have to collateralise the swap, allow full drawdown of the liquidity facility, and fund the reserve fund. In other words, at the very time that the bank may be suffering from liquidity or funding issues due to the downgrade of its own rating, various triggers within the structure of the SPE may contractually obligate it to actively fund and/or collateralise multiple forms of credit support towards this same SPE.

The use of financial guarantors can also lead to procyclical effects when the guarantor's performance is highly correlated with the underlying exposures on which it has written protection. For instance, there are certain insurance SPEs which act as an alternative to reinsurance or extra capital requirements. In such circumstances, the insurance company creates an SPE, finds a third party to contribute additional capital to the SPE, transfers select risks to this SPE, and finally purchases synthetic credit protection on the SPE. As a result of this transaction, the insurance company can benefit from regulatory capital relief on the risks transferred to the SPE. In such a case, the insurance company has essentially used the SPE to convert its exposure to the assets into an exposure to a counterparty. If the counterparty's ability to perform on its guarantee turns out to be highly correlated with the performance of

the underlying exposures in certain adverse scenarios (which is likely to be the case), the amount of risk transfer could turn out to be quite limited in those cases.

As can be seen from the examples above, there are multiple risk transfer mechanisms, features and triggers pertaining to SPEs that potentially contribute to or exacerbate the effects of correlation and procyclicality on a financial institution's stability.

Asymmetric Information and Incentives of SPE Participants on Risk Transfer

The preceding discussion noted how the degree of risk transfer can change under various circumstances, with an emphasis on how risks can flow back to the originator or sponsor of an SPE. It is also worth noting how the asymmetric informational advantage of originators can offer originators the opportunity to transfer more risk to other parties than initially perceived.

Given that the originator of assets know more about exposures than investors, the originator has some advantage in knowing the true risk of a pool of exposures. This can allow it to structure a deal in a manner that allows it to most efficiently transfer risk. A number of illustrative examples in this respect follow.

Firstly, an originating bank is generally in a better position to determine the extent to which the quantified levels of triggers that measure credit quality and redirect cash flows within an SPE can be set to benefit it rather than noteholders. For instance, assume that an SPE holding residential mortgage loans has a delinquency trigger whereby if performance deteriorates to a specified level, cash flows to the junior noteholders are cut off in order to redirect cash flows to the most senior noteholders. Should the originator retain the most junior bonds of such a transaction, it would be incentivised to ensure that this trigger is set to as high a level as possible, in order to avoid it being breached, thus maximising cash flows to the originator. On the other hand, should the originator retain the most senior bonds of such a transaction, it would be incentivised to ensure that this trigger is set as low as possible in order to accelerate the likelihood of it being breached, once again maximising cash flows to the originator. Between these two extremes there are multiple interim stages, or alternatively other factors (such as the originator's incentive to receive excess spread from the transaction) that might drive either the level at which the trigger is set or how the trigger is calculated.

As a second example, where an originator, manager, structurer or counterparty has collateral substitution rights for the assets held in an SPE, there is the potential for it to substitute in assets or reference obligations which, while technically within the allowable guidelines and constraints of the transaction documents, carry more risk than other assets that would be eligible for inclusion in the SPE. Such a situation might arise, for instance, in a synthetic CDO where the originator, sponsor or swap counterparty may have the right to substitute in new reference obligations to replace existing obligations. (It should be noted, however, that such a conflict of interest can be mitigated to some extent by splitting the roles of originator (protection buyer) and manager.)

This can also extend from credit risk to other forms of risk, for instance prepayment/extension risk, where the originator of a mortgage securitisation might have some asymmetrical degree of either informational or operational advantage or control over the prepayment behaviour of the underlying mortgage pool that it could use to enhance its own retained positions at the expense of investors. For instance, it is possible for a collateralised mortgage obligation ("CMO") to be structured from residential mortgage assets, and for a tranche that is less exposed to prepayment risk (for instance, a planned amortisation class, or "PAC") to be created via the simultaneous creation of a tranche that is more exposed to prepayment risk (for instance, a so-called "non-sticky jump Z"). Either the

structurer or the originator could choose to retain the more or less volatile tranche based on a potentially asymmetric degree of either informational advantage or operational control over the prepayment behaviour of the underlying mortgage pool.

A clear counterbalance to the originator's ability to manipulate deal structure or performance is the interests of investors and certain third parties, such as credit rating agencies, who will seek to ensure risks are clearly understood and priced fairly. Investors should tend to favor SPE structures where the incentives of originators and investors are aligned, so as to minimise any principal-agent problems that could arise from discretionary powers or deal structure that could favor originators to the detriment of investors. In addition, since many originators tend to be involved in the structured finance market on an on-going basis, their incentive to game investors must be tempered if they wish to find future investors at reasonable funding costs in the future. Nevertheless, these asymmetric information issues are an important element in deal structuring of SPEs, and one that will be important to address to restart the structured finance market going forward.

How an Originator's Obligations towards Affiliated SPEs Impacts Risk Transfer

In the examples provided above, there was generally an explicit (albeit variable) retention of risk by the originator in the form of specific tranches issued by the SPE that were secured on assets that it itself had originated. However, it could be argued that if there is a high degree of linkage (in terms of obligations, contracts, services) between an originator and the SPEs into which its assets are sold, then (even if minimal or no specific tranches are directly retained by the originator) its indirect exposure to the assets (or technically to the SPE, whose only purpose in any case is to hold such assets) is such that it approaches equivalence with a situation in which the assets were not sold to the SPE in the first place. For instance, if an originator has sold assets it originated to an SPE, but is thereafter contracted to act as servicer of assets on behalf of the SPE, is also providing administrative and cash management services to the SPE, holds the bank accounts through which all cash flows from the assets are directed from borrowers to the SPE, is providing a liquidity line to the SPE that assumes the risk of payment mismatches between the assets and bonds, and is providing swaps to the SPE that hedge out interest rate and currency mismatches between the assets and the bonds – in such circumstances, how much (credit and non-credit) risk has effectively been retained by the originator, regardless of whether the assets have legally been sold to the SPE?

This particular consideration should also be judged in light of potential asymmetries in the contractual relationships between an originator and its affiliated SPEs, which can sometimes leave the originator in the weaker position. In order to achieve bankruptcy remoteness, an SPE often receives protections and safeguards from originators, service providers and counterparties that it does not in turn provide to such originators, servicer providers and counterparties. An example of this is where an SPE enters into a swap. Should the swap be marked to market, typically the SPE will have a credit support annex ("CSA") against the swap counterparty (which is often the originating bank), but the swap counterparty (ie the originating bank) will not have a CSA against the SPE. This means that the originator may have to post collateral for the SPE, but the SPE will not in turn have to post collateral for the originating bank. Although this risk is (to some extent) mitigated by the fact that the swap counterparty is typically senior in the SPE's cash flow waterfall, examples such as this (and they recur in other contractual relationships between an originator and its affiliated SPEs) illustrate the inherent asymmetry an originator may suffer in risk exposure to affiliated SPEs to which it has sold its assets – which can sometimes leave the originator in the weaker position.

How the Relationship Between Originators and SPE Investors Impacts Risk Transfer

When judging the true measure of risk transfer by an originator, aside from assessing the extent and limitation of an originator's obligations towards its affiliated SPEs, it is also important to assess the relationship between an originator and investors in its affiliated SPEs. For instance, it is possible that an originator (or an arranger on its behalf) sells the residual interest of a securitisation to a third-party investor, but provides funding to the investor for the purchase of this same residual interest. In such circumstances, it is likely that the credit quality of the purchaser to which this funding was extended could deteriorate in line with the credit quality of the assets (as well as the credit quality of assets of similar transactions in which the purchaser also has residual interests). In such circumstances, it could potentially be argued that the originator has transformed direct exposure to the assets into indirect exposure to the assets (via direct exposure to a party with a direct exposure to those same assets).

Likewise, an insurance company might have to reserve against a level of asset deterioration beyond what its own stresses or historical experience would suggest. In such circumstances, the insurance company could use the capital markets to fund this excess reserve via the issuance of bonds. However, if the insurance company provides funding to the buyer of such notes, or alternatively provides a separate guarantee (or "wrap") on such notes, then the same circular process that was noted above with respect to an originator funding the sale of a residual interest is replicated, and to some extent risk has been transformed rather than fully transferred.

The Non-Credit Considerations in Assessing Risk Transfer

The risk transfer process, and any consideration of its effectiveness or lack thereof, should extend beyond credit risk to include other forms of risk, such as liquidity risk and prepayment/duration risk. For instance, in some structures the maturity transformation of funding long-dated assets with short-dated liabilities via an SPE may leave the residual duration or prepayment risk with the originator/sponsor of the SPE. This is typically the case in ABCP conduits, where the risk lies explicitly with the liquidity provider, which is typically also the sponsor of the conduit. (This is because if it is not possible to refinance commercial paper by "rolling" it and issuing new paper, and if assets are not paying down sufficiently quickly to absorb this asset/liability mismatch, the liquidity facility is drawn upon to repay outstanding commercial paper and fund this asset/liability mismatch.) A less explicit (but often regarded by investors to be implicit) example is the optional call feature in many RMBS, CMBS and consumer ABS transactions. If the prepayment rate on the assets slows down to a significant extent (or sometimes even if it simply follows baseline expectations), the bonds may not be repayable solely from asset cash flows by their expected maturity date (which is typically also their optional call date). The originator then has the "option" to keep the bonds on schedule by calling them on this optional call date, and thus funding the asset/liability mismatch itself. While the originator has no obligation to do so, it may fear negative repercussions in the wholesale funding markets if it fails to do so. These are all instances in which considerations of risk transfer extend beyond credit risk to consider also whether other non-credit risks (duration risk, prepayment risk, etc) have also been transferred to SPE investors or have been (explicitly or implicitly) retained by the originator or sponsor of the SPE. The "implicit", as opposed to "explicit", nature of these obligations provides an appropriate segue into considerations of the broader issue of non-contractual support.

Non-Contractual Support

The factors noted above that can affect the degree of risk transfer generally involve contractual obligations of the various parties involved in SPE transactions. In addition to these contractual elements, another important factor in assessing the degree of risk transfer

achieved for originators is whether originators would be willing to provide non-contractual support to investors in SPEs. The motivations or events that could cause this to occur can be summarised as follows.

- Reputational risk: The firm does not wish its own perceived credit quality to be blemished by the underperformance or default of an affiliated or sponsored SPE.
- Signalling effect: The poor performance of collateral in an SPE is attracting a high degree of attention, and assumptions are being made that the quality of the firm's own balance sheet can be judged on a similar basis.
- Franchise risk: The firm does not wish to upset investors in an affiliated SPE as the firm has other relationships with these investors, for instance as holders of the unsecured debt of the firm itself.
- Liquidity and funding risk: The aggregate of the three risks outlined above could be that the poor performance of an affiliated SPE causes a firm's access to the capital markets for its own liquidity and funding purposes to be endangered. In such a case, this risk essentially increases the firm's willingness to absolve third-party investors in an SPE of the credit risk they assumed to avoid endangering its own access to the capital markets.
- Equity risk: The firm might hold a large equity tranche in a vehicle (for instance, a SIV) that is at risk. If the firm does not step in and support the vehicle after it has hit certain triggers (for instance, market value triggers) the resulting wind-down of the SPE and sale of the assets at depressed valuations is likely to erode their equity in the SPE to a greater extent than the firm stepping in and either affecting an orderly wind-down of the vehicle or taking the assets back on balance sheet.
- Mark-to-market risk: The forced sale of assets from an affiliated SPE could depress the value of related assets that the firm actually holds on balance sheet, and the firm wants to prevent a large negative mark-to-market impact on its own balance sheet.
- Little risk transfer: If the firm determines that there was little economic risk transfer in the first place (for instance, the tranching is such that only catastrophic risk that is unlikely to crystallise has really been transferred), it may be more willing to step in and voluntarily support an affiliated SPE.

The above events and motivations that can cause a firm to support its affiliated SPEs lead to a certain degree of tiering in the likelihood of an institution providing non-contractual support. For instance, the risk of implied or actual support is high in the case of credit card master trusts, especially if the originator is a monoline lender unwilling to endanger this business line. The same could be said of auto loan trusts with a close relationship to an original equipment manufacturer, as the provision of funding to retail auto customers will be a key component of broader business strategy. This has led to actual instances of support in both sectors. However, there are also cases of vehicles where institutions were assumed to be unlikely to step in and support the SPE, but actually did so – for instance, the actions of some banks in relation to their SIVs.

At the other extreme, there has been pressure on banks in certain southern European countries to provide credit support to affiliated RMBS SPEs where downgrade of notes is being threatened or has actually happened due to deteriorating asset quality, and such pressure has been resisted by the originating banks. Similarly, in most US RMBS transactions and CDOs backed by MBS, institutions have generally not provided non-contractual support.

Should such non-contractual support be provided, the impact of assets coming back on balance sheet are primarily fourfold. In summary, they are:

- Funding and liquidity: If there is an obligation to fund the repurchase of assets from the SPE, this may place strain upon the institution; in this context it was noted by one market participant that well-managed firms may need a "war-chest" of liquidity available in case the liabilities of a sponsored SPE fall due in large amounts and at one time during a period of market disruption.
- Accounting: Poor quality assets coming back on balance sheet may cause significant mark-to-market risk, as well as raising the leverage ratio of the institution.
- Regulatory capital: The firm may be required to hold increased capital against these assets, and may even have to hold capital against other SPEs to which risk was previously assumed to have been transferred if the regulator assesses the risk of potential support for other vehicles to be likely or imminent.
- Moral hazard: Another implication is that investors might expect an originator to provide non-contractual support to other SPE transactions in the future, which could add to the pressures noted above as reasons why originators and sponsors provide such support. This could make it even more difficult for an originator to avoid providing support in the future.

The conclusion of such considerations is that even if the contractual support obligations of an originator towards its SPEs do not crystallise and place it under increased strain at an inopportune time, it is possible that non-contractual support expectations from market participants could have the same impact in any case, and likewise place it under the same degree of strain.

Issues in Risk Management Related to SPEs

Given that the degree of risk transfer can vary significantly, we now turn to discussing the unique aspects of risk management that originators and investors face with respect to their involvement in SPEs. The first few sections focus on originators and sponsors of SPEs. In the later sections, we note issues that also relate to investors.

Integration of SPEs into Firm-Wide Risk Management

First, we look at the extent to which risk management processes differ for assets that are retained by an institution on its balance sheet versus those that are transferred to an SPE. Another way to look at this same issue is to assess the extent to which risk management practices differ (or not) before the sale of assets to the SPE and after the assets have been sold to the SPE.

For some institutions and their affiliated SPEs it appears that credit due diligence and risk management processes at point of origination of receivables are similar both for assets where risk is intended to be retained and where it is intended to be transferred. To take one example, most sponsors of ABCP conduits seem to undertake the same level of credit due diligence on sellers to the conduit as they would for assets not intended for the conduit, and apply comparable concentration and exposure caps. On the other hand, there seem to be other asset classes and vehicles – in particular, CDOs – in which origination specifically with on-sale to an SPE in mind may be the case, in which case there may be a somewhat truncated credit due diligence process compared to what would be undertaken if all risks were to be retained by the originator. In between these two extremes are such receivables as SME and leveraged loans, in which the continuity between origination practices for risk retention and risk transfer could be variable by institution and by vehicle.

In terms of surveillance and risk management after origination and sale of the assets to the SPE, this also varies by institution and asset class. Many firms maintain a single database of exposures for management information purposes, which aggregates exposures whether these are on balance sheet or have been sold to an SPE. This is fairly common for credit card securitisations, where originators view risks on a "managed asset" basis. This same aggregated risk analysis may also be used for capital adequacy analysis, to take account of the risk of assets potentially coming back on balance sheet. Aside from credit risk and regulatory capital adequacy, such aggregated risk analysis may also be used for assessing liquidity and funding risk. For instance, a firm may calculate a rolled-up measure of maximum contingent liquidity provision, which combines the probability of having to fund the repurchase of assets, roll-over risk in affiliated SPEs that rely on issuance of short-dated paper, and the requirement to fund the drawdown of liquidity facilities provided to SPEs should the institution's own rating be downgraded.

However, even when such an organic view of credit risk is being taken, there are typically still carve-outs and exceptions. For instance, certain types of vehicles (for instance, CDOs) may not be included in the aggregated risk analysis, and if certain portions of the risk are deemed to have been truly transferred (for instance, second-loss protection purchased on a portfolio of assets up to a specified level) this will be reflected in the rolled-up risk analysis. The nature of the vehicles included or excluded may not be consistent, and can vary over time. For instance, certain firms previously excluded SIVs from such aggregated risk analysis assuming that, like CDOs, the risk had been largely transferred (although this did not subsequently prove to be the case).

It should be noted that such an approach is increasingly being replicated by the credit rating agencies, which are raising the bar for what they consider to be true risk transfer to SPEs in ratings analysis. As a consequence, if the rating analyst senses any risk that the firm could feel pressure to step up and support an SPE, it will be consolidated back on balance sheet for ratings analysis purposes. This approach generally captures credit card master trusts and ABCP conduits. The carve-outs of such an approach taken by credit rating agencies are similar to those taken by firms themselves; for instance, it is unlikely that such an approach will be taken with CDOs, due to the greater arm's length nature of the transaction. Credit rating agencies also did not view the risk of SIVs returning to sponsors' balance sheets prior to the crisis.

On the other hand, there are cases in which risk management and surveillance by firms is either only aggregated across both SPE and non-SPE exposures on a very infrequent basis (for instance, semi-annually) or not at all. Indeed, it may be the case that not only are risk exposures not aggregated to include or exclude SPEs, but that individual exposures to an SPE may not be aggregated on an ongoing basis. For instance, a bank could have a liquidity facility, swap, and reserve fund linked to a single SPE, but each of these elements could potentially be analysed separately (by the swap desk, credit desk, etc) without necessarily rolling up the overall exposure of the institution to this SPE. Such decomposition of risk can potentially mean that a clear view of retained risk is not effectively maintained.

One flaw in the risk management process was that certain firms did not have specific notional limits on their aggregate exposure to securities held in SPEs by business line. For instance, in the process of warehousing securities there might have been an assumed exit via securitisation within a 1-4 month timeframe, and as a result there was sometimes no limit on the aggregate notional value of assets warehoused (although there might have been risk budgeting via an alternative means, such as VaR). As a result, when the securitisation markets froze up, the exposure of such firms to assets warehoused in various SPEs was substantially higher than the risk appetite of the firm for such assets, as firms were left holding assets of which the aggregate volume, quality, or sector allocation was misaligned with their risk appetite. This risk manifested itself during the recent market disruptions most

specifically in the leveraged loan and commercial real estate asset classes; many financial institutions had large pipelines of these warehoused, which – prior to disruption in the credit markets – they were expecting to securitise into CLOs and CMBS, respectively.

A further potential flaw in the risk management processes of certain firms was the failure to "look through" their exposures to certain asset classes that were either held on balance sheet or across various SPEs – ie whether such exposures were securities actually held by the firm in the banking book or temporarily warehoused pending securitisation. As a result firms could find that when their exposures to certain deteriorating asset classes and geographies were manually aggregated across SPEs via a look-through process that more exposure and risk had been assumed than was necessarily being sought. In certain other cases there was a disconnect within the firm between those analysing and monitoring a certain sector or asset class on the one hand, and those structuring and warehousing assets in that same sector or asset class for securitisation via SPEs on the other hand. As a result, while the former might have recognised in advance that a certain sector was increasingly prone to deteriorating performance and dislocation, the latter might have nonetheless continued to purchase and warehouse assets and structure SPEs regardless.

There were also cases in which internal funding was provided to SPE activities (for instance, the warehousing of assets), but no account was taken in matching the tenor of the assets with the funding. For instance, long-dated assets might have been funded via short-dated internal funding. As such, firms might have been taking on a combination of warehouse risk and asset/liability mismatching risk.

A consideration that materially impacts the transfer and retention of risk is the corporate governance process of SPEs. Financial institutions typically sponsor the establishment of SPEs and transfer assets and/or risks to them. Such SPEs are consequently typically viewed as being affiliated with the institution, and are sometimes (admittedly mistakenly) referred to as being "controlled" by the sponsor – indeed the financial institution may to a certain degree rely on its ability to "control" the workings of the SPE. In reality, however, the corporate governance of SPEs relies to a large extent on two elements: the oversight of the trustee and the mechanism of noteholder voting. A third element is the satisfaction of the criteria of the credit rating agencies, which the mechanisms of trustee actions or noteholders votes may either implicitly or explicitly aim to fulfil. The decisions of these three parties are often independent of the initial sponsor of the SPE. Consequently, there is the risk that the management of the SPE takes a direction not expected by the sponsor. Many parties ascribe such a risk to three factors: a restrictive or potentially under-informed stance taken by the trustee, an overly theoretical or unpredictable view taken by the credit rating agencies, and a passive stance taken by the noteholders. As a result, an institution may find that an SPE that it initially sponsored to meet a specific business need, and which it assumed it "controlled" to a certain extent, ceases to be such.

The Role of Complexity and Its Effect on Risk Management

An issue that materially complicates measurement of the risk/reward profile of SPE usage outlined above is its transaction complexity. The more complex an SPE becomes (in terms of assets, liabilities, counterparties, credit structure, legal documentation, etc), the harder it becomes to judge the results of the risk disaggregation process, and by extension to measure the extent of transfer and retention of risk among different parties.

First, a distinction should be made between structural transaction complexity that is standardised and well-understood by market participants (if still undeniably complex), and transaction complexity that is either non-standardised or not broadly understood by market participants. An example of the former is agency CMOs in the US RMBS market; while the tranching of these structures is undeniably complex, there is a universe of relatively

standardised tranche types that are repeatedly created and are generally well understood by informed market participants, and such structures can be analysed by an investor using desktop applications sold by vendors. At the opposite extreme are UK RMBS master trusts, where there is sufficient diversity among vehicles, and individual deals may be sufficiently complex that market participants can be surprised by workings of the SPE's credit structure, especially as the SPEs are sufficiently complex that there are few (if any) standard tools of analysis sold by vendors that enable sufficiently robust (or any) analysis of exposures.

A second consideration is the complex legal documents that underlie an SPE transaction. For instance, it is occasionally argued that investors could not have judged the risks they were assuming because the legal documents were so complex as to be almost opaque. Others would argue that complexity in legal documentation for SPE transactions is an unavoidable, and often necessary, evil. This is because any attempts at simplification are difficult due to the need to satisfy a myriad of disclosure requirements, and sometimes also to satisfy the demands of multiple jurisdictions. Furthermore, a distinction must be made, as above, in terms of the degree of standardisation of this complexity. In some asset classes, documentation is indeed lengthy and complex, but the documents are very standardised across transactions, so an investor's initial understanding of the documents should hold for most transactions from most programs thereafter.

Another consideration noted by some market participants was that certain bespoke clauses that might be required by a participant in one deal get repeated in other deals simply because the earlier deal was used as a template by other market participants for future deals. This can result in triggers or other deal features that are poorly understood by originators and investors accumulating in deal structures over time, adding to complexity.

At its most extreme, transaction complexity can lead to the ongoing monthly surveillance of an individual transaction taking an entire day to be run – as one market participant stated to be the case with a CDO-Squared transaction that it held on its books. When considering purchasing securities that required relatively costly due diligence, some investors admitted to relying on credit rating agencies to too great an extent. For example, it might be a resource-intensive task to properly analyse a CDO backed by a multitude of ABS; as a result, some firms tended to overly rely on the credit ratings assigned to these exposures because of the perceived trade-off between the cost of due diligence and the low perceived risk of highly rated positions.

To What Extent Did Sponsors and Originators Understand the Risks?

Given the factors and considerations outlined above, the question arises – to what extent did originators and sponsors of SPEs understand their risk/return profile after the risk disaggregation process had occurred? In this respect, a distinction must be made between senior management and those at the operational or executionary level of management. Several market participants interviewed noted that full understanding of the risk/reward profile of SPE usage among senior management was limited, and that in most cases senior management was unaware of the extent of overall linkage and obligations towards SPEs (whether explicit or implicit) until disruption in the credit markets actually made these crystallise. It was also observed that there is no clear pattern that larger institutions understand the risks better than smaller institutions. Indeed, there may be more enhanced senior management understanding and sensitivity at smaller institutions, especially those operating within a niche or monoline sector for which the use of SPEs is central to their funding strategy. Also it was noted that there is generally more understanding at repeat issuers than at infrequent issuers. Overall, it can be concluded that the limited understanding of these vehicles by senior management could represent a significant weakness in the risk management process of several firms.

To What Extent Did Investors Understand the Risks?

Likewise, the question must be asked – to what extent did investors in SPEs understand their risk/return profile after the risk disaggregation process had occurred? In other words, were investors aware of the credit profile, complexity, and overall risk profile of the bonds they purchased? The most common observations encountered in this respect are as follows.

- There was little independent due diligence undertaken by a large portion of the investor community into the SPEs in which they invested, though this varied among sub-sectors of the structured finance market (the weakest potentially being the overly rapid expansion in the investor base of US subprime RMBS and CDOs).
- There was not sufficient attention paid to the admittedly lengthy and occasionally opaque documentation that underlies the SPEs by investors, nor sometimes to the informational gaps and disclosure weaknesses on the collateral held by these SPEs (for instance, in SIVs).
- There was a specific lack of understanding on the extent to which the rating-linked triggers, mechanics and dependencies of SPE structures can negatively impact the cash flow and credit profile of various tranches of bonds issued by such SPEs, nor was there sufficient understanding of the methodologies that underlie the ratings assigned to bonds purchased by investors (and hence, surprise at the outcome of both rating changes and rating methodology changes).
- There was insufficient understanding of the corporate governance process of SPEs by investors, in particular the extent to which noteholder votes and interaction with the trustee can or cannot alter the workings of an SPE. This seems to have been the case particularly with CDOs, as there was much uncertainty among investors and trustees on the implications of events of default as they first began to arise.
- The extent of reliance on counterparties to SPEs was also misjudged by many investors. As key counterparties suffered either ratings downgrades (in the case of financial guarantors) or actual insolvency (in the case of certain investment banks), investors were surprised at the speed and severity with which the credit quality of the bonds they held suffered from this declining credit quality or default of counterparties.

However, distinctions need to be made in the above respect; most particularly, distinctions by geography. For instance some market participants noted that investors in US SPEs were caught unawares mostly by the credit quality and performance of the assets, and did not find themselves surprised by structural features of the transactions or their ability to access analytics and modelling resources for the bonds they held. On the other hand investors in European SPEs were not (to some extent are not as yet) so much caught unawares by the credit quality and performance of the assets in most sectors, but did find themselves surprised by structural features of the transactions and their inability to access analytics and modelling resources for bonds held. A unique situation occurred in Canada, where investors in ABCP issued by non-bank sponsored SPEs were caught by surprise when the commercial paper failed to roll over due to the use of liquidity lines that were triggered only in the event of a “general market disruption”. Note however, that the above comments only apply to certain sub-sectors of the securitisation markets (for instance, RMBS), while in other sub-sectors (for instance, CDOs and CLOs) both US and European investors found themselves in a similar situation.

V. Conclusions, Policy Implications, and Recommendations

There is broad-based usage of SPEs by financial institutions of many types, in many jurisdictions, and for many purposes. Indeed, some large institutions reported having over 2,000 affiliated SPEs.

Institutions engage in transactions that incorporate SPEs for a multitude of reasons. While regulatory capital optimisation is one key motivating factor, it is certainly not the only one. Our interviews with market participants found that other considerations could include a desire to attain: legal isolation of certain risks and exposures from the parent company; fee generation from the activities undertaken by the SPE; credit risk management via the reallocation of name-specific or sector-level exposures to the SPE; liquidity management via maturity transformation through the bonds issued by the SPE; or lower funding costs via the ring-fencing of assets in an SPE to provide security to note holders. It should be noted that tax-efficiency tends not to be a primary motivation in SPE usage. It was found that it was not generally the case that investors or originators use securitisation vehicles and SPEs as a means of avoiding tax. Rather, decisions as to where to locate an SPE—in onshore or offshore jurisdictions—appear to be based on ensuring that the SPE vehicle itself is fairly tax-neutral and thus does not impose marginal increases to a firm's tax burden.

It must be emphasised that the usage of SPE structures is not inherently problematic in and of itself. Rather, poor risk management and a misunderstanding of the risks of SPE usage can lead to failures. In cases where parties to SPEs possessed a comprehensive understanding of the associated risks and possible structural behaviours of these entities under various scenarios, they have effectively engaged in and reaped benefits from their SPE activities. While recent market events have resulted in a dramatic reduction in issuance of securities using SPEs, because of these multiple benefits of SPEs, we expect their use to continue.

A general consideration is the extent to which use of SPEs in and of itself can lead to poor asset quality and increased credit risk throughout the capital markets. This is prompted by the extent to which the use of SPEs in the "originate-to-distribute" lending model may have potentially incentivised originators to transfer the risk of weaker quality assets to those capital market participants least able to analyse the risk/return profile of the exposures that they had assumed. However, it is unclear that the poor credit quality of assets sold into such SPEs can be attributed to the existence of these structures, which were simply the legal form used to hold assets that backed bond issuances. As discussed in the preceding sections, various market participants took actions that accommodated investors "searching for yield." This Policy Implications section highlights some areas that should be addressed to ensure that, going forward, all parties involved with an SPE can better understand, assess, and manage the consequent risks associated with activities that may involve SPE usage.

Consequently, it is important to address why some of the recent failures of SPE usage occurred. To this end, a number of reforms have already been introduced or implemented by regulators or by industry itself. Many of these proposals have implications for the future landscape of SPEs that have yet to fully play out. Examples of such developments include:

- Changes to the economic exposure that financial institutions must retain in relation to their affiliated SPEs (for instance, the newly introduced requirement under the Capital Requirements Directive ("CRD") in Europe that investors only invest in securitisation exposures if the originator retains a 5% exposure to the assets, and similar proposals in the United States).

- Changes to the accounting treatment of SPEs – such as in the US – which could have a material impact, as regulatory capital requirements have historically been linked to accounting treatment in that jurisdiction.
- Regulation of the activities of credit rating agencies, and
- Both standardisation and disclosure enhancements to investors that relate to assets underlying SPEs.

While these proposed reforms go some way towards addressing potential weaknesses and concerns with SPE usage, the Joint Forum makes the following additional recommendations which are presented below in no particular order of significance.

Recommendation 1. Supervisors should ensure that market participants assess all economic risks and business purposes of an SPE throughout the life of a transaction distinguishing between risk transfer and risk transformation and be particularly aware that, over time, the nature of these risks can change. Supervisors should ensure that such assessment is ongoing and that management has sufficient understanding of the risks.

This is a consideration for supervisors (in creating appropriate regulatory capital, prudential liquidity, and other supervisory frameworks) and financial institutions (in assessing capital adequacy requirements).

After a firm has engaged in a transaction involving an SPE, supervisors should ensure that firms assess whether they have transferred risk, transformed risk, or increased its original risk position. In all cases, firms and supervisory authorities should be aware of the economic risks and business purposes when SPEs are used.

It is generally recognised that the growth in securitisation markets and related usage of SPEs was to an extent, under the Basel I capital framework, at least partly driven by regulatory capital arbitrage factors. In these cases, firms were able to lower their capital requirements by transferring to SPEs those assets associated with high capital requirements, while retaining on-balance sheet those assets that required lower levels of capital.

While the introduction of Basel II reduced and, in many cases, eliminated such regulatory capital arbitrage, a key consideration to prevent abuses or weaknesses in the use of SPEs is to ensure that regulatory capital requirements going forward focus on true transfer of risks. Following are examples illustrating scenarios where: (i) risks may not be transferred or else may be transformed; (ii) risks may appear to be retained but are not; (iii) risk profiles of SPEs may change over time, and (iv) transactions may have the same risk profile yet different regulatory treatments, with only one incorporating an SPE structure.

Risks may not be transferred or else may be transformed

Market participants and supervisors should be aware when the transfer of assets to an SPE is offset by the provision of seemingly credit-neutral facilities (liquidity facilities, swaps, etc.) to that same SPE that, in reality, provide a direct or indirect amount of credit support to it. For example, a firm that provides a liquidity line to an SPE that involves the repurchase of assets (including defaulted assets) at the option of the SPE has transferred little or no credit risk. In another case, the transfer of assets to an SPE structure whose investors have strong expectations that their bond payments will be supported, if necessary, by the originating firm and sponsor (through cash injections into the SPE) simply means that the originator is exchanging direct credit risk for indirect credit risk in the form of implicit support. In the former example, there has been little effective transfer of risk. In the latter, there has essentially been a transformation of risk.

Risks may appear to be retained but are not

Any regulatory developments that aim to force originators of assets to have more "skin in the game" by retaining an interest in SPEs must consider the possibility that originators could find ways to ultimately transfer away the majority of economic risks. For example, an institution could hold a first-loss piece of a junior tranche but synthetically hedge that exposure with a third party that is external to the SPE. Risks pertaining to an SPE may appear to be retained by a firm but, in economic terms, may not be.

Risk profiles of SPEs may change over time

As noted in the preceding section, the existence of triggers in many structured finance transactions may lead SPE risk profiles to change over time. Because of this, supervisors should understand the extent to which firms have based their trigger levels on true empirical or economic analysis. This would be in contrast, for example, to triggers that are derived from the residual output of modelling that was performed to achieve a certain tranching structure or rating level. Alternatively, these triggers could have been set at artificially high or low points based on either market convention or specific participants' demands. Consider, for example, a trigger that redirects SPE cash flows away from the originating firm (which is also the sponsoring firm) when a certain level (say 5%) of underlying obligor defaults and/or delinquencies is reached. The supervisor should understand whether the firm has set the 5% level based on a baseline, stressed or catastrophe scenario for the underlying or referenced SPE assets.

Transactions may have the same risk profile yet different regulatory treatments

Supervisors should be aware of instances where regulatory frameworks may treat a transaction that involves an SPE more beneficially than one without an SPE structure, although the true economic risk under both scenarios is essentially identical. For example, monoline insurers are generally prohibited or restricted from serving as a counterparty in a credit default swap (CDS) transaction. In practice, however, some firms have used SPE structures to achieve the same economic effect. In this case, supervisors could consider aligning the regulatory treatment of the two scenarios.

Closing points

Market participants and supervisors should consider the full range of risk types (credit, liquidity, duration, etc) that may be found in an SPE structure. Supervisors should review capital adequacy and liquidity standards to ensure that they focus on true economic risk, net of any contingent or residual exposures retained. The result in some cases could be that, where there is little economic risk transfer, regulatory capital or prudential liquidity benefits should be minimal or non-existent.

Market participants and supervisors should be aware of SPE structures where risk has been transformed rather than transferred (including where the risk transfer of the assets has been offset to some extent by the provision of facilities that directly or indirectly support the SPE) and where the degree of risk transfer can change significantly over time (eg, based on trigger levels). This latter point also means that regulatory capital adequacy standards may need to focus as much on the potential volatility of risk transfer as upon the absolute and static amount of risk transferred at transaction closing.

Recommendation 2. Market participants should be able to assess and risk manage factors that increase transaction complexity, such as structural features of an SPE including triggers and the roles of parties involved.

This is a consideration for firms (in their risk management of these vehicles), investors (in their purchase of notes issued by such vehicles), and counterparties (in assessing existing and potential financial and contractual obligations towards SPEs).

While transaction complexity can exist outside of SPE transactions, it is frequently the case that firms' usage of SPE vehicles for securitisation and risk transfer purposes has been accompanied by a significant degree of complexity in the areas of asset/liability structuring, product tranching, and risk and return allocation.

This transaction complexity should be more explicitly considered by market participants, whose risk management practices should draw a greater distinction between SPE structures that are less complex and those that are more. Less complex structures would include simple products such as single asset repackaging vehicles and basic mortgage pass-through products with no currency or interest rate mismatches. An example of a more complex structure is a monoline-wrapped tranche of a CDO of ABS.

Factors that contribute to transaction complexity

In addition to arising from modelling risk, transaction complexity can occur with structural features that may result in incentives or disincentives for certain parties to the SPE. These incentives can change over time or be based on market variables and conditions.

For example, some SPE structures allocate excess spread to the originating firm, which is also a holder of residual interests. In this way, the firm's initial cost basis can be recovered over time, leaving it with less of a vested interest in the transaction. Similarly, triggers built into SPE structures can substantially change the risk profile and cash flow allocation. An originator, manager, structurer or counterparty that exercises its collateral or corporate name exposure substitution rights can, for example, potentially transfer risk away from itself to the detriment of the SPE, its note holders, and other parties.

Another factor that influences transaction complexity is the roles and extent of involvement of the variety of parties to an SPE. Under a less complex structure, assets are capable of paying the liabilities under a broad range of baseline and stressed circumstances without excessive reliance on external parties and service providers such as financial guarantors, liquidity providers, and swap counterparties. Conversely, a more complex structure would rely to a significant degree on these counterparties and facility providers.

Arising from the crisis it has become evident that market participants had an overreliance on the use of credit ratings. Over the past months regulators and legislators have taken actions that will require more investor diligence to reduce this reliance. Investors will be expected to conduct their own analysis that will compliment that provided by the ratings.

Closing points

If the complexity of an SPE transaction rises to the level that quantifying the risks associated with it exceeds the analytical capabilities of the sponsoring firm or investors, then the firm should not sponsor and the investor should not engage in such a transaction. Firms should be aware of, and appropriately manage, the risk factors that contribute to transaction complexity, such as structural features including triggers and the roles of parties involved.

Similarly, it is important that investors only engage in transactions where they have sufficient resources and ability to independently analyse and quantify the risk of a complex SPE

structure. With increased complexity of SPE products and structures, the task of conducting due diligence on these securities has correspondingly become more resource-intensive for investors. As a result, many investors would admit to relying to a great extent (in some cases, over-relying) on credit rating agencies, particularly for more complex products such as CDOs of ABS. Some investors may also have not fully considered that credit ratings are intended to address only credit risk and not, for instance, increased illiquidity or extension risk that pertains to some heavily structured products.

Recommendation 3. Firms and supervisors should ensure the governance process of an SPE is commensurate with the degree of active intervention and discretion of the parties participating in an SPE.

This is a consideration for financial institutions (in their risk management of SPEs), counterparties (in assessing existing and potential financial and contractual obligations towards SPEs), investors (in their purchase of notes issued by such vehicles), and regulators (in creating appropriate regulatory capital, prudential liquidity, and other supervisory frameworks).

Firms and supervisors should understand how the mechanics of corporate governance could play out for specific SPEs *prior to* situations where these structures may come under duress. In particular, they should be aware of contractual stipulations requiring SPEs to take actions upon certain trigger events, but where the corporate governance process does not permit key parties to the SPE to factor in an appropriate level of judgment.

Many SPEs operate under terms that essentially require them to take pre-specified actions in response to changes in asset performance, market conditions, or counterparty events. These dynamic elements are often based on triggers or shifting allocations. Issues may arise, however, when the SPE's key participants and parties are not permitted much, if any, discretion by the provisions contained in corporate governance, oversight, and legal documents.

To illustrate, as trigger levels are hit, SPEs may be required to take a pre-determined action even if it is to the detriment of all investor classes and the majority of other parties and counterparties. Since the SPE's parties cannot intervene in or over-ride the SPE's actions (or at least not until more extreme specified events occur, such as events of default), the potential exists that a downward spiral is initiated or exacerbated in either the SPE or its sponsoring firm.

As a second issue, several market participants interviewed by the working group were critical of the extent to which the corporate governance of SPEs in certain jurisdictions relied on trustees (in those jurisdictions where such a legal status and concept exists and is used) as well as credit rating agencies, either *de jure* or *de facto.*

Several participants noted a disconnect between how passive or active a trustee's role is in the corporate governance process relative to what they felt was appropriate, given the level of complexity (or simplicity) of the SPE structure. It was also mentioned that, while credit rating agencies are not technically parties in an SPE's corporate governance process (as they are not signatories to underlying transaction documents), their actions can significantly impact the functioning of an SPE. The agreement of credit rating agencies may be "hard-wired" into documents as preconditions,[4] thus adding a second layer of rating-dependency

[4] The agreement of credit rating agencies typically takes the form of certain actions or events being dependent upon receipt in advance of confirmation from the agencies that such action will not negatively impact the rating

for an SPE on top of the first layer (the ratings assigned to the liabilities issued by the SPE itself).

Closing points

Firms and supervisors should review the degree of active intervention and discretion in the corporate governance process of an SPE to determine that it is commensurate with the dynamism and complexity of its structure. They should be alert to instances where a firm is establishing SPEs with terms that limit its ability to address pre-defined triggers, default events, or termination events. This could eventually lead to obligations, funding events, or subordination events that negatively impact the firm.

The role of a trustee should be tailored to the characteristics of the SPE. Where the SPE structure is relatively dynamic, then trustee involvement should be correspondingly more dynamic and provide for discretion. Also, while an obligation to notify credit rating agencies of certain events can be appropriate, caution should be taken to minimize the inclusion of CRA agreement or rating confirmation requirements into an SPE's transaction documents and corporate governance.

Recommendation 4. Firms should monitor on an on-going basis the quality of transferred exposures in relation to the risk profile of the firm's remaining portfolios and the impact on its balance sheet components, and supervisors should where appropriate assess systemic implications of risk dispersion to transferees.

This is a consideration for firms (in understanding where risk lies across their lines of business), investors (both as note holders of the secured debt of SPEs and as note holders of the unsecured debt of financial institutions) and supervisors (in their assessment of firm-specific capital adequacy and asset quality, as well as their broader consideration of systemic risk and depositor protections across the financial markets).

As examined in Section IV, the contractual obligations and relationship between a financial institution and its sponsored SPEs can often be biased in favour of the SPE vehicle, and not toward the financial institution as is commonly believed in the marketplace.

In these cases, SPEs are used to ring fence the highest quality assets on an institution's balance sheet for the benefit of secured creditors. In the event of the institution's default, the best-quality assets would be transferred to these SPEs, negatively impacting recoveries for the institution's investors and depositors. Furthermore, the repayment of any interests the institution itself holds in such SPEs (collateral, equity, or cash reserves) may become both time-subordinated and credit-subordinated, further eroding recoveries for the insolvent firm.

Firms and supervisors should be sensitive to asymmetries in the risk/return relationship between a financial institution and it's affiliated SPEs, which can sometimes leave the originator in the weaker position. Without the liquidity facilities, swaps, and reserve funds provided by sponsoring firms to their affiliated SPEs, the high ratings of bonds issued by those SPEs might not be attainable. In this sense, the high ratings of structured finance bonds issued by SPEs could be considered "borrowed" from the lower-rated financial institutions that support them.

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of the notes. This can be a precondition for certain actions to be undertaken (for instance, the replacement of a servicer or counterparty), or for the eligibility of assets held by the SPE to be considered (for instance, assets that provide the underlying security to note holders), or for the status of certain triggers to be determined (for instance, triggers related to the seller of the assets).

Conversely, in other cases, SPEs were used to repack and move the weakest quality assets on an institution's balance sheet for sale to investors, who were often multiple third parties likely to be in a weaker position than the originator to understand the assets' risk.

Closing points

Firms and supervisors should determine when an institution's aggregate use of SPE's is either endangering recoveries to unsecured creditors and depositors (via ring fencing of the better quality assets in SPEs) or potentially redistributing riskier assets to third parties (via sale to SPEs).

For the first case, supervisors should assess the capital adequacy and depositor protection implications for the transferor, particularly if exposure to higher quality assets is being transferred. For the second case, supervisors should where appropriate assess systemic implications of risk dispersion to transferees, or other financial institutions, particularly if exposure to lower quality assets is being transferred.

Furthermore, supervisors may need to monitor the extent to which financial institutions may be repeatedly undertaking financial and non-financial obligations skewed in favour of affiliated SPEs. If appropriate, they may encourage a firm to redress any imbalance that significantly impacts the true amount of economic risk transfer.

Recommendation 5. Firms should have the capability to aggregate, assess and report all their SPE exposure risks in conjunction with all other firm-wide risks.

This is a consideration for financial institutions (in their risk management of these vehicles), counterparties (in assessing existing and potential financial and contractual obligations towards SPEs), and regulators (in their general supervisory capacity).

The unfolding of the crisis in securitisation markets showed that both the quality of internal risk management practices relating to SPE usage, and the depth of senior management's understanding of the risk/reward implications of these entities, were mixed and at times limited. Risk management deficiencies existed in firms' abilities to aggregate risks, both across different SPEs and across the firm's functional areas exposed to the same SPEs.

Regarding the former, institutions often had only limited capacity to roll up exposures across all SPEs (both on and off balance sheet) in a timely and meaningful manner. Regarding their ability to aggregate their risks to a single SPE, institutions often misjudged the materiality of their combined exposures arising from the multiple roles they performed to an individual affiliated SPE. For instance, an institution could act as sponsor, originator, seller (of assets), servicer, liquidity provider, credit enhancement provider, swap provider, bank account provider, and residual interest holder of a single SPE that they structured.

When a firm acts in more than one role to an SPE, its scope of risk management (including stress-testing) should take more of an enterprise-wide view and be conducted across all pertinent business lines and risk types. For example, an institution that provides an SPE with a liquidity facility, swap, and reserve fund will wish to avoid a situation where each element is monitored by a separate functional area (swap desk, credit desk, etc), yet not aggregated to determine the firm's overall exposure to this SPE.

When deficient risk management practices are combined with the transaction complexity alluded to previously, as well as pressure to expand business in certain market segments, the resulting combination can pose particular risks. For instance, one firm noted that it abandoned some models that told it to not write protection on mortgages, but conversely followed a model that told it to buy super-senior AAA tranches. The firm acknowledged that

market pressures influenced these decisions to some extent, and noted the difficulty of stepping back from a market in which competitors were reaping large profits.

Of course, factors such as deficient risk management practices, complexity of quantitative modelling risk, and market pressures are not isolated to SPE usage nor to the financial sector. However, the disaggregation and repacking of exposures that SPEs help to intermediate may result in less easily recognisable risks from the senior management and supervisory perspectives.

In this respect, a stronger understanding of SPE usage by senior management could have acted as a check upon deficient risk management practices. Consequently, for systemically significant firms, a robust corporate governance structure is critical. Supervisors should review corporate governance structures of large firms to ascertain the effectiveness of the aggregation and reporting of risk information to senior management, risk oversight committees, and boards of directors. These reports should provide a sufficient level of detail showing material risks to the firm, whether on balance sheet or not, as well as risks that may arise under stressed conditions, and the correlations between them.

Closing points

As an example of a specific action that could arise from the preceding discussion, supervisors could insist that institutions maintain for senior management a consolidated schedule that aggregates business lines. It could describe financial and non-financial obligations, linked to ratings or other metrics, which the firm has to affiliated and third-party SPEs.

For example, a detailed matrix could list the SPE to which the obligation is owed, nature of the obligation (and, if financial, its amount and potential volatility), its tenor (eg transaction termination or maturity date), metric used to trigger the obligation (eg rating level), potential remedies (eg curing a trigger breach or finding a willing third party), and the period in which the obligation must be fulfilled. A firm could judge the impact of a rating downgrade (eg AA- to A-) on the drawdown and timing of liquidity lines and collateralisation of swaps, as distributed across both affiliated and third-party SPEs. Potential mitigating actions to avoid these liquidity and funding pressures could also be more easily assessed.

As a further example, if a firm is warehousing certain types of assets or exposures until they have sufficient volume to execute stand-alone transactions, there should be prudent monitoring and constraints in place that capture factors impacting the consequences of a disruption in the ability to execute such transactions. These factors could include the aggregate notional value of assets warehoused; whether the quality or sector allocation of such assets would align with the firm's overall risk appetite if absorbed on balance sheet; whether the tenor of such assets would align with the firm's funding and liquidity profile if absorbed on balance sheet; and, on a "look-through" basis, whether individual exposures (for instance, to specific entities or corporations) would align with the firm's existing on-balance sheet exposure to these same entities or corporations if aggregated after being absorbed on balance sheet.

Recommendation 6. If at inception or at any point during the life of an SPE there is a likelihood or evidence of support by the financial firm, including non-contractual support, then the activities and risks of that SPE should be aggregated with those of the institution for both supervisory assessment and internal risk management purposes.

This is a consideration for financial institutions (in their risk management of these vehicles) and regulators (in creating appropriate regulatory capital, prudential liquidity and other supervisory frameworks).

A phenomenon of the recent market disruptions was the extent and frequency with which institutions felt compelled to step in and support their sponsored SPEs, even in cases where they had no legal or contractual obligation to do so. In supporting such vehicles, institutions often experienced substantial funding and liquidity drains. The reconsolidation of these SPE assets may also have impacted firms' risk profiles.

The extent to which firms support their SPEs can vary by vehicle type. For example, insurance companies have a low risk of providing non-contractual support to their SPEs, with some exceptions. In contrast, non-contractual support is more commonly expected with credit card securitization trusts, as these assets are closely linked with credit card lenders (particularly monolines). These reputational risk factors make it more likely that originating institutions will provide non-contractual support to their credit card ABS transactions.

At times it may be difficult to assess in advance the probability of such support of SPEs occurring. For example, neither market participants nor supervisors widely anticipated the extent to which large, multi-line banks supported their sponsored structured investment vehicles (SIVs). Ultimately, these institutions did not wish to jeopardise the multiple business relationships that they had with these SIV investors, some of which served as wholesale funding sources. It is also possible that the risk of non-contractual support can change over time, so that a decision regarding on or off balance sheet treatment performed at transaction closing may have to be reversed at a later date.

Supervisors should consider that the precedent of firms supporting SPEs may lead to moral hazard concerns going forward. Should market participants expect that a sponsoring firm will provide resources to an SPE in duress, investors in that transaction may assume extra risk or conduct less rigorous investment due diligence.

Closing points

Institutions are willing to reassume credit risk that they had contractually transferred to third parties under certain circumstances in order to avoid the realisation of other risks that could be detrimental to their broader business strategy. Should there be a high probability that an institution will support one or more SPEs, supervisors must account for three types of implications: capital adequacy, leverage, and prudential liquidity.

In the context of capital adequacy, the amount of capital held against such an SPE should not just be driven by whether credit risk is transferred. It should also account for other risks, based on the probability of a sponsoring institution stepping in to support the vehicle.

Second, leverage measures might potentially incorporate off-balance sheet vehicles (funded and unfunded), temporary warehousing vehicles (as market disruption can render impossible the on-sale of such assets), and vehicles for which the financial institution has significant repurchase commitments (as these commitments tend to have a procyclical nature, as discussed in Appendix 3).

Finally, prudential liquidity measures could take into account an institution's asset/liability and prepayment risk assumptions for its affiliated SPEs, some of which are explicit (eg when a liquidity facility provides full support to an ABCP conduit) and also implicit (eg where bonds have an optional call date that the originator is almost certain to exercise due to market expectations). Guidance can also consider the potential volatility that these asset/liability and prepayment risks can cause, should certain SPE triggers be breached (eg the risk of becoming time-subordinated from a cash flow perspective).

Recommendation 7. Supervisors should support market participants' efforts towards greater standardisation of definitions, documentation, and disclosure requirements of SPE transactions and provide for the communication of any material divergence from these standards to investors in individual transactions.

This is a consideration for financial institutions (in sponsoring and structuring SPEs), legal firms (in preparing legal documentation for SPEs), investors (in considering the degree of disclosure and complexity of SPEs when purchasing notes), and supervisors (in more generally considering the breadth and remit of regulatory activities and scope).

Current efforts are underway by both securitisation trade associations and government bodies to increase the reporting and disclosure of activities and key risks of SPE vehicles. In conjunction with these initiatives that focus on increasing the amount and transparency of available SPE information, market participants should strive for greater standardisation in the definitions, documentation, and disclosure requirements relating to these transactions.

In certain asset classes or sectors, it has not been unusual for a term or clause introduced in one transaction to be picked up and inserted into the documents of subsequent deals executed by that same institution and others. In this way, an initial bespoke provision could for better or worse get disseminated in an *ad hoc* fashion on a wider basis. This phenomenon has contributed to the heterogeneous nature of SPEs across the market and to transaction complexity, as institutions active in multiple SPEs (sponsored or not) face increased difficulty in aggregating and monitoring their risks and exposures to SPEs.

Generally, in the majority of cases and countries at present, SPEs tend to be formed on a customised basis by private contract. The level of transparency provided will differ by the SPE and be based on its own legal documentation and contractual relationships. However, more standardised forms of SPEs are seen in certain countries. For instance, the SPEs used in Spain and France to ring fence mortgage assets for securitisation purposes are statutorily defined structures that are relatively standardised.

Closing points

Any efforts to increase the degree of standardisation across the industry for certain types of SPE must consider, on the other side, the advantages of both allowing latitude for SPE transactions to be tailored to unique needs of involved parties as well as allowing financial product innovation. Nonetheless, the working group believes that there remain benefits to having greater standardisation, particularly in the area of definitions, documentation, and disclosure requirements.

Just as helpful as encouraging more standard SPE practices in these areas will be for the industry to provide for a more consistent way to communicate to investors any material divergences in individual transactions. For example, an SPE's legal documentation could be supplemented with disclosures designed to emphasise any non-standard structural features, as compared against more commonly used provisions. In assisting investors and counterparties to quickly identify departures from more common practice, these participants

can more efficiently identify potential additional risks or anomalies in their SPE-related investments.

Recommendation 8. Supervisors should regularly oversee and monitor the use of all SPE activity and assess the implications for regulated firms of the activities of SPEs, in order to identify developments that can lead to systemic weakness and contagion or that can exacerbate procyclicality.

This is a consideration for regulators and organisations involved in the promotion of financial stability (in their assessment and consideration of systemic risk across the financial markets).

The increased use of transactions incorporating SPEs, in particular securitisation activities, has led to exposures and risks being more broadly dispersed throughout the global financial system (eg the holding of US mortgage-backed securities by not only its domestic institutions but also those in Europe and Asia). While there are benefits to spreading risks across different investor bases, a consequence is that over time financial markets become more linked and correlated. While systemic contagion is often thought to occur based on the dispersal of specific asset classes (for instance, subprime mortgages), it can also be based on widespread usage of specific vehicle types or legal structures.

Transactions incorporating SPEs can, in cases, exacerbate the procyclicality of an individual firm's performance and also that of the financial system. Linkages between an institution and its SPEs will tend to work against the institution at inopportune moments; the institution will be called upon to support its SPEs when it has the least ability or resources to do this. For instance, when downgraded, the institution may be required to pre-fund a liquidity facility or collateralise a swap for its SPE. Alternatively, an institution may have to fund the repurchase of assets held by an SPE during a time of disruption in the open market, if the SPE itself cannot finance them by rolling over its paper.

This risk is exacerbated in that, as noted in Recommendation 4, the contractual obligations and relationship between an institution and its sponsored SPEs can often be biased in favour of the SPE vehicle. As an example, if an institution suffers a rating downgrade, it must collateralise its obligations to its SPEs. In contrast, if the notes issued by an SPE are downgraded, the SPE does not have to collateralise its obligations to that institution.

Another aspect of systemic risk is the extent to which SPE usage can play a role in increasing the absolute level of leverage in the financial system. As the absolute value of an institution's exposures (whether on or off balance sheet) expands based on its proliferation of affiliated SPEs, it becomes increasingly important that both firms and their supervisors understand and manage this leverage in a manner appropriate to the firm's risk appetite and profile.

Closing points

Supervisors should continually oversee and monitor the use of all SPE activity, in order to identify developments that can lead to systemic weakness and contagion or that can exacerbate procyclicality.

A broad range of entities across the financial system may have some form of exposure to activities related to transactions that incorporate SPEs. Some of these entities may be directly regulated by a financial supervisor, while others may be corporate affiliates of these directly-regulated subsidiaries. Beyond this, some firms that have SPE-related exposure may not be regulated by any financial supervisor. Thus, any supervisory consideration of the systemic risk implications of SPE usage, and the range of firms that can be impacted, must consider that a significant portion of SPE exposure resides in this "unregulated" portion of the

financial sector. Supervisors will need to understand the implications of activities in this area in order to fully assess the roles, activities, and exposures to SPEs that their regulated firms are engaged in.

Appendix 1

Principal Forms and Features of Special Purpose Entities

Special Purpose Entity (SPE) is a global term sometimes used interchangeably with the terms Special Purpose Vehicle (SPV) or Special Purpose Corporation (SPC). An SPE is a legal entity created at the direction of a sponsoring firm (referred to as the sponsor, originator, seller, or sometimes administrator). The sponsor is typically a major bank, finance company, investment bank or insurance company. An SPE can take the form of a corporation, trust, partnership, corporation or a limited liability company. In addition to the sponsor, a variety of other parties can be involved in an SPE depending on the sponsor's purpose in establishing the SPE. For example, if a sponsor transfers assets to an SPE, the assets held by the SPE are typically serviced by a servicing provider on behalf of the SPE through a servicing agreement. In addition, the administrative functions of the SPE are performed by a trustee or an administrative agent. (The roles of these parties and service providers are elaborated in more detail in Appendix 2.)

A critical and defining feature of an SPE is its bankruptcy remoteness. SPEs are generally structured to be bankruptcy remote from the sponsoring firm. In the event that the sponsoring firm enters a bankruptcy proceeding, the sponsor's creditors cannot seize the assets of the SPE. Moreover, SPEs are established as limited purpose entities and are designed to minimise the risk of insolvency of the SPE itself. Furthermore, if assets are transferred from the sponsor's balance sheet to the SPE, the transfer is structured as a true sale for legal purposes. By satisfying the true sale requirement, the assets gain further isolation from the risk of bankruptcy of the sponsor. (More details on asset transfer methods and structures are provided in Appendix 2.)

SPEs are used for a variety of business purposes, including (but not limited to) the transfer of credit and interest rate risk, as a source of funding (financing and leverage), as part of an originate-to-distribute business model (focused on fee-based revenues), for arbitrage, for reduction of regulatory capital requirements, for customer facilitation and retention, and for balance sheet management. These business purposes are not necessarily mutually exclusive and several of these objectives may be achieved in a single structure. (More details on motivations for the use of SPEs are provided in Chapter III.)

Depending on the legal structure and the accounting regime, the assets and liabilities of an SPE may be required to be consolidated on the balance sheet of the sponsor or other participant entities regardless of its "bankruptcy remote" status. Otherwise the SPE will be an off-balance sheet entity. (More details on accounting and regulatory capital treatment of SPEs are provided in Appendix 2.)

The multitude of uses for SPEs is evident through the sheer number of SPEs used by some firms. Some large financial institutions noted during interviews conducted with the group that their respective firms employed over 2,000 SPEs.

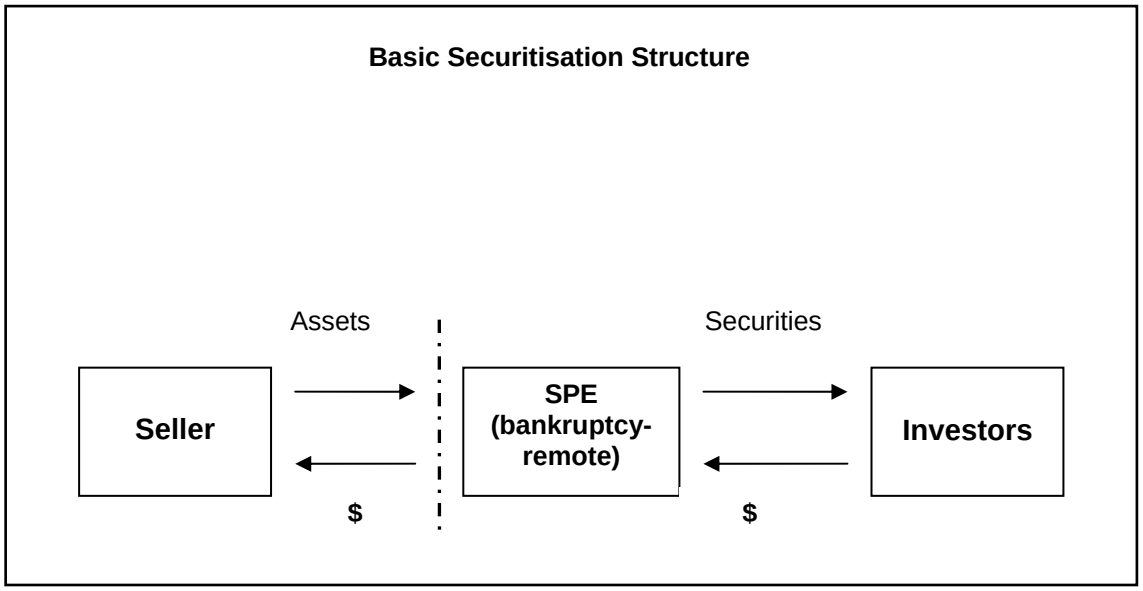
One of the most important uses of SPEs is in the realm of securitisation. Securitisation is a structured finance process that consists of the pooling and repackaging of cash flow producing financial assets into securities that are sold to investors. These securities are termed "asset-backed securities". The securitisation process often uses an SPE to isolate the assets from the selling institution in a bankruptcy-remote vehicle. Residential and commercial mortgages, credit card receivables, automobile loans and leases, home equity loans, and student loans are among the most common asset classes used as collateral in

securitisations. Although secured financing in various forms has existed for centuries, the earliest securitised transactions in their current form in modern finance date back to the early 1970s and consisted of sales of pooled mortgage loans by the Government National Mortgage Association (Ginnie Mae). The Federal Home Loan Mortgage Corporation (Freddie Mac) and the Federal National Mortgage Association (Fannie Mae) followed with issuances of their own mortgage-backed securities in the early 1980s. As the capital markets evolved, more innovative products were developed, which led to a diversity of asset classes, risk profiles and maturity spectrums. The variety of securitisation structures expanded beyond mortgage-backed securities (MBS) to include other types of asset-backed securities (ABS), including collateralised mortgage obligations (CMOs), asset-backed commercial paper conduits (ABCP), structured investment vehicles (SIVs), collateralised debt obligations (CDOs), credit linked notes (CLNs) and hybrid securities like trust preferred securities (TRUPS). In terms of geography, while the origins of these forms of securitisations are centred in the US (particularly in the case of MBS and CMOs), from the 1990s onwards the securitisation of residential, commercial and consumer assets became increasingly widespread in Europe, Asia, and emerging market economies.

The purpose of this section is to provide a discussion of the common types of structures that use SPEs, and it is not intended to be all-inclusive. There are many variations of these types of structures ranging from the relatively basic "plain vanilla" types to highly complex transactions that would require more complicated diagrammatic representation and many pages to describe. Nonetheless, the following discussion is intended to provide an overview of common SPE structures by asset class and their principal components.

Residential Mortgage Backed Securities (RMBS), Commercial Mortgage Backed Securities (CMBS)

The basic asset securitisation structure incorporating an SPE using mortgages as assets and mortgage-backed securities as liabilities is described and diagrammed below[5]. This basic structure serves as the foundation for many of the various structures that are described throughout this report.



5 Source – "Special Purpose Entities (SPEs) and the Securitisation Markets" by The Bond Market Association, International Swaps and Derivatives Association and the Securities Industry Association, February 1, 2002.

The seller, typically a mortgage lender (an originator), extends mortgage loans to borrowers. The seller could be a bank that both originates and buys loans or a bank that just buys loans to securitise (also called a sponsor). The seller and a trustee representing investors create an SPE. The trustee performs a fiduciary role and, in some jurisdictions, administrative functions on behalf of the investors. The seller sells a pool of mortgage loans to the SPE. The SPE in turn sells mortgage-backed securities ("MBS") to investors. The MBS represent beneficial interests in the underlying mortgages. The funds from the sale of the MBS by the SPE are paid to the seller for the assets. The seller uses the proceeds for other uses, including making loans to other homebuyers. This process is often termed the "originate-to-distribute" business model. In addition, based on the income stream collected from the mortgages held by the SPE, the SPE passes through the underlying monthly principal and interest payments from the mortgages to the investors in the securities. The issued securities are termed "mortgage-backed securities" because they are backed by the mortgages held by the SPE.

Two of the significant uses of SPEs for the securitisation of assets in this form are for two types of MBS: residential mortgage backed securities ("RMBS") and commercial mortgage backed securities ("CMBS"). RMBS are securities whose cash flows are derived from residential debt such as prime (or in the US agency market, "conventional" or "conforming") mortgages, home equity loans, and sub-prime and Alt-A (or in European terms, "nonconforming") mortgages. CMBS are securities whose cash flows stem from loans secured by commercial real estate such as office buildings, multi-family apartments, and retail property. Additionally, RMBS can be classified as "agency" versus "non-agency" RMBS securities in the US market. The former, "agency RMBS", are issued by the government sponsored entities ("GSEs") Fannie Mae and Freddie Mac, or by the government agency Ginnie Mae. In contrast, non-agency RMBS in the US market are issued by private institutions such as banks, mortgage banks or investment banks. Outside of the US, issuance of RMBS is typically by private institutions rather than government agencies, although there are government agencies or government-related entities issuing RMBS in some countries (eg in Japan and Russia).

In RMBS and CMBS structures, principal and interest payments from underlying loans are passed through to certificate holders (ie investors) after the deduction of servicing expenses and other senior expenses. In terms of the amortisation profile, CMBS payment structures differ from RMBS in that the bonds issued often contain bullet payment provisions (eg a ten-year balloon payment, with a 25- to 30-year amortisation schedule), whereas the bulk of RMBS amortise over a 15- or 30-year period with no balloon payment. However, it is possible to also structure RMBS with bullet payments (for instance, in UK RMBS master trusts) or with a concentrated repayment schedule (for instance, in certain US CMO tranches). These differences in securitisation structures will sometimes result from differences in the underlying mortgages backing the securitisations, which can have these disparate amortisation features.

RMBS and CMBS are usually structured with multiple tranches or classes of securities. The bonds usually carry a fixed or floating interest rate (but may also assume other forms, eg accrual bond, etc), and are typically rated by a credit rating agency. The different tranches can provide differing levels of credit risk, duration risk, and yield. Payments are made to the investors (typically, monthly) based on tranche seniority, generally referred to as a security's position in the "waterfall". If there is a shortfall in contractual loan payments from the borrowers, or if loan collateral is liquidated and does not generate sufficient proceeds to meet payments on all bond classes, the investors in the most subordinate bond class will incur a loss, with further losses affecting more senior classes in reverse order of priority.

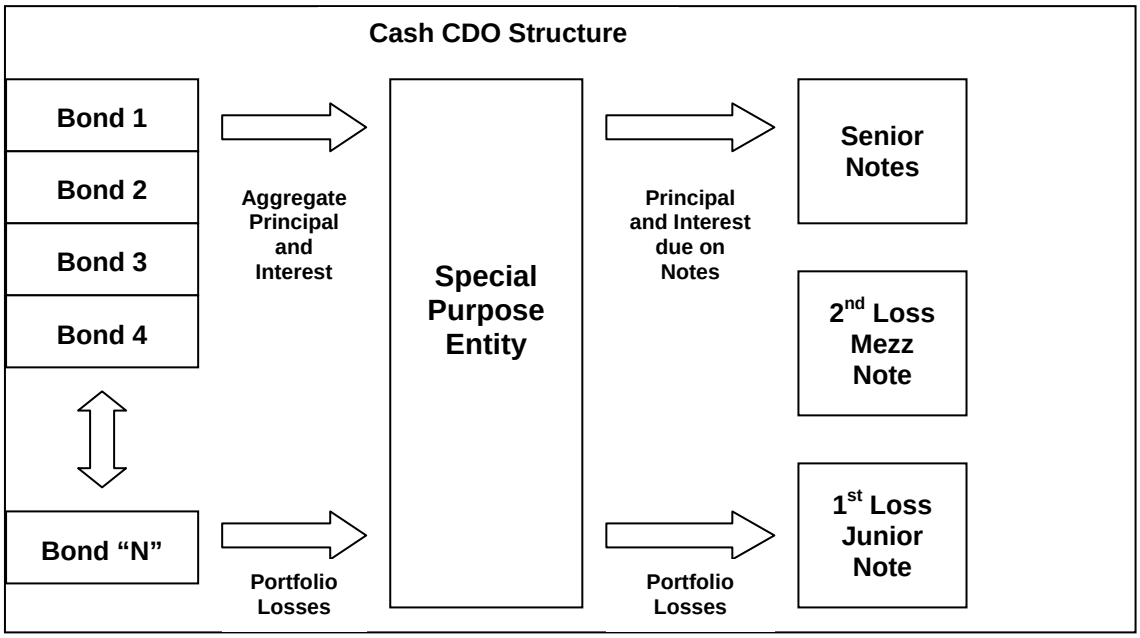
Total US and European non-agency MBS issuances peaked in 2006 at $1,527 billion, declining to $955 billion in 2008. US agency RMBS issuance peaked in 2003 at $2,129 billion

and averaged approximately $1,000 billion for each of the following five years. See Tables A and B within Appendix 4.

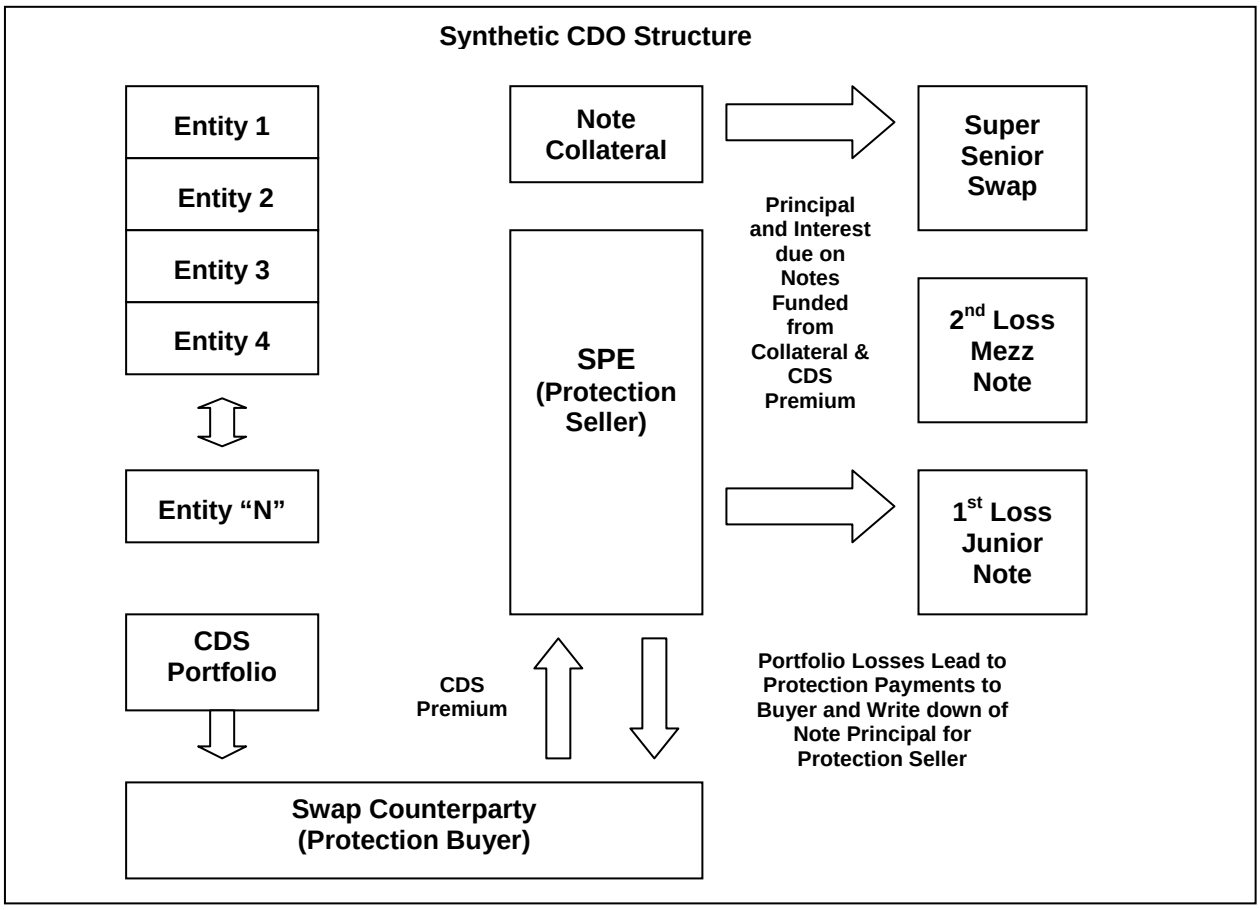
Collateralised Debt Obligations (CDOs, CLOs)

CDO structures involve an SPE acquiring a pool of assets (bonds or loans, or a combination thereof), and funding the acquisition by issuing securities to investors. A CDO creates fixed or floating rate securities with a range of coupons and risk ratings through the re-prioritising of cash flows from the underlying asset pools. The prioritisation of cash flows from the underlying assets in a CDO results in the issuance of securities or tranches with ratings that can be higher, as well as lower, than the overall ratings on the assets of the underlying portfolio. CDOs can be backed by RMBS, CMBS, investment-grade or high yield corporate bonds, emerging market bonds, other asset-backed securities, bank loans, trust preferred securities (TRUPS), or other CDOs (a CDO structured using other CDOs is termed a “CDO-squared”, while one structured using other CDO-squareds is termed a “CDO-cubed”). Depending on the composition of the assets that are pooled, these structures may also be called collateralised loan obligations (CLOs) if the underlying collateral is comprised of loans or collateralised bond obligations (CBOs) if the underlying collateral is comprised of bonds.

The CDO provides differing levels of credit quality that are typically grouped into three or more tranches having the same maturity. The senior tranches have the highest credit quality and the lowest yield; the mezzanine tranches have slightly lower credit quality with a higher yield; and the subordinated, junior or equity tranches generally receive the residual payments that remain after the more senior tranches have been paid. The equity tranches pay the highest yield, but also have the greatest risk. These tranches receive no credit rating and are the first tranches to suffer losses. CDO equity is effectively a leveraged investment on the underlying asset classes in the CDO portfolio. However, CDO equity can offer competitive returns relative to other asset classes with similar risk profiles. Particularly when the equity markets are producing lower returns, investors may seek to reallocate part of their equity exposure to alternative investments such as CDO equity. The senior and mezzanine tranches have an investment-grade credit rating that is achieved through the use of internal credit enhancement, such as over-collateralisation (where the value of the underlying collateral is greater than the value of the CDO securities issued) and subordination (ie absorption of losses by the more junior tranches), as well as external credit enhancement in the form of a letter of credit or guarantee. The two principal types of CDO structure (“cash CDO” and “synthetic CDO”) are diagrammed and discussed below. Some CDOs are designed to contain both cash and synthetic features; these are termed “hybrid CDOs”.



In a cash CDO, investor capital is used directly by the SPE to purchase the collateral portfolio and the cash flows generated by the portfolio are used to pay the principal and interest due on the notes issued to investors.



In a synthetic CDO, the investors' credit risk exposure is created "synthetically". Instead of the SPE purchasing the assets directly, the SPE (the protection seller) enters into a credit default swap on a reference portfolio of assets with the protection buyer (typically the arranging or originating bank). The goal is to create the credit risk of buying the reference

portfolio as in a cash deal through the use of derivatives. The proceeds from the SPE's note issuance to investors are typically used to purchase collateral to cover the SPE's obligations under the credit default swap and the notes. This collateral usually consists of highly liquid, high quality securities. The protection buyer in the credit default swap usually pays a premium to the SPE, which covers the SPE's expenses and the difference between the coupon on the notes issued to the investors and the income received on the lower-risk collateral purchased.

If a credit event affects an entity in the reference pool, the SPE pays the protection buyer an amount linked to the loss incurred on the reference entity asset. This loss is passed on to the investors by writing down the notes by an equal amount in reverse order of seniority, beginning with the first loss junior notes. The amount of the protection payment by the SPE is realised by a corresponding sale of the collateral held by the SPE. When the transaction reaches maturity the remaining collateral is liquidated and the proceeds are used to repay principal to the investors based on their priority claim.

A form of CDO structure widely used in the US is referred to as a TRUP ("trust preferred" security). Bank TRUPs were introduced in 2000 and insurance TRUPs were introduced in 2004. TRUPs are created when an SPE, which is controlled by the bank or insurance company, issues preferred stock. The controlling firm issues debt which is purchased by the SPE. Interest payments on the debt provide the cash flow payments for the preferred stock dividends. Trust preferred securities have the following general characteristics:

- Subordinate to all debt on a company's balance sheet, but senior to both preferred and common stock;
- Generally thirty years maturity, non-amortising instruments that pay quarterly or semi-annual interest;
- Dividend payments may be deferred for up to five years;
- Callable after five years for small institutions and ten years from issuance for large capital markets issues;
- Dividends are tax-deductible for the issuer.

CDO structures may be "static" or "managed". The first CDOs had a static (or "passive") structure, where the selected pool of assets was structured and held constant over the life of the transaction. These early transactions were appealing to investors due to their simplicity, transparency, relatively wider spreads, and shorter maturities. The credit events at Enron and Worldcom in the US and Parmalat in Europe exposed the weakness of the static structure. Given that the universe of highly liquid CDS names was limited, the collapse of a single name credit would have a more damaging impact on a synthetic CDO structure than on portfolios of other asset classes. According to a report published by S&P in June 2004 the Parmalat failure to pay was single-handedly responsible for a decline in the global average recovery rates on synthetic CDOs in the last quarter of 2003, which fell from 35.2% to 23.2%.[6]

In response to this potentially damaging impact on synthetic CDOs, the managed (or "dynamic") structure was created. In this structure, a manager is engaged to monitor, and if necessary to trade credits within the pool to protect against a deterioration in credit quality.

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[6] Source: Standard & Poor's, "Recovery Rates for Credits in Global Synthetic CDOs, Structured Finance Report Q1 2004"

The reference portfolios in a synthetic CDO can be “lightly” managed, which allows for some substitution under a defensive management strategy, or can be “fully” managed, where there is active management of the underlying pools of credits operating within pre-defined criteria.

US and European CDO issuance peaked in 2007 at $1,253 billion and declined dramatically to $287 billion in 2008. See Table A within Appendix 4.

Asset-Backed Commercial Paper Programmes (ABCP) and Structured Investment Vehicles (SIVs)

An ABCP programme, often called an ABCP conduit, is comprised of an SPE that buys and funds assets using the basic securitisation framework described earlier, where the financing of assets is largely accomplished through the issuance of commercial paper to investors. The commercial paper is referred to as asset-backed commercial paper due to the collateral backing the commercial paper. This is in contrast to commercial paper issued by firms that represents a general claim on the firm. The ABCP carries a high-quality short-term rating issued by one or more of the credit rating agencies. Depending on the structure, ABCP programmes may be reflected on the balance sheet of the sponsor or may be off-balance sheet.

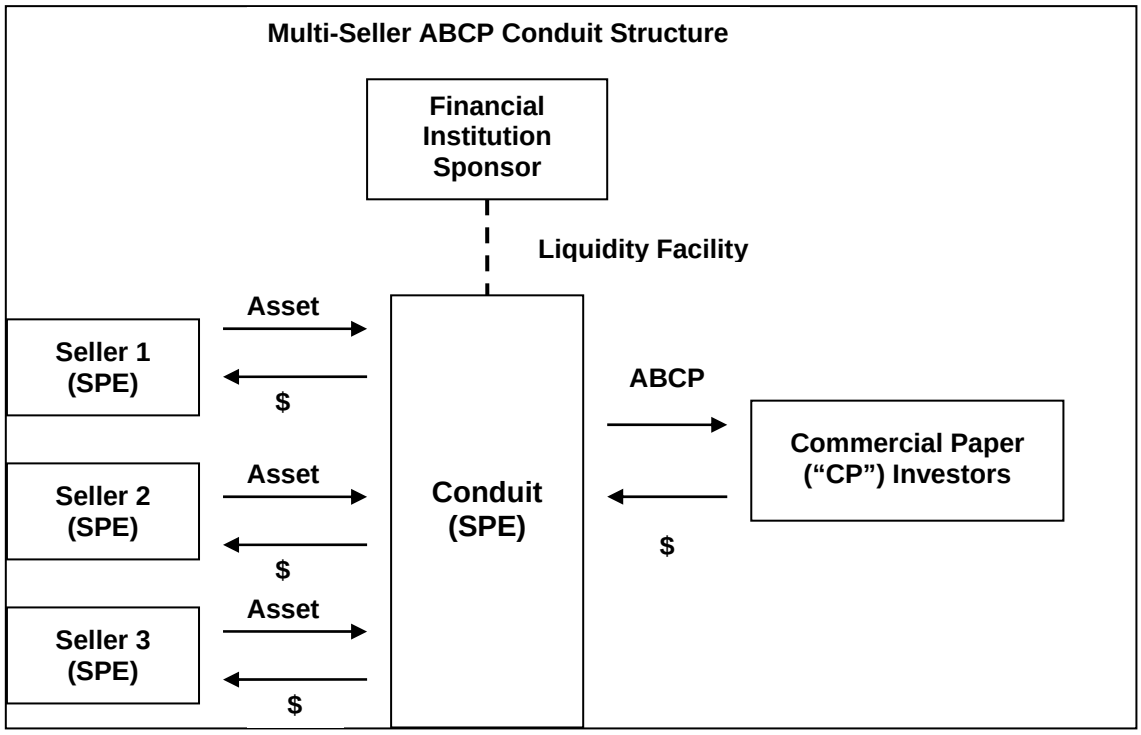
US and European ABCP outstandings peaked at $1,352 billion in 2006 (US outstandings of $1,127 billion and European outstandings of $225 billion). By 2008, outstandings had declined to $731 billion (US outstandings of $664 billion and European outstandings of $67 billion). See Table C within Appendix 4.

Unlike “term” securitisations (which have a fixed life), ABCP programs generally have no maturity and are intended to be essentially perpetual (or “evergreen”). Also, the average life of the programme’s assets can be longer than the tenor of the ABCP issued, and as a result the conduit will use the proceeds of new ABCP sales to pay maturing ABCP notes, which is referred to as “rolling paper”. To cover the situation in which a programme is unable to retire maturing ABCP through its cash holdings or new issuance, the vast majority of programmes are required by the criteria of the credit rating agencies to maintain a back-up liquidity facility, usually provided by a large commercial bank, to ensure that funds will be available to repay investors at maturity.

There are multiple types of ABCP programmes, including single-seller conduits, multi-seller conduits, securities arbitrage conduits, and structured investment vehicles.

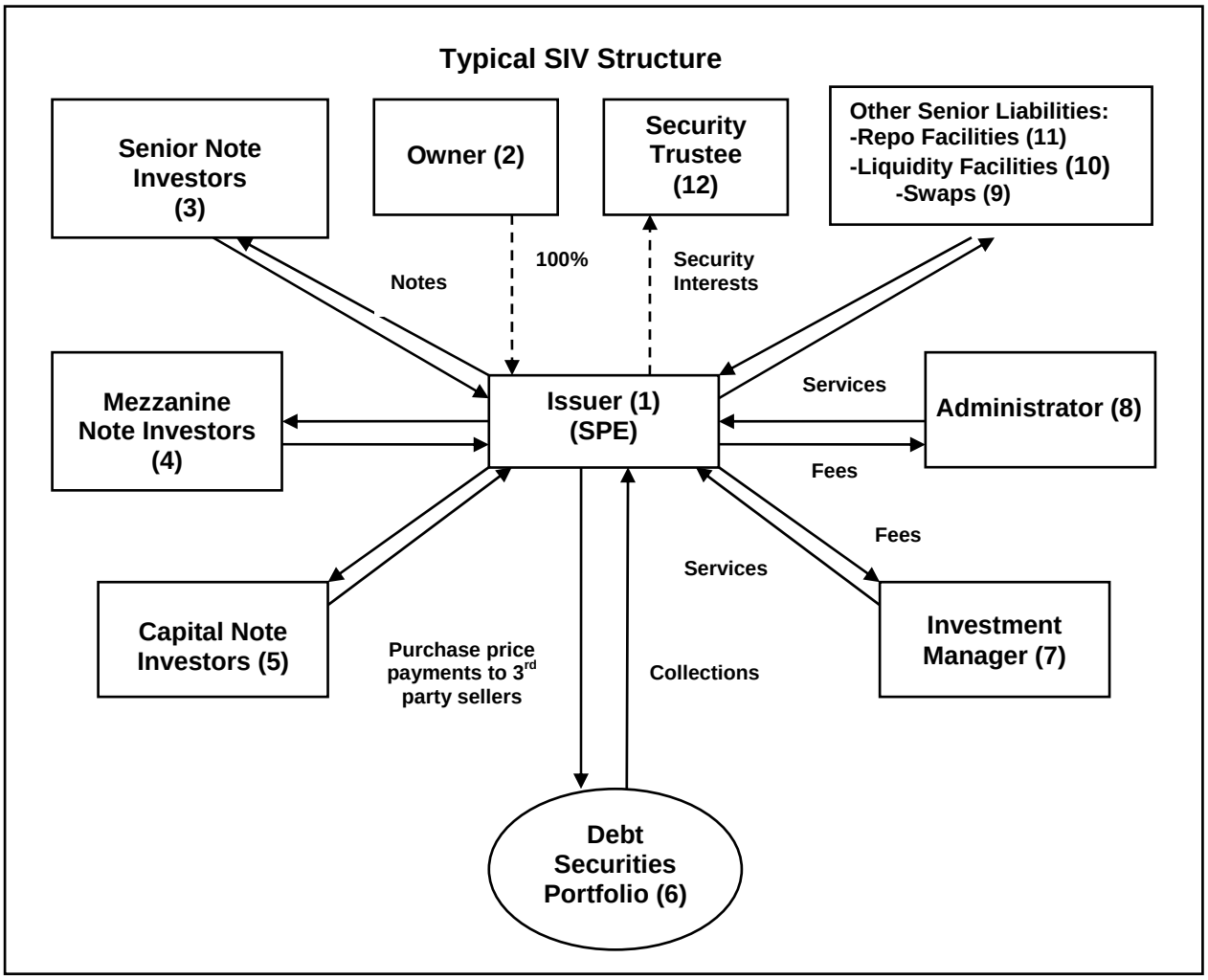
Single-seller conduits are typically managed by a bank or finance company that establishes an SPE and sells its own assets into the vehicle for the benefit of its primary business. Many credit card, mortgage, and other financial services firms manage their own single-seller vehicles.

Multi-seller conduits are generally administered by a large commercial bank that uses the vehicle to provide financing for multiple bank clients. Each transaction in this type of conduit is independently structured and credit enhanced to an investment grade level. Typical multi-seller assets include credit card receivables, auto loans and leases, commercial loans, trade receivables, and equipment leases. Some multi-seller conduits may buy rated securities for investment purposes (which is a feature that resembles the securities arbitrage conduits described below), and are consequently referred to as hybrid programmes. A diagram of a generic multi-seller conduit structure is shown below:



Securities arbitrage conduits allow sponsors, who are usually commercial banks or asset managers, to finance highly rated securities, on an on- or off-balance sheet basis, while benefiting from the term structure of interest rate and credit spreads by funding the purchase of long-term assets using short-term borrowing. Similar to the single- and multi-seller conduits, these types of programmes rely on the existence of liquidity facilities to ensure that the commercial paper investors can be repaid in the event the issuer is unable to issue new commercial paper.

Structured investment vehicles (SIVs) are similar to securities arbitrage conduits in that they purchase highly rated securities, but they differ significantly in structure. SIVs are leveraged investment companies that have some characteristics of an operating company. Unlike the typical securities arbitrage conduits, SIVs generally raise third-party capital and leverage this capital by issuing debt in both the commercial paper and medium-term note (MTN) markets. SIVs that issue only ABCP are referred to as SIV-Lites. Another structural difference is that SIVs do not rely exclusively on bank liquidity facilities as a backstop for maturing debt. Rather SIVs incorporate a dynamic liquidity management process based on the scheduled maturities of assets and liabilities. Typically, on an ongoing basis, a SIV will need to maintain a combination of liquid assets and bank liquidity equal to two to three weeks of cumulative net cash outflows. SIVs are also required by the criteria of the credit rating agencies to mark their portfolios to market on a regular basis and to meet capital adequacy and other tests in order to maintain their ratings. SIVs may be required to delever, or even be unwound, if failures in these tests go unremedied. SIVs are among the more complicated of structured finance arrangements. A diagram and discussion of a typical SIV structure is presented below.



A description of the transaction in the figure above is as follows:

1. The issuer is typically a special purpose entity organised in an offshore jurisdiction such as Jersey, the Cayman Islands, or Ireland. Many structures have a separate US note co-issuer. "SIV-Lites" issue only ABCP and not senior medium-term notes (MTNs).

2. The equity owner is typically another special purpose company or a charitable trust whose equity investment is nominal.

3. Senior MTNs (rated AAA/Aaa) are usually listed on an exchange, whereas the short-term ABCP (rated A-1/P-1/F-1 or higher) is usually not listed.

4. Mezzanine MTNs are usually listed on an exchange and rated investment grade; there may be more than one class.

5. In some structures, capital notes are divided into sub-classes backed by different portions of the asset portfolio. "SIV-Lite" structures generally issue only one series of capital notes (rather than utilising an ongoing issuance programme).

6. The SIV invests note proceeds in a pool of debt securities, often including ABS, MBS and CDOs.

7. The investment manager chooses investments and manages the portfolio within agreed parameters, and earns performance-based fees. The investment manager may be the bank or an affiliate of the bank that establishes and sponsors the programme.

8. The investment manager or SIV engages a third-party administrator to run performance tests and prepare reports.

9. The SIV enters into interest rate and currency swaps or other hedge contracts as necessary to minimise its interest rate and currency exchange rate exposure.

10. Liquidity facilities are typically 364-day commitments with the amount based on the highest net cash outflow (NCO) in any week over the next 12 months. Unlike "traditional" ABCP conduits, liquidity facilities do not cover all outstanding senior notes. Liquidity facilities may be provided in whole or part by the sponsoring bank.

11. Repo facilities are not usually committed, but may provide an important source of temporary liquidity funding.

12. The issuer grants security over substantially all its assets to secure its obligations to investors, facility providers and programme service providers.

In 2007, the sub-prime crisis caused a widespread liquidity crunch in the commercial paper market. SIVs rely heavily on short-dated commercial paper, hence they are constantly refinancing. In August 2007, commercial paper yield spreads widened to as much as 100 basis points, and by the beginning of September the market was nearly completely illiquid. Commercial paper investors had become risk averse even though many SIVs had minimal sub-prime exposure and, at that point, had suffered no losses from collateral.

Large banks began to announce that they would stand behind the SIVs they had sponsored and bring the assets onto their balance sheets under both accounting and regulatory capital rules. On the other hand, there were other SIVs that did not have the benefit of a large sponsor to avoid a less orderly wind-down. As of October 2008 no SIVs remained as going concerns in their prior form, though some were restructured into different forms. Global outstandings in SIVs grew from $104 billion in 2003 to a peak of $297 billion in 2007 before declining to $45 billion in 2008. (See Table D within Appendix 4). The previously typical SIV structures are not considered viable in current market conditions, due to their vulnerability to extraordinary market value fluctuations and failures of market liquidity

Covered Bonds

Covered bonds are securities that are issued as direct obligations of a credit institution and are collateralised by specifically identified assets, which are typically residential mortgages or public sector loans but can also range from shipping loans to commercial mortgage loans. Therefore, covered bonds are somewhat similar to the mortgage-backed securities described earlier, but with some key differences. Firstly, covered bonds are typically direct obligations of the issuing institution, not of an SPE – and the SPE (if used at all, as some covered bond programs do not) only has the purpose of holding the collateral in trust as security for note holders in case of the insolvency of the issuing institution. It is only upon insolvency of the issuing institution (typically, a bank) that the cash flows from the assets or the proceeds from the sale of the assets are applied directly to pay the bonds, rather than the issuing institution paying the bonds itself. Secondly, because of this difference, covered bonds are technically “secured funding” as opposed to “securitisation” proper – ie the assets in the SPE act as security, but note holders are not exposed to the credit quality of these assets until

insolvency of the issuing institution. Finally, covered bonds can be issued without the use of any SPE in countries where it is possible to register collateral as security for note holders under a legislatively or statutorily created register. In other countries without such a system or register, like the UK, the US and Canada, the collateral is moved to an SPE in order to segregate it as security for the note holders. Covered bonds have mostly been issued in Europe, but issuance of covered bonds in the US began in 2006 on a very limited basis (though only two large US institutions undertook issuance).

Aside from the similarities and differences of covered bonds and asset-backed securities described above, covered bond assets also will generally remain on the issuer's balance sheet for accounting purposes, even though they may have been legally segregated or "ring-fenced" through the sale to the consolidated SPE. Consequently, the issuer, and not the note holders, is exposed to the credit quality of the pool of assets that secures or "covers" the bonds unless the issuer becomes insolvent. Similarly, non-performing loans or prepaid loans in the pool must generally be replaced by new loans by the issuer. Covered bonds generally are highly rated, as the note holder has recourse to both the pool of assets (after insolvency of the issuer) and directly to the issuer itself (both prior to insolvency of the issuer, as the issuer is its primary obligor, and after the insolvency of the issuer as an unsecured creditor, aside from its separate secured creditor status). This is the so-called "dual recourse" of covered bonds. However, it should be caveated regarding this dual recourse mechanism that there are covered bond types under which the investor does not have recourse to the other assets on the balance sheet of the affiliated financial institution.

Tender Option Bonds (TOBs) and Variable Rate Demand Obligations (VRDOs)

Tender option bonds ("TOBs") are essentially a way to fund long-term municipal bonds in the short-term market. Typically, a TOB sponsor will buy a portfolio of fixed-rate, long-term municipal bonds with ratings between AA and AAA and combine them with an interest rate swap and create, through securitisation in an SPE, senior short-term tax-exempt floating-rate notes that are sold to investors. The amount of senior securities sold is somewhat less than the value of the bonds held by the SPE. The excess of the underlying bonds held in the SPE over the senior notes issued (the "residual") is sold to junior note holders, who, in effect, have a leveraged exposure to the underlying municipal bonds. The senior note holders have a put option, also called a tender option, which allows them to put their bonds back to the issuer at par at any time with settlement on the next reset date.

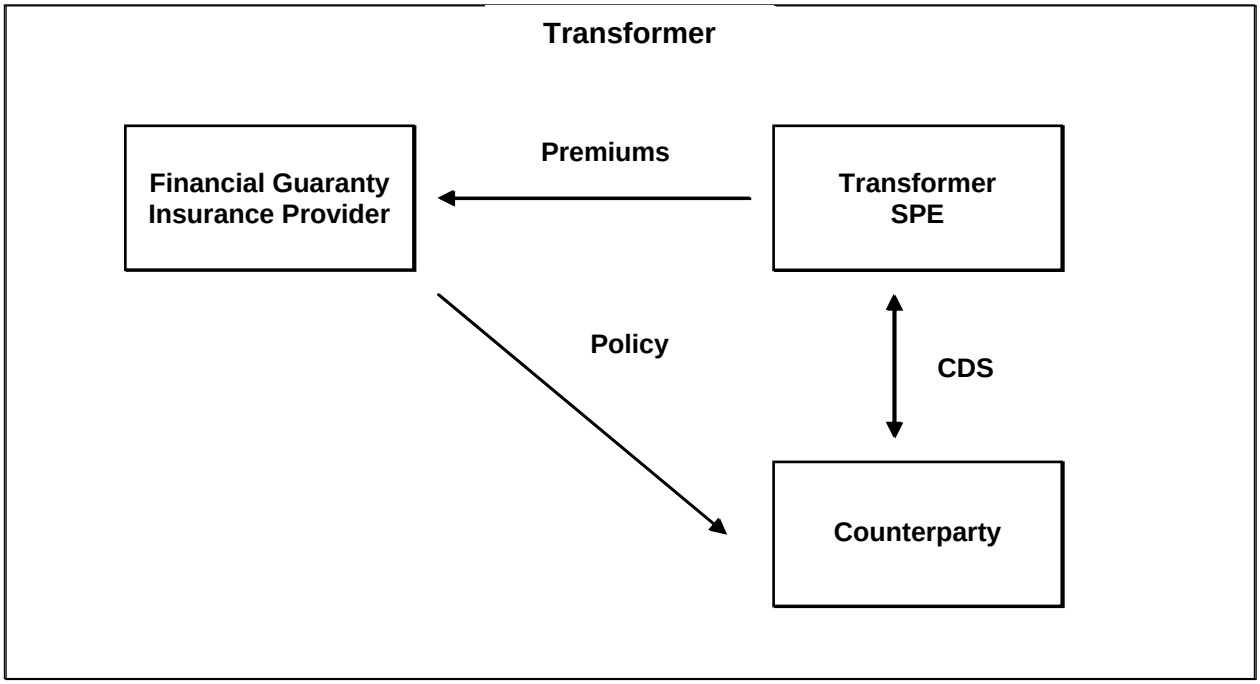
The most common of TOB structures is the Variable Rate Demand Obligation ("VRDO"). VRDOs are short-term, tax-exempt notes whose yield is reset on a daily or weekly basis (monthly, semi-annual, and annual resets are also available) by a dealer firm, called the "remarketing agent". In the VRDO structure the senior notes have the same maturity as the underlying bonds (up to 30-40 years), but they are considered short-term because liquidity is provided by the put feature that coincides with a daily or weekly yield reset. The VRDOs are purchased at par and when they are put back to the issuer the investor receives par plus accrued interest. Nearly all VRDOs are supported by either of two types of credit enhancement: a letter of credit ("LOC") or a stand-by bond purchase agreement ("SPA") – typically provided by a large commercial bank. The LOC provides an unconditional liquidity demand feature, which would redeem the investors' notes in the event that the VRDO cannot be remarketed at the reset date. An SPA is a stand-by liquidity facility provided by a commercial bank and then wrapped by an investment grade (previously, usually AAA) monoline municipal bond insurance company.

Repackaging Vehicles

A significant client-driven business that has grown from the use of SPEs to securitise assets is the structuring of repackaging vehicles. These structures are tailored to meet the specific needs of a financial institution's clients, allowing them to access markets and to invest in specific assets that, for regulatory or tax reasons, they may be unable or unwilling to invest in directly. These structures also allow investors to invest in synthetic assets. Repackaging has developed into a global market through which practically any asset which generates a cash flow can be transformed into a security. The basic structure entails the purchase by an SPE (established by the structuring financial institution) of one type of security (the "underlying security") from another entity. The SPE then issues its own debt or equity securities (the "repackaged securities"). This structure allows the benefits of the underlying security to pass to the holders of the repackaged securities (the financial institution's customers). The availability of these types of structures helps the financial institution attract and retain clients by providing a mechanism for clients to acquire exposure to many asset classes and risk profiles in a single instrument.

Transformer Vehicles

Financial guaranty insurance providers will typically use the transformer structure to provide the equivalent of guaranty insurance through the use of credit default swaps (CDS) which are often preferred by the guaranty provider's customers.[7] A basic transformer structure is diagrammed and discussed below:



The guaranty provider establishes an SPE that will act as the counterparty on a credit default swap. In most cases, transformers are minimally capitalised and are generally controlled by the guaranty provider regardless of the form of ownership. The transformer enters into a

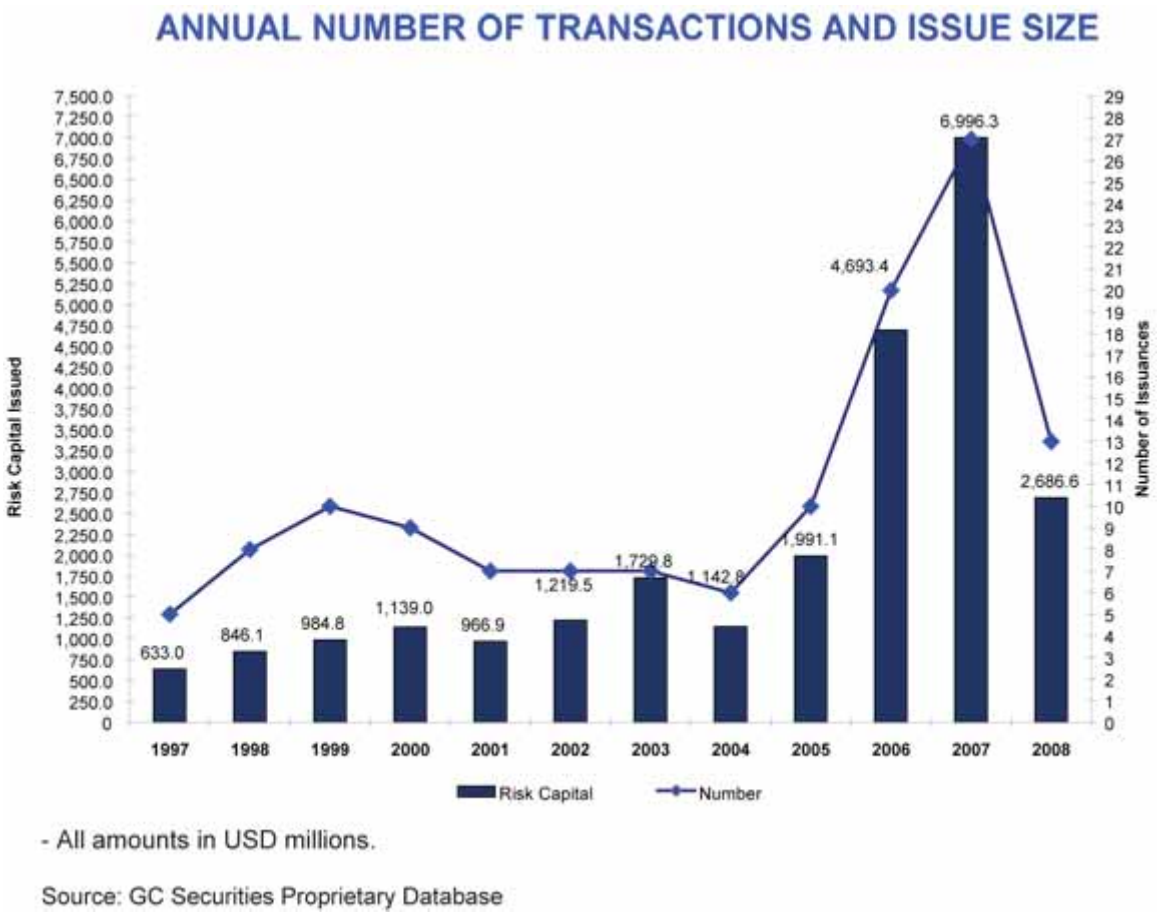
[7] A credit default swap is a credit derivative contract between two counterparties to transfer the risk of debt default. The buyer makes periodic payments (usually monthly) to the seller and receives a payout if the underlying debt instrument defaults.

CDS with a third-party counterparty. Under the CDS the counterparty is the buyer of credit protection and the transformer is the seller of credit protection. The guaranty provider guarantees the transformer's payments under the CDS by issuing a financial guaranty insurance policy to the counterparty. Premiums for the insurance policy are paid to the guaranty provider by the transformer with the proceeds from the periodic payments received from the counterparty under the CDS. If a credit event occurs, which requires a credit protection payment by the transformer to the counterparty, the counterparty would turn to the transformer and then to the guaranty provider for the payment of its claim.

Catastrophe Bonds (CAT Bonds)

A relatively recent innovation in the market for structured finance has been the use of special purpose entities by insurance firms for the purpose of transferring certain insurance risks, whose potential losses would have historically been either absorbed by the firm's capital position or transferred to a third party via a reinsurance contract, into the broader financial market. The first transactions came to market in the mid 1990's and since that time the market has shown steady, if not dramatic, growth. The earliest of these bonds, so called "cat bonds", or "act of God" bonds, were designed to allow insurers a mechanism to manage catastrophic risk of loss, eg hurricanes, earthquakes, etc. The following table shows the growth in notional value of the insurance securitisation market since its inception.

Insurance Securitisations by Year

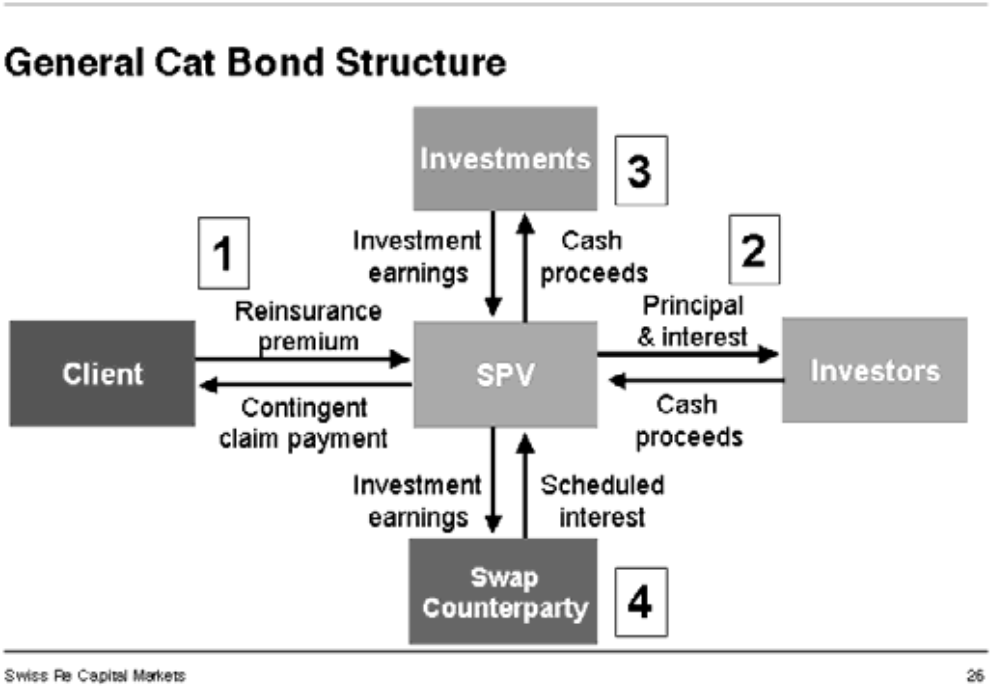


Since their inception the types of transferred risk have grown; transactions involving automobile insurance losses, excess mortality losses, and even terrorist related losses have been successfully brought to market. This market has, as well, been used by non-insurance

entities to transfer risks inherent in their operations. As an example, Disney used this market to protect against risk of revenue loss that would occur at their Japanese theme park as the result of a significant earthquake. More recently, FIFA, the World Cup Soccer governing body, issued bonds to protect itself against the risk of revenue loss that would occur if one or more terrorist attacks disrupted the World Cup.

Structurally, these transactions appear very similar to most structured finance: a bankruptcy remote SPE is created, assets are held by the SPE and notes are issued into the financial markets. The figure below shows a typical, if simplified, insurance securitisation structure.

Insurance Securitisation Structure



The investments held by the SPE are typically high quality liquid securities with a duration closely matching the life of the issued notes. There was a disruption in the market during 2008 that was the result of a deviation from this general approach. Lehman brothers structured a number of insurance securitisation transactions using slightly riskier types of investments in the SPE. Lehman mitigated this risk by offering credit default protection against the portfolio. As the financial turmoil froze markets, and disabled Lehman, it was apparent the portfolios would not perform as designed, and the default protection was not practically effective, so the structure was retired. The market returned by the end of 2008, leading in to 2009.

What makes these insurance securitisations unique is the nature of the transfer involved in these transactions. Unlike an asset-based securitisation, where physical and legal ownership of a portfolio of assets is transferred to the SPE, in an insurance securitisation what is being transferred, for all intents and purposes, is a potential insurance liability.

On the surface, such a transfer would seem to be legally and practically impossible. In practice, however, the risk transfer through the securitisation mechanism is accomplished in a manner very similar to a reinsurance contract. While the ultimate liability for payment on a legitimate insurance loss remains with the insurance entity, in a reinsurance contract, a portion of that loss is agreed to be paid by the reinsurer in exchange for a premium paid by the direct insurer. In the case of insurance securitisations, the direct insurer pays a premium amount, similar to a reinsurance premium, to the SPE. These funds are invested, along with the proceeds from the securitisation note issuance, into assets held by the SPE. If a qualifying event occurs, the proceeds are remitted by the SPE to the direct insurer; absent a qualifying event, the proceeds revert to the note investors. In some early structures, if a qualifying event occurred, principal and accrued interest were lost by the investor. In other transactions, it could be principal only or interest only. More recent transactions allow for the loss of principal and interest.

The securitisation notes define the amount of and conditions for the SPE to provide funds to the direct insurer in the event of a loss. The amount of risk is defined in the indenture by the trigger point and exhaustion point specified in the notes.

The trigger point defines at what level of a particular loss payment will be made by the SPE to the insurer. Originally these triggers were set to perfectly reflect the loss from an insurer's specific book of business; a so-called "*indemnity trigger*". In order to reduce transactions and information costs, triggers are now being set based on *modelled losses* or, in many cases, by physical features of the potential event, such as the magnitude of an earthquake in a particular area, or the wind speed at landfall of a hurricane. Triggers based on these types of physical attributes are known as "*parametric triggers*".

The exhaustion point specifies the upper limit of losses to be paid by the SPE (that is, the loss to the investor) for a particular event or set of events. Most combinations of triggers and exhaustion points used in insurance securitisations to date have been for high level, relatively probabilistically infrequent losses that are much more likely, if they crystallised, to impact an insurer's surplus as opposed to lower severity losses more likely to impact operating earnings.

When rated, rating agencies typically match the modelled probability of default on the covered risk to the probability of default for a particular rating category. A BB rated level is fairly common in more recent market transactions.

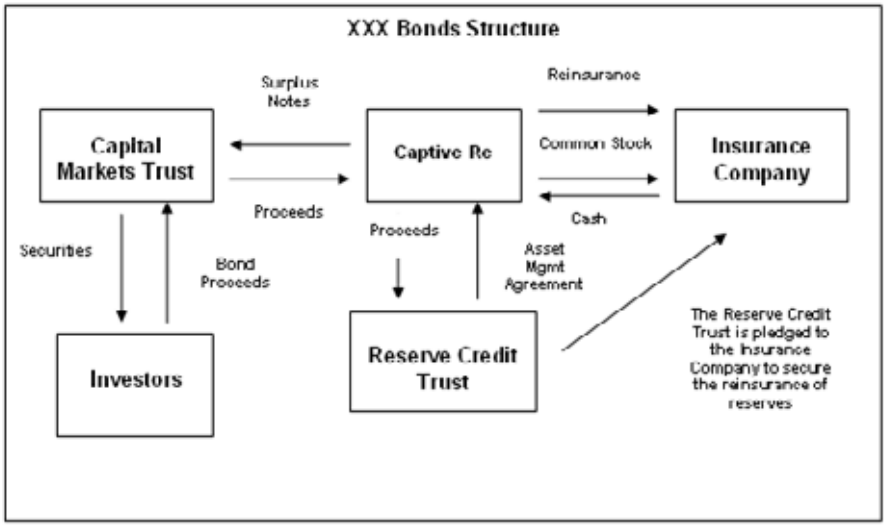
In the early stages of the market deal structures used indemnity triggers, were designed around one risk event (eg an earthquake of a specific size in a specific region and the actual losses resulting to an insurer), and were usually one year in maturity. More recently, multi-year structures have been successfully brought to market. Furthermore, newer deals frequently involve multiple events in possibly multiple regions.

Investors in insurance securitisations are attracted to the relatively attractive yields offered by these securities, and are especially attracted to the fact that these offer almost no correlation to most existing portfolios of financial assets. That is, whether or not an earthquake occurs in Europe is not correlated with overall business cycle activity, as are the risks in most corporate security portfolios.

Finally, a number of investors are attracted to these securities because it allows them to participate in the market for insurance risk and return opportunities without having to be exposed to the general overall risk of an insurer, as they would if buying their debt or equities.

Regulation XXX Securitisations

US insurance regulations impose a large statutory capital burden on insurance companies that write term life insurance. These statutory requirements are viewed as conservative and are far in excess of accounting reserves required under US GAAP. Therefore, insurance companies have turned to the capital markets to fund these excess reserves. Such transactions are known as XXX securitisations, named after the reserve regulations when they were in draft stages.



The XXX bonds are structured much like CAT bonds. The insurance company seeking relief from the reserve requirements establishes a SPE. The SPE is commonly a captive onshore reinsurance company legally formed as a limited liability company. Upon formation, the insurance company enters into a reinsurance agreement with the captive. The captive reinsurance company raises capital through the issuance of securities using a capital markets trust. The securities are usually short-term, Dutch auction money market securities. The proceeds from the sale of the securities are held by the captive reinsurance company to secure its reinsurance obligations with the insurance company. By entering into the reinsurance agreement, the insurance company is allowed under insurance regulations to reduce the reserve requirements for the term life insurance policies.

Sidecars

A relative of the SPE reinsurer structure used in the CAT bonds and the Regulation XXX bonds is the Sidecar transaction. Like CAT bonds and Regulation XXX bonds, Sidecars are special purpose reinsurers financed by third party investors to reinsure a sponsor's portfolio up to an aggregate limit. Sidecars usually underwrite risk for a limited period of time of two to three years and attempt to take advantage of a lower cost structure.

Finally, a common feature of the insurance related securities described above is that the insurance companies do not transfer assets off their balance sheet into an SPE. Rather, the SPEs are used as vehicles for raising debt capital to meet special needs of the insurance companies. The capital raised by the SPE is used to collateralise the SPEs reinsurance obligations. The SPE pays investors interest on the capital it raises through the issuance of securities. The investors are repaid their principal contribution at the final term of the securities if the SPE does not use the principal to make payments to the insurance company under the reinsurance agreement. This feature can be contrasted with asset securitisations, whereby the investors are repaid principal and interest from the underlying assets.

Common and Distinct Features of SPEs

Having described several types of structures that employ SPEs, we now can take a step back and try to summarise some of the common features found in SPEs. An SPE is an entity whose activities are limited to the acquisition and financing of specific assets or the assumption of specific liabilities. The SPE is usually a company with an asset/liability structure and legal status that makes its obligations secure even if the parent company goes bankrupt. This means that the assets within the SPE are protected from the risk of bankruptcy of the originator of the assets, and creditors of the originator cannot claim those assets in settlement of their claims against the originator. While there is no single definition of an SPE, there are several features that are common to many SPEs. While not all features are found in every SPE, common features include the following:

- Usually created for a single, well-defined and narrow purpose and characterised by share ownership;
- Organised to promote bankruptcy remoteness and a low probability of insolvency (typically by means of non-petition and limited recourse provisions, as described more fully in Appendix 2;
- Auto-pilot arrangements that restrict the decision-making capacity of the governing board and management as well as the activities of the SPE;
- Use of professional directors, trustees, partners and outside administrators rather than employees;
- Thin capitalisation, the proportion of “real” equity is often relatively small and may not support the SPE's overall activities, which are often funded through the issuance of debt securities;
- Absence of an apparent profit-making motive, such that the SPE is engineered to pay out all profits in the form of interest or fees;
- Separateness covenants, such that the SPE will maintain its own books and records, offices, accounts, obligations and assets;
- Debt limitations, such that the SPE should not incur additional debt unless that debt is subordinated to existing obligations (this will not necessarily always apply in such a simplistic form, for instance in the case of “evergreen” structures that are constantly issuing new debt);
- Sometimes domiciled in offshore jurisdictions;
- May have a specified life or a perpetual life;
- Exists for financial engineering purposes; and
- The creator or sponsor may often transfer assets or liabilities to the SPE in order to derecognise these financial assets or liabilities.

As previously noted, the variety of structured finance transactions employing SPEs is quite large; however, these transactions can be broadly categorised using four types of segmentation: whether it is assets or liabilities that are being transferred to the SPE; the term or maturity of the transaction; whether the underlying exposures are static or whether they can change over time; and whether the SPE is actively managed or on autopilot.

First, it can be observed from the types of SPEs outlined previously that in some cases it is assets that are being transferred to the SPE (for instance, in the cases of RMBS, CMBS, CDOs, ABCP, etc). In other cases, however, it is liabilities that are being transferred to the SPE (for instance, in the case of CAT bonds). Asset securitisations are typically undertaken by banks and finance companies, whereas liability securitisations are typically undertaken by

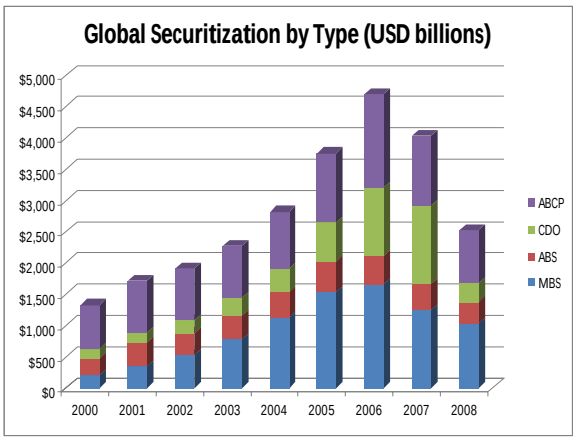
insurance companies. Asset securitisations continue to be more common than liability securitisations both in terms of the number of transactions outstanding and the aggregate value of bonds issued.

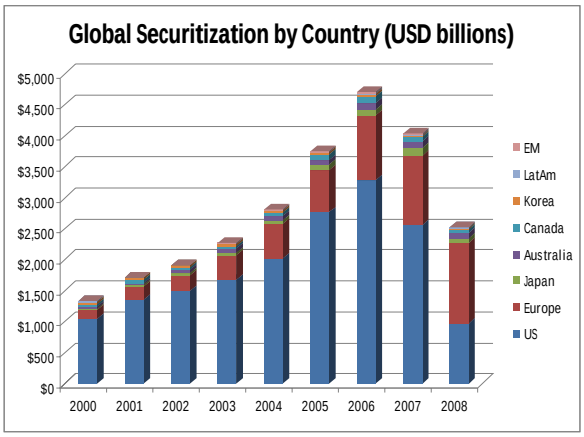
A second distinction pertains to whether an SPE has a “term” or “evergreen” structure. Some SPE transactions involve “term” structures, whereby there is effectively a specific maturity or limited life for the SPE. The liabilities of the SPE will mature, and the assets of the SPE will amortise or be sold to meet those obligations. For instance, MBS transactions in the US market are typically term deals. Alternatively, the structure of an SPE may be ”evergreen”, such as in certain master trust structures, whereby the SPE is not wound down but continues to purchase assets (or assume liabilities) by issuing debt on a revolving basis. Both US and Canadian credit card master trusts and UK RMBS master trusts involve SPEs that are evergreen.

A third distinction is whether the underlying exposures held by the SPE are “static” over the life of the transaction, or whether they are “dynamic” and can change over time. Static pool transactions generally have a limited life or maturity, since once the underlying exposures mature, no new exposures are assumed by the SPE. However, some static transactions might have a limited life, yet still allow for asset substitution during a pre-defined period (the “revolving period”). For example, certain synthetic securitisation transactions with a set maturity date allow for the underlying reference obligations that mature to be replaced with similar reference obligations. On the other hand, other SPEs have exposures that are fully dynamic. For instance, credit card securitisations and ABCP conduits are examples of structures where the underlying assets securing the debt issued by the SPE change on a regular (in some cases, daily) basis.

Finally, transactions can also be grouped according to whether they are “actively managed” structures or are “passive” structures (essentially, on autopilot). Many mortgage securitisations would be considered to be transactions that are essentially passive, with no substantive management decisions required to be made under normal circumstances. By contrast, many SIV structures are considered to be actively managed investment companies, with ongoing management decisions being undertaken.

Below is a representation of global securitisation by type and by country for the years 2000-2008. The sectors represented are originations for MBS, ABS and CDOs and outstandings for ABCP.





Source: International Monetary Fund

Appendix 2

Technical Features of SPEs

While the previous chapter provided background on common structures involving SPEs, this section provides more specific details on structural features of SPEs including: legal form and ownership structure; mechanics of the transfer of exposures to SPEs; and tax and jurisdictional domicile considerations. This chapter also lays out the primary parties involved in SPEs, and provides background information on technical aspects of accounting and regulatory capital relating to SPEs.

Legal Forms of SPEs

An SPE can take various legal forms depending on the jurisdiction of its incorporation. In Europe, for example, the typical SPE is organised as a limited purpose corporation under domestic (for instance, UK) or offshore (for instance, Jersey) law with a charitable trust owner. In the US an SPE usually takes the form of a limited liability corporation organised under the laws of the state of Delaware. In Canada SPEs take the form of charitable trusts. Other common legal forms used in other jurisdictions include a corporation, partnership, trust, Stichting (ie a foundation under Dutch law), unincorporated entity, or a multi-user structure such as a protected cell company.

As stated above, in the US a majority of SPEs have been organised as limited liability corporations (LLCs). The requirements for the formation and governance of these entities are established under state statutes. LLCs offer the attributes of corporations for bankruptcy remoteness purposes along with the tax benefits of partnerships. As long as an LLC passes through all of the income generated by the assets held within the LLC to the note holders of the LLC, the LLC is not subject to an entity level tax. The tax liabilities are incurred by the note holders on the income received from the LLC. In addition, because all income of the LLC is passed through to the note holders, potential tax liabilities that could cause the potential bankruptcy of the LLC are eliminated. Therefore, most SPEs are organised as LLCs in the Unites States to avoid an additional layer of taxation and to increase bankruptcy remoteness.

Another common form of SPE in the US for issuing securitisations is a trust. The forms of trust vary and include grantor trusts, real estate mortgage investment conduits (or “REMICs”), issuance trusts, owner trusts and master trusts. The choice of trusts as an SPE, like LLCs, will be determined in part by tax considerations since the goal in choosing one of the trusts is avoidance of an additional layer of taxation at the trust or SPE level.

Grantor trusts issue a single class of beneficial interests in the underlying assets and pass through all the income associated with the assets to the certificate holders in order to avoid incurring tax liabilities. However, grantor trusts do not allow for the issuance of multiple tranches. Therefore, the US Congress created the REMIC provisions in 1986 in order to respond to industry needs for a trust to issue multiple classes of tranches with different maturity and credit characteristics without incurring a tax liability. In order to avoid tax liability, REMICs are required to hold only single family residential mortgages on one-to-four family dwellings to qualify for REMIC tax status. In the case of non-mortgage assets, SPEs can take the form of an owner trust. Owner trusts can issue multiple tranches of debt provided an equity certificate is also issued that is entitled to the excess income from the trust after payment of the liabilities. The equity holder would pay the taxes associated with the residual

income. Finally, master trusts are a form of trust which allows for the issuance of a series of securitisations out of the same trust. Master trusts are used for mortgage securitisations in the UK.

Issuance trusts are used most often with credit card securitisations in the US, since these structures allow the originator to issue classes of securities at different points in time, when market conditions are favorable, as opposed to issuing all securities at the same time.

Ownership of SPEs

The ownership and control of SPEs is dependant on the jurisdiction of incorporation of the SPE. In order to achieve the ringfencing and bankruptcy remoteness of the assets from the sponsoring firm, the SPE will be required to meet the specific legal, tax, accounting and regulatory requirements of the relevant jurisdiction.

In the UK and some other jurisdictions (eg the Netherlands and Ireland) the most common type (under certain tax guidelines) of SPEs are orphan vehicles. Orphan vehicles are entities whose share capital is a nominal amount and held beneficially on trust for a charity. The holding of shares on trust for charitable purposes ensures the SPE is not owned by the originator, making the case that the originator does not control the SPE.

A charitable trust is a form of discretionary trust where property is held by a trustee for charitable purposes. Charitable trusts are often used as parent entities to an SPE as they will typically remove it from membership of any group with potential secondary tax liability, thereby reinforcing the argument that the SPE is bankruptcy remote. Additionally, putting the shares of an SPE in trust establishes the SPE as an orphan company, which cannot easily be subjected to winding down by the originator's shareholders (as the originator is not a shareholder). Charitable trusts are also exempt from many of the other standard corporate and capital gains taxes and, therefore, tax leakage of the structure is minimised. These charitable trusts are provided by professional corporate services providers.

Orphan vehicles are used to meet one of the basic legal aims of SPEs, which is to ensure that the assets transferred to the SPE are not affected by any claims on or against the originator. The assets transferred to the SPE are the paramount property of the SPE and should not be threatened by claims from third party creditors of the originator or parent entity.

It should be noted that not all SPEs used for securitisation or secured lending in Europe and the UK have arm's length ownership of the type described above. For instance, in UK covered bond programs the ownership of the limited liability partnership (LLP), which holds the assets that secure the obligations of the issuer for noteholders, is typically structured such that it is 20% owned by the issuer itself (generally, a bank or building society) and 80% owned by an arm's length entity (the so-called "liquidation member"). The reason for this particular ownership structure is to optimise intra-group tax treatment of the LLP.

Ownership of SPEs in the US will vary by type of vehicle. Limited liability companies or LLCs are typically owned by the sponsor. An LLC exists as a separate legal entity from the sponsor, thus allowing for the legal transfer and isolation of the assets from the sponsor's balance sheet. By establishing the LLC as a limited purpose entity, the requirements of bankruptcy remoteness can also can be met. The transfer of the assets from the sponsor to the LLC is through a legal true sale. In order to meet existing accounting requirements in the US, assets held in the LLC are subsequently pledged to a trust or master trust through which the securitisation is issued. The combined steps are known as the "two step process", whereby the assets are first transferred to a Qualified Special Purpose Entity or "QSPE" before they can be subsequently securitised. The US FASB recently issued accounting rules

that are effective in 2010 have eliminated the QSPE concept and therefore, the exception to off-balance sheet accounting that was previously available for QSPEs.

As noted, an LLC can subsequently transfer or pledge assets to an owner trust or master trust, wherefrom the securities are issued to noteholders. Owner trusts as well as master trusts issue an equity certificate as well as debt securities. The debt securities are usually widely dispersed among bond investors. The equity certificate is typically sold by the sponsor to third party investors as well or it can be retained by the LLC. In the case of grantor trusts which sell 100% of the beneficial interests in the underlying assets of the trust to investors, no one holder of the beneficial interest would be deemed to be the owner of the underlying assets. Therefore, there is no owner of the grantor trust, since any form of residual interest cannot be retained by an equity holder.

REMICs, as described above, are a tax election under statutory law and not a legal entity whose ownership interest is specified. As a legal entity, REMICs can take the form of a grantor trust or owner trust whose structure has been described above. Once again, an LLC will usually reside between the sponsor and the REMIC.

Ensuring the SPE's independence from the originator is crucial, because if the legal system determines that the originator, as "controlling entity", is taking actions which disregard the separate identity of the SPE, the two enterprises will be seen as commingled, allowing creditors with claims against the originator recourse to the assets of the SPE, thereby undermining the cash flows required to service any notes issued by the SPE.

Securitisation structures are sometimes seen with an intermediate holding company SPE. This is a tool used in structures where there is a need to provide some equity capital to the SPE. A good example of this is in the UK, where an SPE might need to be a public limited company to commence trading and issue listed debt. The intermediate holding company will borrow the funds needed to capitalise the SPE by subscribing to the required equity capital. The intermediate holding company then uses profits distributed from the SPE to repay the "capitalisation loan".

Accounting standards can also affect the ownership structure of SPEs. In certain cases in the US, for example, SPEs are required to be capitalised by third parties in order for the sponsor of the SPE to avoid consolidation of the SPE’s assets onto its balance sheet. Typically, asset backed commercial paper (ABCP) conduits are held by SPEs and are required by this standard to raise third party equity in order to avoid consolidation. Banks are common sponsors of ABCP conduits and, therefore, have been required to raise third-party equity to avoid consolidation for accounting purposes. The new accounting rules issued by the US FASB that are effective in 2010 have shifted the consolidation determination in these situations to qualitative considerations which focus on the power to direct the SPE’s activities along with the rights to absorb the SPE’s losses or receive its benefits.

Asset Transfers to SPEs

Various structures can be used to transfer assets or risks to the SPE depending on the nature of the assets and the commercial motivation of the transaction. Common structures are described below.

True Sale

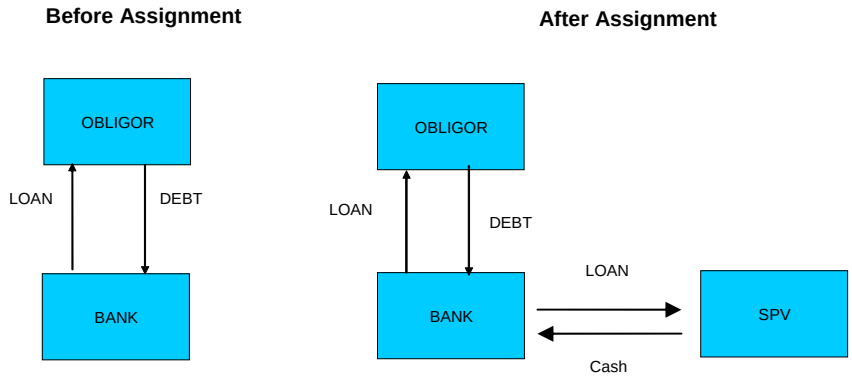
A true sale is where there is a legal transfer or equitable assignment of the assets from the originator to the SPE. A legal assignment is absolute (ie unconditional and of the whole asset), is done in writing, is signed by the originator, and typically requires the written

notification to the obligor. The legal assignment will transfer the right to sue the obligor, but any obligations can only be transferred if the obligor consents. These are sometimes referred to as “cash” transactions, as there is an actual sale of assets to an SPE. A true sale would, for instance, be used in many RMBS transactions.

An assignment which targets true sale of the assets, albeit without perfection of legal title, does not meet the provisions set out above and will be an equitable assignment. In these transactions, the economic interest in the assets is sold, but any perfection of title to the assets is contingent upon certain events, for instance a downgrade trigger of the seller. In this way, unless the seller’s rating falls below a certain level (for instance, BBB), the obligors are unaware that their loans have been sold to an SPE and can therefore discharge their obligations by paying the originator, and the originator can modify terms of the assigned debt. Legal opinions are received for the transaction on the validity of the true sale and to date the true sale analysis has rarely or never been challenged in most jurisdictions.

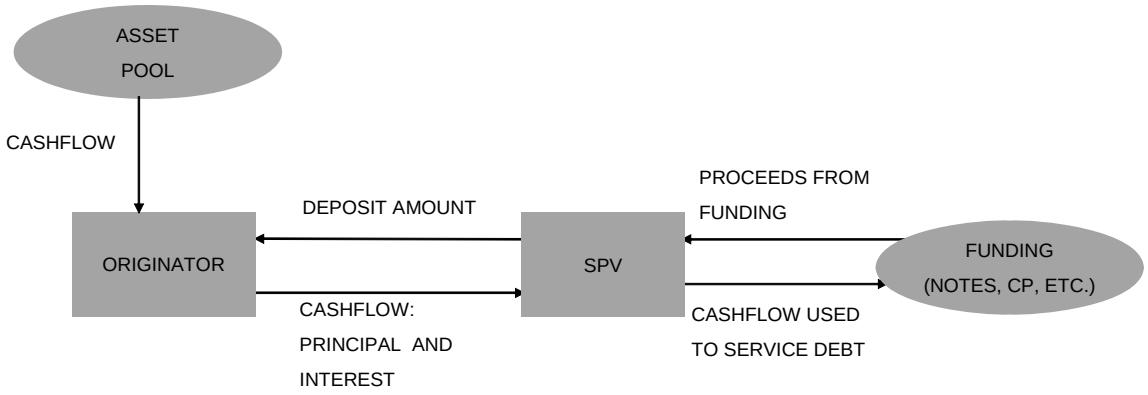
Thus far, true sale opinions (whether pertaining to legal transfer or equitable assignment) have proved resilient from a legal perspective, even following the collapse of certain originators over the past several months. It should be noted, however, that it is still very early in the litigation cycle and if, or when, more legal actions are taken in the coming months, then the concept of true sale may be more vigorously challenged in some cases.

One final distinction to note within true sale securitisations is whether the assets securitised are balance sheet assets of an institution (eg in many credit card ABS or leveraged loan CLO transactions), or are simply assets that were purchased in the open market, repackaged, and securitised for the benefit of investors (eg in a cash flow CDO).



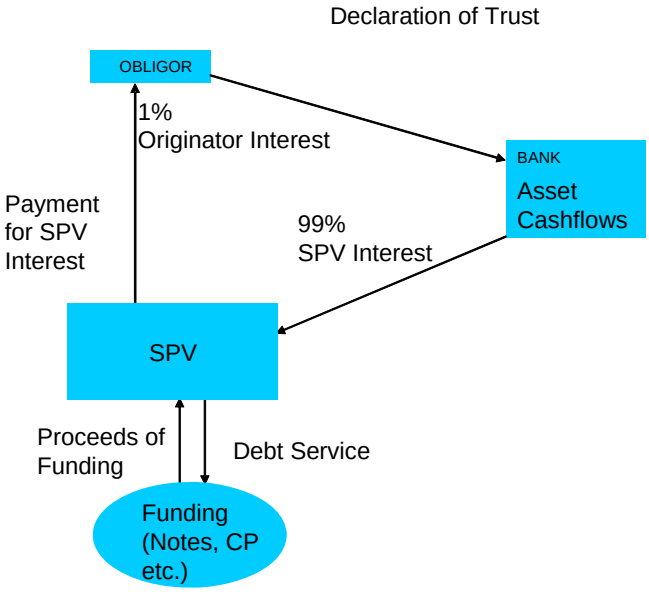
Sub-Participation

In a typical funded sub-participation, the sub-participant (SPE) makes a deposit with the original lender (originator) equal to all or part of the drawn loan. The original lender only pays the sub-participant interest and principal if it is received from the obligor. This results in a double credit risk being taken by the sub-participant (ie to both the assets and the originator of those assets). The sub-participant generally has no recourse to the underlying assets or security in relation to them. Instead, recourse is to the originator in respect of sums received by the originator from the obligor. This type of structure is often used by originating banks wishing to allow one or more financial institutions to share in the risk and returns of certain loan(s), including the funding of the transaction. An example of this would be in the financing of large loans by specialist lenders, such as in aircraft or ship leasing.



Declaration of Trust

It should be noted upfront that this should not be confused with the more general use of declarations of trust, which are legal mechanisms in many securitisations to secure cash and similar assets held by the SPE. Here instead we are referring to a specific method used for risk transfer, whereby the originator creates a trust over the assets in favour of both the SPE and the originator. In the diagram below the originator retains 1% of beneficial interest and the SPE has 99%. The trust must be effective if it is to transfer a portion of the beneficial interest in the assets from the originator to the SPE. The trust may also be combined with other transfer structures – for example, an assignment of the assets to an SPE and then creation of a receivables trust by the SPE.



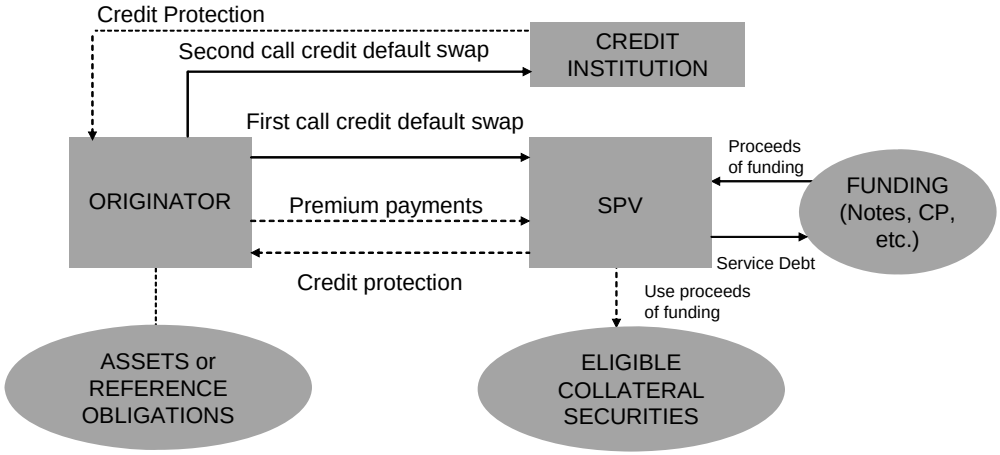
Synthetic Risk Transfer

Another form of risk transfer involves so-called “synthetic” transactions, where neither legal nor economic title to the assets is actually transferred from the originator to an SPE. Rather, the risk of the underlying assets is assumed by the SPE using a derivative contract. In doing so, the originator transfers the risk of default of the obligor in relation to an asset or “reference obligation” (or a pool of these), but there is no transfer of the asset itself. The risk participant (SPE) reimburses the originator by paying a “credit protection payment” to the originator if the underlying borrower(s) default on a payment (similar to a guarantee). The

SPE will charge a fee or will receive a premium for the credit protection it has sold to the originator. The proceeds of the issuance of bonds by the SPE will be used to purchase high quality collateral securities, the yield of which supplements the premium income from the sale of protection to the SPE and the principal of which is used to repay the noteholders and/or make credit protection payments to the originator. The SPE has no recourse to the original loans held on the balance sheet of the originator or the originator itself, but will have recourse to the eligible collateral securities (not the loans that form the reference assets). In our example diagrammed below, only a portion of the credit risk of the reference assets is assumed by the SPE (ie the credit default swap provided by the SPE is only for a portion of the risk of the assets). In this example, the remainder is taken by a credit institution that writes protection in return for a fee.

Examples of such transactions include synthetic CDOs (where the SPE sells protection on corporate exposures using credit default swaps (CDS) to a third party) and synthetic RMBS (where the SPE sells protection on a portfolio of mortgage loans to a bank, which nonetheless keeps the actual portfolio of referenced mortgages on its balance sheet).

There are many reasons for a synthetic (as opposed to cash) securitisation, ranging from the flexibility of protection sought, to maintenance of the relationship with the underlying client via retention of the underlying loan in the originator's own book of business. However, in many cases, the key reason for doing transactions synthetically is that it is not necessary for investors to fund the credit exposure at the outset. Effectively an investor can be long a credit exposure without having to actually fund it. Synthetic transfer of risk may also be used where there are legal complications involving the true sale of assets in certain jurisdictions.



Secured Loan or Pledge

In a secured loan structure, the originator of the assets issues debt to noteholders, and the noteholders' rights vis-à-vis the originator of the assets are protected and secured by creating a fixed and floating charge over both those assets and the whole undertaking of the originator in favour of a security trustee. The trustee may take possession of the assets on certain trigger events and prevent the assets being encumbered any further by the originator or a bankruptcy court. These structures are only used in jurisdictions where it is possible to create acceptable protection against bankruptcy or receivership by creating an all-pervasive security interest, one that covers the whole undertaking of the originator.

A common example of this type of structure is covered bonds, whereby bonds are issued to investors by the originator as opposed to the SPE. The issuer grants a fixed and floating charge over both the reference assets and the whole undertaking in favour of the covered bond trustee. In certain jurisdictions the assets are subsequently also ringfenced in an SPE,

but remain on the balance sheet of the issuer for regulatory capital purposes. In other jurisdictions, however, the security interest is instead entered on a register, and they are not transferred to an SPE, with the assets in these circumstances typically also (as in the previous case) remaining on balance sheet for regulatory capital purposes. Should the originator (which is also the issuer of the bonds) default on its payments owed to the noteholders or otherwise trigger an event of default, then the trustee will take possession of the reference assets held in the SPE.

The benefit of this structure for the noteholder is that they have recourse to both the reference pool of assets and to the whole undertaking of the originator, and also that they are not directly exposed to the credit and payment characteristics of asset pool until the originator becomes insolvent. The benefit to the originator is that it can achieve a high (typically, AAA) rating on its debt by providing security to noteholders.

Two-Stage Risk Transfer

This is a two-tier structure, whereby assets are transferred from the originator to a bankruptcy remote SPE in a true sale, which is then followed by a transfer of receivables to a grantor trust. Often the purpose of structuring in this way is to avoid creating a second layer of income tax.

Primary Parties and Counterparties to SPEs

There are multiple parties involved in the establishment and administration of structured finance transactions using SPEs. Principal among these players is the **sponsor** (sometimes referred to as the **originator** or **seller** – though such roles may not always overlap). Typically, the sponsor initially originates, owns or purchases the assets securitised in the transaction and establishes the SPE to facilitate the transfer of these assets. Because of structural and marketing issues, the originator often engages an **arranger**, typically an investment bank, to assist in setting up the structure of the transaction and the issuance and sale of bonds from it.

The entity that sets up and continues to manage the assets and liabilities of the structure in the case of certain ABCP conduits and certain types of CDOs is referred to as an **administrator**. In certain other securitisations, however, the role of the administrator is to provide various administrative and calculation services to the SPE, a role that may overlap with that of the servicer (described below).

The **issuer** is the SPE itself, which is the vehicle that holds the assets, securitises them with the issuance of bonds, and contracts with many of the other parties described both above and below. An exception to this would be certain secured financing arrangements, such as structured covered bonds, in which the issuer is the originating institution itself, while the SPE has a separate function of holding the assets that secure this same issuer's obligations.

The **servicer** collects payments on the assets held by the SPE and provides monthly service reports on the performance of the assets. The servicer can often be the originator of the assets, but it may be a third party that undertakes the servicing of the assets pursuant to a servicing agreement.

The **paying agent** is responsible for directing all payments made on behalf of the SPE.

The **account bank** provides all bank account services to the SPE such as holding the guaranteed investment contract ("GIC") and liquidity reserve accounts.

The **swap provider** is the counterparty (either the originator or a third-party financial institution) that provides swaps (eg cross-currency swap, interest rate swap, basis swap) to the SPE. Such swaps are needed when the interest rate type or currency of the assets (for instance, fixed-rate and sterling-denominated mortgage loans) does not match the interest rate type or currency of the liabilities (for instance, floating-rate and euro-denominated bonds).

The **security trustee** serves as the gatekeeper of the assets held by the SPE and (in some jurisdictions) performs the administrative functions of the trust with regard to investor reporting, review of the monthly servicing reports, and ensuring that the underlying assets comply with the representations and warranties of the sale agreement. There may also be a separate **note trustee**, serving the interests of noteholders in more general terms, as opposed to serving their interests in matters relating specifically to the assets that secure their bonds.

The **corporate service providers** provide directors, official premises, book keeping and other corporate administration services required in the relevant jurisdiction.

The **manager** in a managed SPE is responsible for the investment actions of the SPE. This usually involves buying and selling assets in a dynamic SPE or during a revolving or "ramp-up" period.

Securities sold in a securitisation deal can be credit-enhanced by various types of **credit enhancement provider**, meaning that the credit quality of the securities is either increased above the originator's unsecured debt rating or (more typically) the underlying rating of the asset pool. Credit enhancement increases the likelihood that investors will receive the scheduled payments from securities, thus allowing the securities to achieve a higher credit rating than the originator or the underlying assets could achieve on their own. Some securitisations use external (or third party) external credit enhancement, such as surety bonds, letters of credit, and guarantees – these are generally provided by a **financial guarantee provider**. Other methods of credit enhancement – such as subordination, reserve funds, or over-collateralisation – are built into the securitisation structures, and are often referred to as internal credit enhancement. They may nonetheless be provided by certain specific parties or counterparties to the SPE. For instance, in certain jurisdictions the funding of a reserve fund for an SPE may be undertaken by an originator in its separate capacity as **subordinated lender**; it is this subordinated loan to the SPE that funds the reserve fund. These and other types of credit enhancement are discussed later (in Appendix 3).

Nearly all ABCP structures are required by the criteria of the credit rating agencies to maintain a back-up liquidity facility, often referred to as a "liquidity backstop". The **liquidity facility provider** serves this role. Such a liquidity backstop is a type of support agreement between an ABCP programme and a liquidity provider; the latter is typically a commercial bank (in most cases the liquidity provider is the bank that established the conduit). The facility provides protection to the ABCP investors in the event the maturing ABCP cannot be rolled. However, use of liquidity facilities is not confined to ABCP structures, but may also be used in RMBS, CMBS, consumer ABS, and other types of securitisations.

Control, Management and Corporate Governance of SPEs

An SPE is typically a single purpose entity that cannot engage in any activity other than holding and maintaining an interest in the assets and the issuance of securities. It does not have any employees and it subcontracts out all services required to maintain and administer the SPE and its assets. All the activities of the SPE are set out in transaction documents, which provide a measure of the restrictions in place.

Sponsors appoint corporate service providers for the SPE, and they in turn provide directors, premises, book keeping and other corporate administration services required in the relevant jurisdiction. This approach ensures that the SPE's directors and operations are independent of the originator in order to satisfy the requirement for bankruptcy remoteness. The corporate servicer provider's relationship with the SPE is governed by a corporate services agreement, which can usually be terminated by the SPE (with notice) at any time. In order to fulfil the corporate governance requirement of an independent board of directors, a number of key requirements should be met, eg the independence of at least one director.

A note trustee (when distinct from the security trustee, as described above) may be appointed to act on behalf of the noteholders pursuant to a trust deed. Should there be any request to modify the transaction documentation, the note trustee will need to provide approval on behalf of the noteholders. Should they not be willing to do so, a noteholder meeting will be called to vote on any proposed amendment.

Trustees in the US have traditionally assumed a more proactive and operationally involved role than their European counterparts.

The agreements with the various parties will generally prohibit these service providers from petitioning for bankruptcy until the noteholders of a securitisation are paid in full. In addition, the counterparties' and service providers' source of payment is limited to the cash flow structure of the transactions (essentially cash flows from the assets and any forms of credit enhancement) in order to limit the risk of claims by those parties. These two tenets – often referred to as non-petition and limited recourse – are key to the bankruptcy-remoteness of an SPE.

Unwinding of an SPE

The unwinding of an SPE and subsequent termination of a transaction will occur upon either the refinancing or the legal final maturity of the obligations of the transaction, or alternatively upon the occurrence of an event of default and enforcement, or potentially also via an early termination event or trigger being breached.

Upon refinancing or legal final maturity of the obligations of a transaction, all outstanding debt will be repaid from assets of the SPE following which the SPE will be wound up in accordance with the laws of its jurisdiction of incorporation. The corporate services arrangements will typically terminate at the same time.

On the occurrence of a default and enforcement, the security over the assets will be enforced and the realisation value of the assets held by the SPE will be used to repay outstanding debts without recourse to the originator. Once the outstanding debts are discharged in full (or the trustee determines that there is no likelihood of further recoveries), any outstanding claims will be extinguished (due to the limited recourse nature of the SPE's debt). Thereafter, the SPE may be wound up in accordance with the laws of its jurisdiction of incorporation.

An SPE might also unwind by hitting an early amortisation trigger. This trigger exists in certain securitisations of revolving retail credit exposures, such as credit card master trusts. The purpose of early amortisation provisions is to minimise the risk that investors will suffer loss before being repaid by repaying bonds faster than the scheduled redemption date. There is both "rapid amortisation" and "regulated amortisation". Under rapid amortisation, all cash flows from the assets are used to pay down the notes in order of their priority in the structure. This will often be triggered by issuer default or a breach of covenants. Under regulated amortisation, the SPE will aim to amortise the bonds over a minimum period of 12 months (ie up to a maximum of 1/12 of outstanding will be paid per month). This trigger may

be hit when excess spread becomes negative or the seller's share of the master trust falls below a minimum level. There can be similar (but not identical) triggers built into master trusts holding residential mortgage loans also.

Another cause for unwind might be the breaching of market value triggers – ie the market value of the assets declines below a minimum stipulated in the contractual documentation. This trigger exists to protect the investors against a situation whereby there are insufficient assets to collateralise their investment in terms of market (as opposed to notional) value. Several SIVs either breached or nearly breached market value triggers, which generally led to one of three outcomes: the sponsors taking the SIVs back on balance sheet, the noteholders and other parties agreeing to restructure the SIV, or a sale of the assets (typically, at distressed valuations) in order to repay investors. In the cases in which assets were sold, equity holders typically suffered a 100% loss, and significant losses may also have been experienced by mezzanine investors, and sometimes losses were even experienced by senior investors.

Tax Considerations of SPEs

Choosing a jurisdiction for incorporation of the SPE which will maintain tax neutrality of the structure and keep potential additional tax liability to a minimum plays a role in ensuring that the SPE can be perceived as being bankruptcy remote. The SPE will not generate any income other than the monies it requires to service the notes and to pay other minimal running costs (such as the fees it must pay to the various service providers). It is therefore crucial to the bankruptcy remoteness analysis that the SPE is not registered in a jurisdiction where its tax liability may be significant and/or varied. Establishing an SPE in a low tax jurisdiction will also mean that there will be minimum tax leakage and consequently more monies will be available to meet the obligations of the SPE towards investors and for the party (typically the originator or sponsor) that is entitled to any residual income.

Tax liabilities which can arise in relation to SPEs include withholding tax on payments received by the SPE from the portfolio of the assets. If such withholding tax is an issue, then it is generally desirable to incorporate the SPE in a jurisdiction which has double taxation treaties in place with the jurisdiction(s) of the obligors in respect of the assets so as to ensure that no withholding tax will be paid or that any that is paid can be reclaimed. This would typically rule out certain offshore jurisdictions for both US and European SPEs (for instance, the Cayman Islands), as these often do not have such treaties in place, and may also narrow the choice of EU jurisdictions for European SPEs, as not all will have the same double taxation treaties in place. This is a major reason why within Europe "own jurisdiction" SPEs are common for some jurisdictions.

Another tax liability which can arise in relation to SPEs is withholding tax on payments made by the SPE on the notes issued by the SPE – noteholders will not generally want to receive such payments net of tax. Therefore the jurisdiction of the SPE's incorporation should be such that its tax authorities do not levy tax on the payments made on the notes. This should not be an issue with respect to many of the more common jurisdictions mentioned above, provided (in some cases) that certain requirements are fulfilled.

Finally, another tax liability that can arise in relation to SPEs is value-added tax ("VAT") on the fees paid by the SPE to the manager and other parties. For instance, if the SPE is a UK entity services provided to the SPE may be subject to the standard rate of VAT (depending on the legal definition of the place of supply of the services). However, in certain other EU jurisdictions (Ireland, the Netherlands, Luxembourg) such services provided to an SPE usually fall within an exemption from VAT. In non-EU jurisdictions VAT or similar taxes frequently do not apply.

It is important to note that the tax implications discussed above do not generally represent an attempt to arbitrage tax regimes, in the sense that neither investors nor originators are typically attempting to use securitisation vehicles and SPEs as a means of avoiding tax. Rather, the purpose of employing these vehicles (whether in onshore or offshore jurisdictions) is more usually to avoid having to ensure that the SPE usage in itself does not result in marginal increases in a firm's tax burden.

Jurisdictional Domicile Considerations of SPEs

The choice of jurisdiction of an SPE for European securitisations is influenced by a number of factors which include:

- A straightforward tax regime where double taxation treaties exist and tax neutral structures can be established;
- The clarity of the legal regime and legal concepts that are well recognised by the seller/sponsor and the international investor base;
- The ease of incorporation of the SPE, including timing and costs and lack of necessary government approvals;
- The ongoing regulatory burden for the SPE.

As a result of the considerations outlined above, the most common SPE jurisdictions for European securitisations are Ireland, Luxembourg, Jersey, and the UK. However, for certain transaction types (in particular, for RMBS and covered bonds) it is quite common for originators to use their own jurisdiction of domicile as the jurisdiction of the SPE.

The most common jurisdictions for US securitisations are the Cayman Islands and the state of Delaware. The onshore (Delaware) versus offshore (Cayman) decision will generally be driven by factors outlined in the previous section (on tax considerations of SPEs), while other (non-taxation related) considerations (such as clarity of legal regime, ease of incorporation, etc) will generally be similar to those outlined for European SPEs immediately above.

It should be clear from the above that the underlying assets are not required to be located in the same jurisdiction as the SPE issuing bonds backed by these assets. Nonetheless, it is common in some jurisdictions to use SPE structures based in the same jurisdiction as the assets (as noted previously above). This is typically the case in the UK, France, Spain and Italy. This can be driven by tax, legal and/or regulatory factors.

The decision to incorporate the SPE either onshore (eg the state of Delaware in the US, or England in the UK) versus offshore (eg Jersey, Cayman Islands, British Virgin Islands) has been discussed above under tax considerations but it is also a jurisdictional issue. It should be noted that while offshore incorporation of SPEs is common, it is not as common as incorporation in the same country as that in which the assets are originated and from which the notes are sold (such as in the use of UK SPEs and Dutch Stichtings for UK and Dutch RMBS, respectively). This is often for reasons of legal and regulatory certainty, and it may be a preference not only of the originator but also of investors. As stated previously, where tax is a concern, the use of offshore vehicles is likely to be to achieve tax-neutrality rather than to target any sort of tax avoidance.

Accounting and Regulatory Capital Considerations of SPEs

Accounting standards and regulatory capital requirements play an important role in the motivations for the use of SPEs. These and other motivations are discussed in detail in a

separate section (Chapter III). To underpin the implications of these particular motivations, this section provides some background on the most salient aspects of accounting standards and regulatory capital adequacy requirements as they relate to SPEs. Given the depth and complexity of these two topics, however, what follows is intended primarily to provide a contextual overview of the accounting treatment and regulatory capital requirements that pertain to SPEs, and is not intended to provide the level of detail that would be required at the practitioner level in either of these spheres.

Current Accounting Treatment of SPEs

IFRS

Under IFRS, obtaining off balance sheet treatment for an SPE is determined in two stages. Firstly, an assessment needs to be made as to whether a sponsor consolidates an SPE. The second assessment is whether the transferred asset, such as a pool of mortgage loans transferred to the SPE, can be derecognised by the sponsor institution.

An SPE is consolidated when the substance of the relationship between the sponsor and the SPE indicates that the SPE is controlled by the sponsor. SIC-12 governs this assessment under IFRS. To determine the substance of the relationship between the sponsor and the SPE the following factors must be considered using SIC-12, as they are circumstances which may indicate that the sponsor controls an SPE and consequently should consolidate:

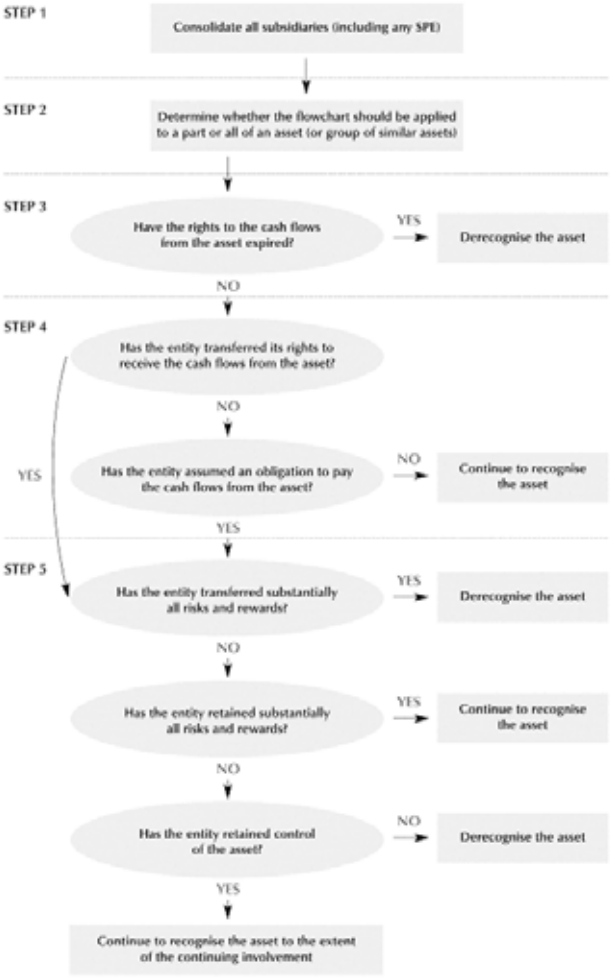
- in substance, the activities of the SPE are being conducted on behalf of the sponsor according to its specific business needs, so that the sponsor obtains benefits from the SPE's operation;
- in substance, the sponsor has the decision-making power to obtain the majority of the benefits of the activities of the SPE or, by setting up an 'autopilot' mechanism, the sponsor has delegated these decision-making powers;
- in substance, the sponsor has rights to obtain the majority of the benefits of the SPE and therefore may be exposed to risks incident to the activities of the SPE; or
- in substance, the sponsor retains the majority of the residual or ownership risks related to the SPE or its assets in order to obtain benefits from its activities.

An individual criterion by itself may not necessarily indicate control, but rather all the indicators and any other relevant facts and circumstances need to be assessed in balance when assessing control of an SPE.

SIC-12 is an interpretation of IAS 27 (which provided consolidation principals for entities which are not narrowly defined). SIC-12 was written as an anti-abuse measure to prevent entities from manipulating financial statements through the use of financial engineering. Application of SIC-12 results in consolidation of many vehicles that would have otherwise resulted in off-balance sheet treatment.

Derecogniton of assets transferred to the SPE is governed by IAS 39 and is based on the principle that a transferor should not retain substantially all the risk and rewards of the cashflows relating to a transferred asset.

The following flow chart, reproduced from the Application Guidance in IAS 39, summarises the conditions necessary for derecognition.



US GAAP

US GAAP provides two models for off-balance sheet treatment of SPEs – one addressing derecognition of assets and the second dealing with consolidation of variable interest entities. The following discussion concerning FAS 140 and FIN 46 (R) relate to US GAAP that are effective through 2009; changes to these rules which are effective for an entity's first annual reporting period beginning after 15 November 2009 are discussed in later pages.

Derecognition of assets is governed by FAS 140. In order to be derecognised, assets must be isolated from the transferor and put beyond the reach of creditors and receivers. This standard is commonly referred to as meeting "true sale" criteria. In other words, the transfer of assets must closely approximate sales as opposed to a financing. Determining a true sale requires a legal analysis as well as a true sale opinion from the legal counsel involved in the transaction. The accountants rely on the true sale opinion as one indicator to achieve sale treatment under FAS 140.

To qualify as a true sale, the transferor must surrender effective control over the transferred assets. The transferor has surrendered control if three conditions are met:

- the transferred assets are isolated from the transferor even in bankruptcy;
- each transferee or holder of beneficial interests (if the transferee is considered a "Qualifying Special Purposes Entity") has the right to pledge or exchange the assets; and

- the transferor does not maintain effective control over the assets.

By contrast, a transferor would be deemed to maintain effective control if it:

- were entitled and obligated to repurchase or redeem the assets before their maturity, or;
- gave the transferee the ability to unilaterally cause the return of specific assets (other than through a clean up call).

Currently, most SPEs achieve off balance sheet treatment by qualifying as a "QSPE" (qualified special purpose entity), which is a trust or other legal vehicle that meets all of the following conditions:

- It is demonstrably distinct (no unilateral dissolution by transferor);
- Its permitted activities are significantly limited (must be entirely specified in the transaction's legal documents and can only be changed by a majority approval of the non-transferor security holders);
- It may only hold specified assets (passive assets, passive derivatives, financial assets that provide credit support, servicing rights related to the financial assets it holds, temporary non-financial assets in connection with the collection of the financial assets it holds, and eligible investments);
- It can sell assets only in an automatic response to limited circumstances (listed below):
  - Occurrence of an event that (1) is specified in the legal documents of the QSPE; (2) is outside the control of the transferor; and (3) causes the fair value of those financial assets to decline by a specified degree below the fair value of the assets when the QSPE first obtained them;
  - Exercise by a security holder (other than the transferor, its affiliates or its agents) of a right to put the security holder's security back to the QSPE;
  - Exercise by the transferor of a call or a removal-of-accounts-provision (ROAP) specified in the QSPE's legal documents;
  - Termination of the QSPE or maturity of its issued securities on a fixed or determinable date that is specified at inception.

Structures can also receive off-balance sheet treatment when they are not required to be consolidated as a variable interest entity (VIE) as set forth in FIN 46 (R). The VIE model is applicable to entities that are not capitalised sufficiently to support operations without additional subordinated borrowing and where the control of an entity does not lie principally with its equity owners. Under this model, consolidation is required by any company that is the primary beneficiary of the VIE. A primary beneficiary absorbs a majority of the expected losses or receives a majority of the expected residual returns from the VIE's activity, or both. Determination of the primary beneficiary of an SPE often involves a complex quantitative analysis of possible outcomes. In response to FIN 46 (R), some sponsoring banks sold a first loss note to investors, such that those holders would absorb a majority of the expected losses of the VIE and thereby avoided a designation as the primary beneficiary. Some institutions also provided liquidity or credit facilities to SPEs. In some cases, if sufficient support was provided, the institutions consolidated the SPEs.

Issues with SPE Accounting

Historically, a motivation for the use of SPEs in securitisation was the accounting treatment following a sale of the assets to the SPE. Originators were able to recognise the present

value of the future cash flows of the assets as profit. This enabled originators to manage their profits more effectively. This treatment has been largely neutralised by changes in IFRS and US GAAP in recent years.

There are circumstances whereby the use of SPEs can potentially obfuscate the true financial position of the firm by transferring assets and liabilities to off-balance sheet vehicles. This can be the case among both financial and non-financial institutions. (For example, the use of a wide number of SPEs was a feature of the Enron accounting malpractices.) Some examples (but not an exclusive list) of the ways SPEs can potentially confuse or obfuscate the financial position of a company are:

- Return on equity and return on assets can be exaggerated if revenue flows are received from SPEs but the assets in those vehicles are not recognised on the balance sheet;
- Sector exposure may be obscured, either deliberately or not, by recognising some SPEs on balance sheet and not others;
- Leverage ratios may be obscured.

To some extent, these obfuscation risks are dealt with by the accounting treatment discussed above and the regulatory capital treatment discussed later.

Changes to Accounting Treatment of SPEs

In June 2009, the US FASB issued FAS 166 and FAS 167. FAS 166 amends the derecognition guidance in FAS 140, and FAS 167 amends the consolidation model in Interpretation 46 (R). The amendments remove the concept of a QSPE and modify the derecognition conditions relating to legal isolation and effective control. FAS 166 and FAS 167 are effective beginning in 2010. As a result, many of these structures will be assessed for consolidation against FAS 167 beginning in 2010.

As a result of the elimination of the QSPE and other concerns, FAS 167 will change the determination of whether consolidation of a VIE is required from a quantitative to a qualitative analysis. The proposed standard will require a company to consolidate a VIE if it has a controlling financial interest in the VIE. A company will be deemed to posses a controlling financial interest if it:

- has the power to direct matters that most significantly impact the activities of the VIE, including its economic performance, and also;
- has the obligation to absorb losses from the VIE that could potentially be significant to the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE.

It is expected that these revised consolidation criteria will result in a number of VIEs being brought back on banks' balance sheets.

The IASB has published ED 10, "Consolidated financial statements" which is expected to replace the existing IAS 27 and SIC 12. It proposes a single control-based model as the basis for consolidation and expands the disclosure requirements. The model defines control as being made up of two components: power to govern an entity and exposure to returns (both positive and negative) from that entity. The proposals are expected to result in little change in the scope of consolidation for operating companies, but will introduce a new term "structured entity" which is similar in scope to SPEs as defined in SIC-12. This unified control model may change consolidation decisions for SPEs where a sponsor currently has the majority of the risk and rewards, but has delegated significant decision-making power, such

as the right to work out distressed assets, to a third party. In such circumstances, a sponsor may be considered not to control an SPE, as it does not have any power to govern its significant decision-making processes.

The proposals form part of the IASB's comprehensive review of off-balance sheet activities and its response to the recommendations from the Financial Stability Forum, the international body tasked with co-ordinating the global regulatory response to the credit crisis. The FASB and the IASB continue to have a long-term goal of similar guidance on consolidation and disclosure requirements.

Current Regulatory Capital Treatment of SPEs

In 2006, the Basel Committee on Banking Supervision published "Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version" ("Basel II"), which was the basis for establishing new bank capital standards in certain countries, including Canada, most European countries, Japan, and the US. Prior to Basel II, these countries had been using capital standards that were published by the Basel Committee in 1988 (Basel I). The Basel I and Basel II frameworks define regulatory Tier 1 and total capital, and specify how bank assets are to be risk-weighted. This section discusses the similarities and differences between Basel I and Basel II with respect to measuring capital requirements for exposures that have been securitised and those that have not been securitised. A later section discusses how those similarities and differences have created incentives for banks to use securitisation structures to achieve regulatory capital benefits.

Under both Basel I and Basel II, banks are required to hold total capital of at least 8 percent of risk-weighted assets. Total capital is comprised of Tier 1 and Tier 2 capital. Tier 1 capital is defined to include common stock and retained earnings, as well as certain perpetual preferred stock. Total capital includes all capital elements included in Tier 1 and also includes instruments that are junior to depositors, but not as equity-like, such as subordinated debt.

Under the Basel I framework, each balance sheet asset generally is assigned to one of a handful of risk-weight buckets. Assets such as cash and claims on OECD countries require no risk-based capital, while commercial loans and most consumer loans, which comprise the largest portion of most banks' assets, are assigned a capital charge of 8 percent. In other words, corporate loans must have $8 of capital set aside for every $100 in loan amount. The risk-based capital standards also take into account derivatives and other off-balance sheet exposures such as loan commitments and letters of credit. Banks must hold capital against these off-balance sheet items based on various risk factors, including (for example) counterparty credit risk and the length of the commitment.

The Basel I framework did not include a mechanism for risk weighting exposures that a bank had purchased from an SPE. Under Basel I, banks would assign such exposures a risk weight of 100 percent, regardless of whether the exposure was rated by an external credit assessment institute ("ECAI") and, if rated, the rating of the exposure. Thus, the Basel I risk-based capital requirements would be the same for a AAA-rated asset-backed security as it would be for a B-rated asset-backed security or corporate loan that is an underlying asset in the SPE that issued the asset-backed security.

In 2001, the US banking supervisors adopted a more risk-sensitive approach for securitised assets that is referred to as the "recourse rule." Many of the principles and practices of the recourse rule subsequently were incorporated by the Basel Committee in the Basel II framework for securitisation exposures discussed below.

The Basel II framework provides more risk-sensitive approaches for risk-weighting assets. Under the most risk-sensitive of the approaches in the Basel II framework, the advanced internal ratings-based approach ("AIRB"), risk weights for credit exposures are based on a bank's internal assessment and knowledge of the obligor and the nature of collateral provided.

The Basel II framework also introduced a more risk-sensitive approach for securitisation exposures. In particular, the capital requirements for securitisation exposures in Basel II are based on the overall principle that the amount of capital held should be sufficient to cover any credit risk. This applies to:

- Investors in securitisation positions;
- Providers of liquidity facilities to ABCP conduits; and,
- Originators of securitisation positions, including those that are seeking to exclude securitised exposures from the balance sheet, and consequently reduce the associated regulatory capital requirement for credit risk.

A securitisation exposure is defined to mean a structure where the cash flow from an underlying pool of exposures is used to service at least two different stratified risk positions or tranches reflecting different degrees of credit risk. Payments to the investors depend upon the performance of the specified underlying exposures, as opposed to being derived from an obligation of the entity originating those exposures. The stratified/tranched structures that characterise securitisations differ from ordinary senior/subordinated debt instruments in that junior securitisation tranches can absorb losses without interrupting contractual payments to more senior tranches, whereas subordination in a senior/subordinated debt structure is a matter of priority of rights to the proceeds of liquidation.

Investors in securitisation positions

Investors in securitisation positions are subject to a hierarchy of approaches, which seek to ensure appropriate capital is held against the credit risk of the underlying exposures. The hierarchy for IRB banks is as follows:

- Ratings-based approach;
- Supervisory formula;
- Deduction.

In general, the hierarchy of approaches requires banks to use available external ratings provided by credit rating agencies to assign capital requirements. If a rating is not available, IRB banks may use a supervisory formula, set out in the Basel II framework, to generate a probability of default, and loss given default, and therefore a quasi-IRB credit risk capital number. In the absence of sufficient information, or with the presence of any other problem which prevents the investor from using the supervisory formula, investors will need to deduct the position from regulatory capital.

Banks that use the Basel II Standardised Approach for securitisation exposures must use external ratings when available to calculate capital requirements. If there is no rating, the position must generally be deducted from capital.

Providers of liquidity facilities to ABCP conduits

For providers of liquidity facilities to ABCP conduits, there is an intermediate step between the supervisory formula and deduction, as it is unlikely that the providers will have sufficient

data on the underlying assets to use the supervisory formula. The intermediate step is to use the Internal Assessment Approach, which allows IRB banks to assign a “shadow rating” to unrated positions in the conduit that can feed into the Ratings-Based Approach to generate a risk weight for the facility. In other words, where a position does not have a public rating assigned to it by a credit rating agency, the provider of the liquidity facility can generate, by an internal method, the rating that would apply if it had been rated by a credit rating agency.

Originators of securitisation positions

Under the Basel II framework for securitisation exposures, an originator bank is a bank that meets either of the following conditions with respect to a certain securitisation structure:

- the bank originates directly or indirectly underlying exposures included in the securitisation structure, or;
- the bank serves as a sponsor of an asset-backed commercial paper (ABCP) conduit or similar program that acquires exposures from third-party entities.

In the context of such programs, a bank would generally be considered a sponsor and, in turn, an originator if it, in fact or in substance, manages or advises the program, places securities into the market, or provides liquidity and/or credit enhancement.

Under the Basel II framework an originator may exclude from its balance sheet, and reduce the capital requirements for credit risk related to, the underlying exposures it has sold to a securitisation structure provided that the following three principles are met:

- Effective risk transfer;
- Significant risk transfer; and;
- Implicit support.

In order to demonstrate effective risk transfer, the originator must not maintain effective or indirect control over the transferred exposures. This means that the originator should have no intention or obligation, contractual or otherwise, to reassume the risk that has been transferred. This, for example, means the SPE or trust should be bankruptcy remote, and the originator has not included any representations or warranties that result in investors being protected from losses on the underlying assets.

If the risk transfer has been effective, then the originator will be entitled to exclude securitised exposures from the balance sheet for risk-based capital purposes, and reduce the capital requirement, as the credit risk has been passed to third party investors. Significant risk transfer, the next requirement, allows a capital reduction if significant risk has been transferred to investors.

There has been considerable divergence across the world (including within Europe) over the implementation of this requirement, with some member states opting for a prescriptive route in determining what constitutes ”significant”, and others opting for a proportionate approach. In the UK for instance, the reduction in credit risk capital must be commensurate with the reduction in credit risk. There is no definition within the requirements of what constitutes ”significant”, therefore capital can be reduced by 10% or 50% or 100% (for example), provided this is met by a commensurate reduction in credit risk.

Finally, if the risk transfer has been effective, and a risk reduction has been achieved by transferring significant credit risk, the last requirement is that the originator should not, at any point, reassume the risk that has been transferred. The originator should not support the transaction and protect investors from experiencing the losses occurring on the underlying

assets. If the originator supports the transaction, it will be brought back on-balance sheet for capital purposes, and a capital reduction will not be allowed for any securitisation activity that the originator undertakes, both now and into the future. The reason for this is that by explicitly supporting a transaction, the originator signals that it will do so again in the future, and, therefore, fails to meet the requirement of the risk transfer being effective.

The three requirements outlined above only apply to those originators that are seeking to exclude the securitised exposures from their balance sheets, and obtain a reduction in capital requirements for credit risk. For those originators that are not seeking a capital reduction, the requirements do not apply. It is noted that under the Capital Requirements Directive ("CRD") adopted by EU member countries, an originator does not need to achieve sale treatment under IFRS in order to recognise effective and significant risk transfer for regulatory capital purposes. However, under Basel II rules adopted by US federal banking agencies, the transfer of assets must be considered a sale under US GAAP in order for an originator to recognise effective and significant risk transfer.

Basel II caps the amount of capital that must be held against a securitised exposure at the level of capital that would apply had the exposures never been securitised. This can erode the benefits of financial institutions distinguishing between (or attempting to arbitrage) the regulatory capital requirements for securitised and non-securitised exposures. For instance, as a result of lower risk weights for residential mortgage loans generated under the Basel II framework, the mortgage loans that secure RMBS transactions have frequently been retained on balance sheet by some European financial institutions, as the regulatory capital benefit from securitisation has been reduced to an extent that it is not worth seeking off balance sheet treatment. On the other hand, these same RMBS transactions have been structured to achieve off-balance sheet treatment for accounting and regulatory capital purposes in the US. However, other types of transactions (including credit card securitisations, CMBS and CDOs) continue to experience a capital benefit from securitisation under the framework, and are therefore frequently excluded from balance sheet exposures under risk-based capital rules.

Leverage Ratios

In addition to the Basel I and Basel II risk-based capital requirements noted above, banks in the US, Canada and Switzerland are also required to meet a leverage ratio requirement, which is a simple, non-risk-based measure of capital adequacy. The leverage ratio in the US is calculated using tier 1 capital (as described earlier) as a percentage of total adjusted on-balance sheet assets under GAAP. The Canadian assets-to-capital multiple is defined by dividing an institution's total on-balance sheet assets, including specified off-balance sheet items, by total capital. At the end of 2008, the Swiss introduced a leverage ratio requirement based on the ratio of tier 1 capital to total assets adjusted for a number of factors, the most noteworthy being the deduction of the entire Swiss domestic loan book.

Proposed Changes in Regulatory Capital Treatment of SPEs

In July 2009, the Basel Committee made several amendments to the Basel II framework that are to be implemented by 31 December 2010. The most material of the amendments is the proposed revised risk weights for re-securitisation exposures, which are two to three times the current risk weights.

The Basel Committee amendments define a re-securitisation as a securitisation exposure in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation exposure. In addition, an exposure to one or more resecuritisation exposures is a resecuritisation exposure.

Local amendments have been recently adopted in the European Union under the Capital Requirements Directive ("CRD"), which implements Basel II in EU member countries – in addition to those at Basel – which will be subject to implementation at the beginning of 2011. Those CRD amendments include:

- Requirements around retention of exposure: An investor can only invest in a securitisation exposure if the originator or the sponsor of the securitisation exposure has retained a net economic interest (of not less than 5%). The new CRD provisions request the European Commission to review by the end of 2009 whether this minimum retention requirement delivers the objective of better alignment between the interests of originators or sponsors and investors, and whether an increase of the minimum level of retention would be appropriate.
- Requirements for investor due diligence: An investor can only invest in a securitisation exposure if they are able to demonstrate comprehensive and thorough understanding of, and have implemented formal policies and procedures appropriate to, the risk profile of their investment. Where an investor fails this demonstration test, a proportionate additional risk weight has to be imposed by competent authorities, which progressively increases with each subsequent infringement of the due diligence provisions.
- Requirements for sponsors and originators to disclose information to investors to enable informed decisions: Sponsors and originators have to disclose to investors the level of their commitment to maintain a net economic interest in the securitisation. They also have to ensure that prospective investors have readily available access to all materially relevant data on the credit quality and performance of the individual underlying exposures, cash flows and collateral supporting a securitisation exposure.
- Defining significant risk transfer. The proposal defines a level of risk transfer that would constitute "significant", and meeting this defined level would allow the originator to exclude securitised exposures from its balance sheet. This would introduce greater convergence of the diverse approaches that have been implemented in EU member countries to date.

Apart from these, the European Commission has proposed further changes to the CRD to strengthen capital and due diligence requirements for resecuritisations.

Appendix 3

Risk and Return Disaggregation in SPEs

Process of Risk and Return Disaggregation

The processes outlined in previous chapters and appendices – the creation of an SPE, the transfer of assets or liabilities into this SPE, and the redistribution of exposure to these assets or liabilities via the issuance of notes and/or retention of residual interest by the transferor – typically results in some degree of disaggregation of the risk/return profile of these same assets or liabilities. In other words, the risk and return of the assets or liabilities typically becomes redistributed among a wider number of parties and counterparties, each of which has a different form of exposure, a different level of seniority, and different levels of alignment of interest both with other exposed parties and with the performance of the assets or liabilities in general. The following chapter outlines the principal outcomes of this risk/return disaggregation process by delineating the different forms of exposure that different parties and counterparties ultimately have to an SPE. In terms of holders of securities issued by the SPE, these range from noteholders to subordinated lenders to residual equity investors. In terms of those that do not hold notes issued by the SPE, but instead have alternative contractual relationships with the SPE, these range from liquidity providers to swap counterparties to those that have guaranteed the performance by the SPE of its obligations. In each case, however, the focus of the following chapter is on parties and counterparties that have either retained or assumed some form of risk exposure (typically, credit risk, but potentially also liquidity risk or interest rate risk) to the SPE, as opposed to those that have simply undertaken to provide services to the SPE. It should be noted that the originator of the assets can assume any number of the roles outlined above (and in more detail below), but similarly it can typically also transfer any number of these roles to third parties who assume the risk and exposure instead.

The principal means by which different parties and counterparties assume exposure to an SPE is summarised below. These are split into internal or structural forms of risk/return exposure (which are usually – but not always – assumed by holding securities, whether debt or equity, in the SPE), and external or third party forms of risk/return exposure (which are usually – but not always – assumed by providing financial commitments to the SPE). These will each be elaborated in turn in the following sections. In each case the focus will be primarily upon the risks, returns and implications of retaining or assuming such exposures, rather than on the technical attributes of such exposures (which can be manifold, and will vary across different jurisdictions). It should also be noted that insurance SPEs engaged in liability securitisations may or may not use certain of the risk and return components outlined below. In general the SPEs used for liability securitizations can be characterised as less complex than those used for asset securitisations, and also typically have fewer types of exposure retained by the insurer.

Internal/Structural Risk and Return Components

1 Senior Tranches
2 Mezzanine Tranches
3 Junior Tranches
4 Seller Shares
5 Vertical Slices
6 Equity / Residual Interests
7 Overcollateralisation
8 Reserve Funds / Subordinated Loans
9 Residual Income / Excess Spread
10 Management Fees
11 Other Types

External/Third-Party Risk and Return Components

1 Liquidity Facilities
2 Servicer Advances
3 Swaps
4 Letters of Credit
5 Guarantees
6 Monoline Wraps
7 Repurchase Commitments
8 Other Types

Internal / Structural Risk and Return Components

Senior Tranches

The risk/return disaggregation process typically begins with the creation of a senior tranche, ie a series of bonds that have a higher credit quality than any other liabilities issued by the SPE. This higher credit quality is achieved by having these bonds be the first to receive any cash flows from the underlying assets (thus increasing their probability of receiving principal and interest compared to other tranches) and being the last to absorb losses from the underlying assets (thus decreasing their probability of having to absorb losses compared to other tranches). This higher credit quality comes at the expense of yield, as these bonds will generally be priced with the tightest spread or rate of all the liabilities issued. These senior tranches are also typically rated AAA or AA by at least one credit rating agency.

While in many cases all senior notes are paid pari passu and pro rata, it is also possible for these senior notes to be further tranched on the basis of either timing of repayment (ie time subordination) or absorption of credit losses (ie credit subordination).

When senior tranches are further carved up according to time subordination they form a sequential structure, with different tranches of these senior notes being paid in turn on a time-subordinated basis, resulting in different tranches having different expected weighted average lives and maturities. To avoid this time subordination becoming indirect credit subordination (eg if losses on the assets are high, they may be borne by the tranches with the longest weighted average life), there are typically triggers in place, whereby if the performance of the assets deteriorates to a certain extent, the different tranches of senior notes cease to pay on a sequential basis, but instead begin to pay on a pari passu and pro rata basis.

When senior tranches are further carved up according to credit subordination, this most typically involves carving out a “super senior” tranche from the senior tranche. For instance, if the most senior tranche is 80% of the liabilities issued by the SPE, the super senior tranche

may be the upper 20% of this 80%. Such a super senior tranche is the very last to absorb losses, and is often perceived to have extremely low credit risk.

Mezzanine Tranches

In between the senior tranches (analysed above), and the most junior tranches (analysed below), there will frequently be notes issued that have an intermediate degree of credit quality – these are referred to as mezzanine notes. Their intermediate level of credit quality is driven by the fact that they receive cash flows from the assets after the senior tranches but before the junior tranches, and conversely they absorb losses on the assets after the junior tranches have been fully written off but before the senior tranches begin to absorb any losses. This higher degree of risk means that they will generally be priced at a more favourable yield than the senior notes. It was already noted that the most senior tranches are typically rated AAA, and it will be noted below that the most junior tranches are typically unrated or assigned a lower (for instance, BBB or BB) rating. As such, the mezzanine notes – which lie between these in terms of credit quality – typically have ratings that reflect this intermediate level of credit quality, for instance, AA or A.

Senior and mezzanine notes may be sold to an investor or held by the originator itself. Before the disruption in the securitisation markets it was most common for an originator to sell on almost all senior and mezzanine tranches, and potentially only to hold the most junior tranches itself (on which, see below). However, since this disruption began, issuance at most rating levels has ceased in the US completely, while in Europe it is more common for an originator to retain the senior tranches as collateral for repo financing with the central bank.

Junior Tranches

Aside from the senior and mezzanine tranches described above, it is also possible for investors or the originator to assume risk by holding the most junior bond in the capital structure, which is the first bond to take any losses on underperformance of the assets, and typically also the last to receive any income or paydowns on the assets. However, before this bond suffers any losses there will generally be the absorption of losses by other SPE components listed previously (and analysed below) – for instance, excess spread, the reserve fund, overcollateralisation, and the equity interest in the SPE. An example of such junior tranches in SPEs is the “B-piece” of a CMBS transaction, which is subordinated to the more senior A notes, is often held by the special servicer (which is sometimes also the originator), but which may be retained by the originator (although it is frequently also sold on to investors). Depending on the asset class, jurisdiction and structure of a transaction, the most junior tranches issued by an SPE may be unrated or may be assigned a low credit rating by a credit rating agency (for instance, BB or B). They will generally have a higher yield than either the senior or the mezzanine notes issued by the SPE.

It should be noted that should the originator choose to hold this tranche, it more closely aligns the interests of the originator with those of other noteholders, while at the same time ensuring that the originator has similar (though not necessarily equal) rights (in terms of voting rights, contractual obligations of the trustee, etc). In this way, the holding of a junior tranche by the originator differs from holding an equity interest or subordinated loan, both of which will be subject to different forms of contractual relationship versus the SPE compared to other noteholders, as well as being junior to other noteholders.

Seller Shares

In certain types of vehicles (in particular, the master trust structures used for both US and UK credit card ABS, as well as for UK prime RMBS), it is common for the originator of the assets

to retain risk by means of a “seller share”, which consists of their pro rata portion of interest in the assets held by the SPE. For instance, if $1bn of assets are securitised, then $0.75bn might belong to the “funding share” (essentially the noteholders), while $0.25bn might belong to the “seller share” (essentially the originator of the assets). While this is often loosely (and mistakenly) referred to as the originator’s “equity” in the trust, this is not the case. The difference between a seller share in an SPE and equity in an SPE (which is described in a section that follows) is that when the interest is held in the form of a seller share any realised losses are generally absorbed pro rata between the originator and the noteholders (ie between the funding share and the seller share). This means that the originator is not holding a “first loss piece”, but is essentially holding a vertical slice of the risk of the assets. To be more specific, the originator will absorb losses together with the BB noteholders (assuming they are the most junior) until their principal is completely eroded, then will absorb losses together with the BBB noteholders until their principal is eroded, then A, then AA, then finally AAA.

It should also be clear from the very name of this form of exposure that a seller share will typically only be held by the originator of the assets, and is not an exposure that typically will or can be assumed by a third-party investor.

From a risk retention perspective, this means that the originator has a longer-term interest in the assets compared to when it holds an equity or residual interest (as described below), and has an interest that over time will equate on a varying basis to those of the senior, mezzanine and junior noteholders (as described above). For instance, if an originator only holds a very thin slice of equity in a transaction, once a small uptick in losses has eroded that thin equity slice there may be little incentive (beyond reputational risk) for the originator to undertake many actions to support the performance of the assets. However, when the originator instead holds a seller share there is always an incentive to ensure optimal performance of the assets until the very last loan has either defaulted or prepaid.

On the other hand, it should be pointed out that while the retention of a seller share by the originator may seem to indicate that the originator has retained a proportional share of the risk, this is not the case under all scenarios. In fact, the originator has in many cases retained more of the risk than noteholders, even with such a pro-rata allocation of losses. This is because there are typically various triggers built into the transaction under which the repayment of the seller share can get deferred until after all the noteholders have been paid off. While losses are still allocated pro-rata between the seller share and funding share (ie between the originator and the noteholders), the very fact that the seller share gets paid last means that it is outstanding for longer, which in turn means that it will ultimately absorb more of the losses on the assets. In other words, time subordination cannot be divorced from credit subordination, even with a pro-rata allocation of losses over the relevant timeframe. An example of such a trigger can be found in UK RMBS master trusts, where the originator is required to maintain the trust at a certain minimum size, and failure to do so causes an amortisation trigger that leads to investors being paid out more quickly. Another example is US credit card securitisations where the seller’s share essentially becomes subordinated to the investors’ share if certain early amortisation triggers are breached.

Vertical Slices

The above analysis at one point referred to the seller share of a master trust as being akin to a “vertical slice” of the risk of the assets. It is not only via a master trust that such a vertical slice can be maintained, but there are other structuring and tranching techniques that allow retention of such a vertical slice of the risk. With such a vertical slice, losses on the assets, and potentially also income and paydown from the assets, are directed towards two interests (typically an originator and an investor) on a pro-rata basis, rather than being directed sequentially by seniority. The structuring of a vertical slice can take multiple forms, but in

most respects, the risk/return implications of such vertical slices are similar to those for the seller shares of master trusts, as outlined above.

Equity / Residual Interests

In certain securitisation structures (eg credit card transactions and CDOs) the structuring bank may retain an "equity" slice of varying size which is exposed to the first losses on the transaction. However, it should be noted that the term "equity" is often used very loosely to describe the residual interest that an originator (or indeed another party) has in an SPE – in some cases the term is used loosely to describe securities and other forms of interest that are indeed subordinated but are not technically equity. For instance, the bonds issued to junior noteholders as part of a tender option bond structure are sometimes referred to as holding the "residual" piece, as they are subordinated to the senior noteholders (and thus act as credit enhancement for the latter.) While such usage of the terms "equity" and "residual" can create confusion, they do capture the risk/reward profile of the equity interest in an SPE, as the holder of the equity piece will generally require an equity-like level of return (ie higher than that of the senior, mezzanine and junior notes) in return for the higher degree of risk assumed.

From an investor perspective, the existence of an equity piece provides a "first loss cushion" against the underperformance of the assets, before any such losses must be absorbed by noteholders. From an originator perspective (as it is typically the originator that holds such an equity piece), the distinction between holding an equity interest and holding the most junior bond issued is that when the originator holds an equity interest it typically might not have the same rights as noteholders; rather, it is subordinated to them. Consequently, the originator might retain similar economic risk via an equity piece and via the most junior note issued, but its ability to influence the crystallisation and outcomes of such risk may differ. This topic is examined in more detail in Chapter IV, when the possibility that the amount of risk transferred or retained can change over time is examined.

Overcollateralisation

Another means of risk retention, typically undertaken by the originator (and not a third-party investor), is to overcollateralise the transaction, ie to add more assets than are necessary to repay the principal of the bonds. For instance, a transaction may be structured in which there are $1bn of bonds issued, which are nonetheless backed by $1.05bn of mortgage assets. The extra $0.05bn of assets are overcollateralisation, which (if not required to make losses whole) is ultimately released and reverts back to the originator. Such overcollateralisation is typical in US subprime mortgage transactions, as well as in European covered bond transactions. In the latter case, the overcollateralisation is often similar to a form of equity; for instance, in UK covered bonds for accounting purposes the overcollateralisation as an asset is offset by a "capital contribution" as a liability, with this capital contribution essentially being the originator's equity in the assets backing the covered bond programme.

Overcollateralisation is also a feature of ABCP conduits, whereby the seller of the assets into the conduit is given an advance rate (for instance, 90%) against assets that equates to a set overcollateralisation level (in this case, 11%). This overcollateralisation in ABCP conduits is generally dynamic and fluctuates according to the quality of the underlying assets – which may be measured either by specific tests pertaining to the attributes of the collateral (if the collateral is unrated, as in many multi-seller or single-seller conduits) or by the rating level of the collateral (if the collateral is rated, as in many securities arbitrage conduits). A comparable situation applies to SIVs, whereby the overcollateralisation of the vehicle is also dynamic and subject to certain ongoing tests.

From an investor perspective, overcollateralisation provides an extra cushion against potential losses. From an originator perspective, the implications of overcollateralisation are that the originator is encumbering more assets than are theoretically required to repay the noteholders, and that such extra encumbered assets will not necessarily revert back to the originator until it is more or less certain that the noteholders can be repaid. Furthermore, like a seller share, the release of this overcollateralisation can be time-deferred when certain triggers are hit, thus altering the degree of risk borne by the owner of the overcollateralisation (typically, the originator). The difference in overcollateralisation versus a seller share is that the function of these excess assets is more explicitly designed to be that of providing credit subordination when it is in the form of overcollateralisation (unlike the targeted pro-rata allocation of losses between noteholders and seller share in a master trust). The risks involved in this specific distinction are examined in more detail in Chapter IV, when the extent to which the amount of risk retained by the originator can be underestimated is examined.

Reserve Funds / Subordinated Loans

In certain transactions, the originator may fund a reserve account (or spread account) to provide a further cushion to absorb credit losses ahead of noteholders. The initial funding of the reserve fund typically occurs by one of the following means:

- The reserve fund can be fully funded upon closing of the transaction, via a subordinated loan extended to the SPE by the originator of the assets.
- In some instances, the reserve fund is not actually funded on closing of the transaction, but is instead built up over time from excess spread. This significantly impacts risk/reward retention for the originator, as it can essentially cut off excess spread to the originator (in particular, if performance of the assets deteriorates).
- Finally, there are some (albeit quite few) instances in which the reserve fund is not funded upon closing, and neither does it built up from excess spread. Instead, there is a commitment from the originator to fund it for the benefit of noteholders should the rating of the originator fall below a certain level. This typically only occurs with a very highly rated originator, and could potentially have procyclical effects in that the originator must fund such obligations at the very time when its own credit strength is weakening (these implications are examined in Chapter V).

The purpose of such a reserve fund is typically twofold:

- To provide liquidity to the SPE, in case there are temporary mismatches between asset inflows and liability outflows;
- To make whole any losses that may crystallise on the underlying assets, to the extent that such losses cannot be first covered by excess spread, until such point as the reserve fund is exhausted.

The subsequent amortisation of the reserve fund, which impacts cash flows reverting back to the originator of the assets, can also vary as follows:

- In some instances, the reserve fund is non-amortising, in which case it is a single static amount determined upon closing of the transaction, none of which is released back to the originator until the last bonds are paid off.
- In other cases, the reserve fund amortises in line with the outstanding principal balance of either the assets or the bonds (subject to performance triggers), in which

case the originator of the assets slowly benefits over time from the release of monies trapped in the reserve fund.

- In other instances, the reserve account is funded upon closing of the transaction by the originator, but the associated subordinated loan of the originator does not need to be paid off via release of the reserve fund (either at the end of the transaction or over time), but can be paid off more rapidly ("turbo'd") using excess spread from the transaction. This feature allows the risk exposure of the originator to the transaction to delever more rapidly over time, as their subordinated loan can be paid off while other bonds are still outstanding, and while the monies of the reserve fund are still trapped for the benefit of such noteholders.

The characteristics of reserve funds

Function	*Funding mechanism*	*Amortisation profile*
Liquidity provision	Funded upon closing	Amortising
Loss curing	Funded via excess spread	Non-amortising
	Funded upon originator downgrade	Turbo via excess spread

The funding of a reserve fund provides the noteholders of an SPE with extra protection against both credit losses and liquidity shortfalls. On the other hand, the originator of the assets (who typically funds such a reserve fund, or allows excess spread that would otherwise revert to the originator to fund it, which equates to the same result) has thereby retained a more volatile degree of residual exposure to the assets than would otherwise be the case. This is because, should asset performance deteriorate, the reserve fund is typically the second line of defence to cure losses (after excess spread).

Residual Income / Excess Spread

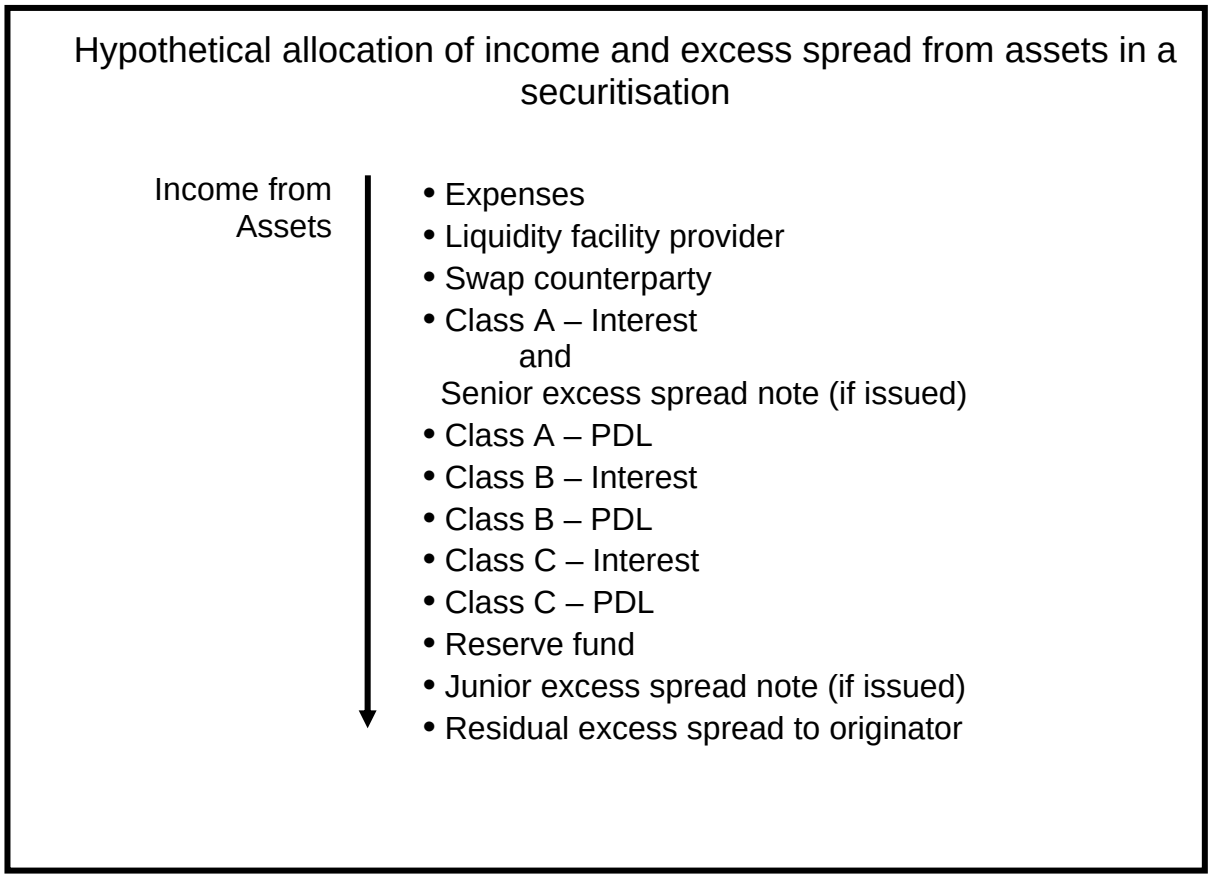
Normally SPEs are set up to not make a profit except for a small notional amount that is given to a charity. This is because the small notional profit of the SPE is important to maintain the legal separateness of the SPE, as outlined previously. Consequently, various mechanisms are used to extract any profit out of the SPE. This is normally done either through deferred purchase price back to the seller, through variable interest on the equity tranche or subordinated loan, or through an interest-only tranche which represents excess spread from securitisation.

As a result, to the extent that the cash flows from the assets securitised are more than sufficient to pay noteholders, there is residual income (or "excess spread") typically available for distribution. In most transactions, such excess spread will get distributed to the originator of the assets – for instance, in the form of "deferred consideration" to the seller of the assets, the profit extraction mechanism referred to previously.

The extent to which this excess spread can be realised is highly uncertain. If the assets underperform, it is typically the excess spread from such assets that is the first form of credit support to be eroded. Furthermore, in many transactions as potential poor performance of the assets either begins to be signalled or actually crystallises there are explicit mechanisms in place to trap excess spread within the SPE and use it to provide additional protection to more senior investors. For instance, in UK RMBS transactions losses are typically recorded in a principal deficiency ledger ("PDL"), and excess spread is diverted to cure the losses recorded in such PDLs. In Spanish RMBS there are typically also provisioning mechanisms in securitisations, which begin to trap excess revenues to provision against potential future

losses long in advance of such losses being recognised. Even in synthetic securitisations, in which there is actually no tangible excess spread (as there are no asset cash flows being transferred from one party to another), there can nonetheless be a "synthetic excess spread ledger", which captures a notional amount of hypothetical excess spread to cure potential or actual losses.

The amount of risk retained by the originator via excess spread may not always be large in terms of absolute cash flow size, but can be large in terms of its sensitivity to changes in the performance of the assets. Consequently, relatively small deviations from expected performance can result in severe reductions in the cash flows realised. This is consequently a significant form of risk retention for the originator of the assets, and consequently one in which any attempts to account for the rewards that are the corollary of such risks (for instance, via the discounting of excess spread back to a present value for accounting purposes) should be treated with extreme caution.



Management Fees

A key motivation behind the establishment of certain SPEs is to earn fees connected with arranging and managing such vehicles. Such fees are typically tied to the size of the vehicle, in particular the level of assets under management, which may motivate the manager (typically also the sponsor) to expand the vehicle to the extent that is reasonable. (In this respect, this motivation is little different to that in the fund management industry.) An example of this is ABCP conduits, where the sponsor typically is also the manager and receives a management fee as outlined in Appendix 2.

However, in some cases the manager of the SPE may also receive an incentive fee, in which case the motivation of the manager (once again, typically also the sponsor) will not just be to

increase the asset base but to aim for optimal performance. (In this respect, this motivation is little different from that in the hedge fund industry.) For instance, in an actively managed CDO the manager's compensation is typically structured to provide a base fee, a subordinated fee paid only if current interest to noteholders is fully paid, and an incentive fee payable only if the subordinated notes (or preferred shares) have a return that exceeds a specified threshold. While this might superficially seem to align the interests of the manager with those of noteholders, an offsetting implication is that revenues and compensation to the manager (and hence also the incentives and resources available to the manager) are likely to decline at that very point in time when they are most needed to combat poor performance of the SPE and its underlying assets.

Other Types

There are multiple other forms of security or residual interest that can be created in the risk disaggregation process. Many of these relate in some form or another to examples previously outlined, and include the following.

- Expected loss notes (ELNs) issued by an ABCP conduit, typically when the conduit sponsor wishes to keep the conduit off its balance sheet. The ELN holder will absorb losses on the assets for a specific period of time and above a certain threshold after the credit enhancement of the conduit has been eroded. In terms of time period, the ELN holder can have "cradle-to-grave" exposure to the assets, ie even if the assets are bought out of the conduit as a result of exercise of the liquidity facility, the ELN holder must still make the conduit sponsor whole on all losses. For this reason, the ELN holder typically has right of approval over assets in the SPE, documentation amendments, etc. ELNs can be likened to a form of preferred equity. ELNs arose out of an effort by institutions to circumvent accounting changes that were intended to consolidate more SPEs onto sponsoring firms' balance sheets.
- Interest-only notes (IO) and principal-only notes (PO) of agency CMOs, where the main risks retained by the originator or investor are interest rate risk and prepayment risk (not credit risk).
- Capital notes of a SIV, which represent the most subordinated tranche that is first to absorb losses.
- Preferred shares of a CDO, which represent a subordinated interest, below that of the senior and mezzanine notes.

External / Third Party Risk and Return Components

The preceding section covered various types of exposures that can arise from within, and as such are "built into", SPE transactions through cash flow allocation of underlying exposures. The following section covers additional exposures that can be loosely categorised as being external to the SPE, as they are assumed by third parties in a manner that is distinct (to a varying degree) from the underlying structure of the SPE.

Liquidity Facilities

One form of external or third party risk exposure to an SPE is the provision of liquidity support through a liquidity facility. A liquidity facility (in the broadest terms) is an undertaking to lend monies to the SPE, should its income be temporarily insufficient to meet its obligations. The liquidity facility provider is paid a commitment fee by the SPE for providing such a facility, and should the facility be drawn upon is also paid a (higher) draw fee for actually advancing the monies. A liquidity facility can be provided to an SPE by the originator

of the assets, but can also be provided by a third party unrelated to the originator (and very frequently is). Finally, the liquidity facility provider will typically be senior in the waterfall for repayment.

Liquidity facilities can assume many forms, and can have many varying characteristics. The liquidity facility may be sized to be small enough that it is only intended to cover an incremental uptick of unexpected expenses and income shortfalls (for instance, in some prime RMBS transactions), but it may also be sized large enough that it essentially funds the repurchase of all the assets of the SPE by the originator (for instance, in ABCP conduits with full liquidity, when it is not possible to refinance and "roll" the commercial paper that has been issued). It may also be sized to meet specific requirements; for instance, in a SIV it is typically sized to meet the highest net cash outflow (NCO) in any week in the next 12 months.

The liquidity facility also may be structured such that it only funds against performing receivables, but it may also be sized such that it funds against both performing and defaulted receivables.

The provision of liquidity may be contingent upon certain triggers not being hit or the performance of assets being above a certain threshold level (as in certain UK nonconforming RMBS transactions), or it may not be subject to such restrictions (as in many European CMBS transactions).

It should also be noted that in certain vehicles, for instance in ABCP conduits, the structuring of liquidity can be substantially more detailed. For instance, liquidity may be provided at the program level, or may be provided on an asset-by-asset basis, or both.

Finally, it should be noted that the liquidity facility can be provided by the originator of the assets, or it may be provided by a third party. In some cases, for instance in ABCP conduits, there may also be syndicated liquidity provision – where it is provided by a number of eligible liquidity providers. Also it is possible for the liquidity to be provided by one institution but guaranteed by another; for instance, in variable rate demand obligations there can be a stand-by bond purchase agreement, which is a liquidity facility provided by a commercial bank and then also wrapped by an investment grade (usually AAA, until recently) monoline insurance company.

As a result of the distinctions outlined above, the extent to which risk is retained or assumed via a liquidity facility varies to a great extent. There is no risk retained by the originator if the liquidity facility is provided by a third party. There is moderate risk retained by the originator if it provides the liquidity facility itself, but the facility is intended (and sized) only to meet unexpected expenses and income shortfalls, is only allowed to fund against performing receivables, and can be cancelled if certain threshold conditions and triggers are not met. On the other hand, there is a greater amount of risk retained by the originator if it provides a liquidity facility itself that funds against both performing and defaulted receivables, has no material performance triggers preventing its usage, and is intended (and sized) to cover the provision of liquidity sufficient to repurchase the entire asset base of the SPE. In the preceding instance, while it is clear that a more moderate level of risk is being retained by the originator, it should be emphasised that it is difficult to provide liquidity to a vehicle that does not provide credit support in some respect, and even if liquidity is being provided against performing assets that have not hit certain triggers, the provider of liquidity must hope that the longer-tailed risk that these assets subsequently underperform does not materialise.

While liquidity facilities have traditionally been structured as under-one year commitments, the effective risk exposure of these commitments can be much longer. This is for two reasons. First, although the facility itself has a short duration, if the facility is drawn upon, the

underlying assets that must be funded can often have long maturities. Second, the short-term commitments (typically, renewable on an annual basis) are essentially evergreen commitments in practice, since the liquidity providers are often the sponsors of the ABCP conduits, and withdrawing liquidity support would generally result in an unwinding of the conduit.[8]

Servicer Advances

A specific type of liquidity line that presents somewhat different risks is a servicer advance facility, which is common in US MBS transactions. If a borrower's loan is delinquent the servicer may be required to advance scheduled amounts due on a loan to the SPE, so that the shortfall in income or principal that would otherwise have occurred from such a delinquent loan is not realised or is deferred. The servicer will charge interest on the outstanding balance of such advances, and be repaid either when the delinquent payments are made up by the borrower or when the property is foreclosed upon and proceeds of its sale are received.

The extent to which the SPE can rely on servicer advances depends on which of three forms of servicer advance is built into the credit structure: mandatory advancing, optional/voluntary advancing, or limited advancing. In mandatory advancing, failure to advance is an event of default on the part of the servicer, unless the servicer can demonstrate that there is a low likelihood of reimbursement from potential recoveries post repossession and sale of the property underlying the delinquent loan. In optional/voluntary advancing, the servicer is not obliged to advance amounts, and failure to do so is not an event of default on its part. Finally, in limited advancing the servicer is obliged to advance the relevant amounts, but the amount that it must advance is limited.

Servicer advance facilities ensure that noteholders continue to receive principal and interest payments while distressed loans proceed through the workout process. For the servicer advancing such monies, on the other hand, the risk is that the portfolio of loans subsequently underperforms, and the SPE is consequently unable to repay the monies that were advanced to it. The risk for servicer advances as a form of liquidity provision is generally substantially lower than that for an ABCP liquidity facility for two reasons. First, the advances as a proportion of the aggregate asset balance and cash flows of the SPE are generally lower for servicer advances. Second, the repayment of servicer advances is generally senior in the SPE's priority of payments (ahead of investors) – unlike the liquidity facility of an ABCP conduit, in which liquidity is explicitly used to repay investors, and as a result its repayment is subordinated to them.

Swaps

An SPE may employ a swap to hedge certain asset-liability mismatches or other risks. This may take the form of a basis swap (for instance, between 1-month Libor and 3-month Libor), an interest rate swap (for instance, between fixed-rate assets and floating-rate liabilities), or a currency swap (for instance, between euro-denominated assets and dollar-denominated

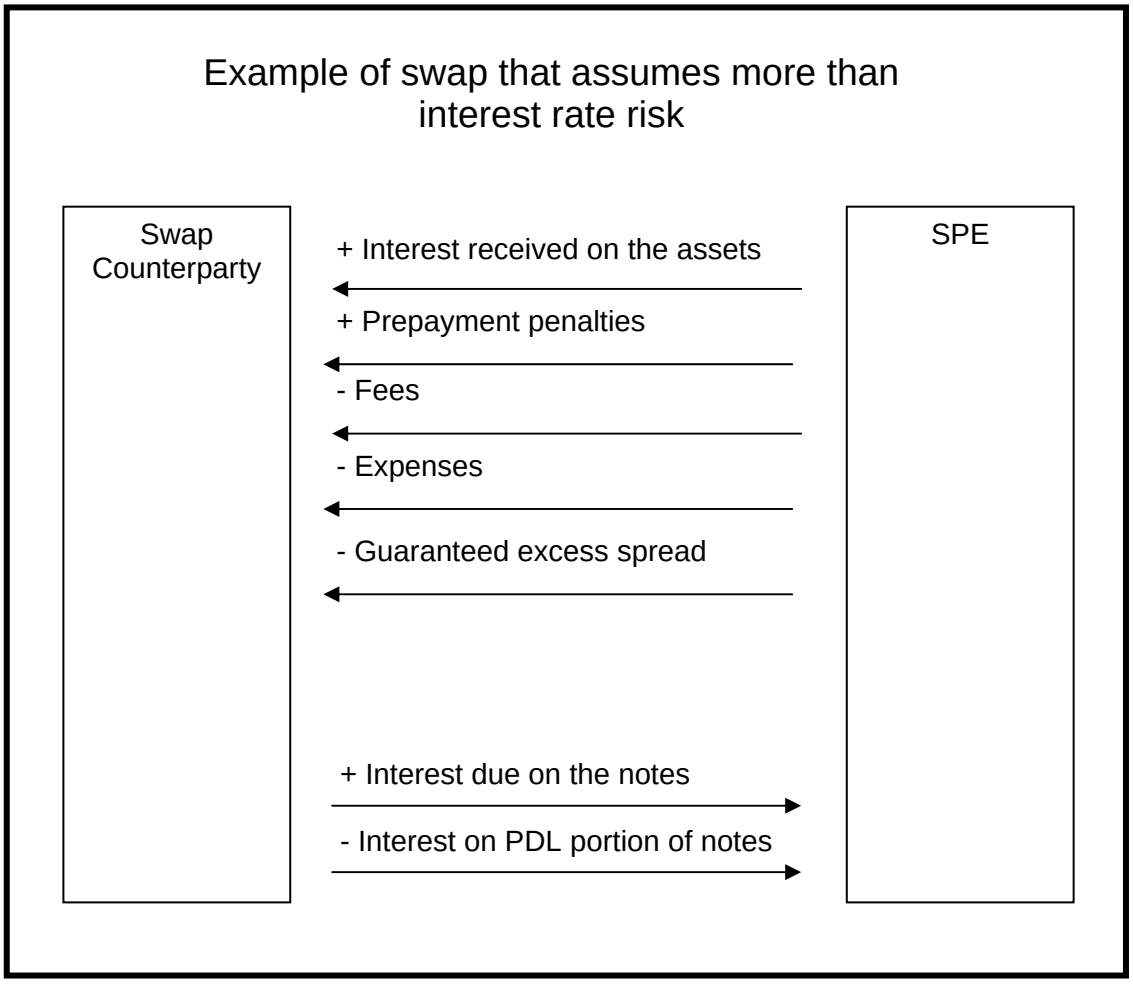
[8] Part of the motivation for banks to structure their liquidity facilities as under one year has been due to regulatory capital rules. Lower regulatory capital is generally assigned to short-term commitments relative to long-term commitments. However, the BCBS has recently proposed to align the capital requirements for short- and long-term ABCP liquidity facilities in recognition of the de facto long-term risks embedded in these purportedly short-term commitments.

liabilities). The swap counterparty will also – like the liquidity facility provider – typically be senior in the waterfall for repayment.

Typical factors to consider when gauging how much of the risk of the assets, or how many idiosyncratic or non-market risks, have been assumed or retained by the swap counterparty contracting with the SPE are discussed below.

First, does the swap counterparty receive only on performing assets, or does it receive on the entire asset base of the loan portfolio (both performing and non-performing)? If it is the former, unless there is a corresponding adjustment to the payments made by the swap counterparty, the swap provider is essentially absorbing the risk of income shortfalls on delinquent or defaulted assets.

Second, does the swap counterparty absorb the risk of increased expenses and servicing fees, or does it absorb the risk that high-yielding assets prepay early while lower-yielding assets do not ("yield compression")? In certain swaps the counterparty is paid by the SPE net of the SPE's own expenses and fees, and also guarantees a certain amount of excess spread to the SPE regardless of the actual yield on the assets. This essentially means that the swap counterparty has assumed the risk of any sudden increase in such expenses (for instance, due to higher servicing fees, increased administration fees, unexpected litigation, etc), and has also absorbed the risk of higher-yielding assets prepaying more quickly than lower-yielding assets.



Third, does the swap hedge out a risk which cannot be directly measured or observed either by market variables or by other means? For instance, in a UK RMBS transaction it is

common that the originator acts as swap counterparty, and receives on a mixture of fixed-rate, base rate (ie Bank of England policy rate), lender rate (ie standard variable rate, or "SVR") and other interest rate types, while the counterparty/originator in turn pays 1-month or 3-month Libor to the SPE. The counterparty takes on the risk of any movement between the former multiple variables and the latter single variable. The swap counterparty typically also has limited control over the composition of the asset pool referenced – ie the proportion of assets that falls into each of the categories mentioned above. While it cannot be explicitly stated that such a swap is a form of credit support, the off-market nature of the swap, and the extent to which the side that is being paid by the counterparty is an observable variable but the side that is being received by the counterparty is not, makes it hard to determine at any point in time whether it is actually providing credit support to the SPE (and as a corollary, retaining risk as the originator) or not.

The risks to the swap counterparty should not be considered without also considering the rewards. In many cases a swap is priced similarly to an arm's length transaction, in that it has zero net present value when the swap is initially entered into. In other cases, however, the swap is essentially a profit extraction mechanism from the SPE on the part of the originator. For instance, it can be the case that the assets in an SPE have a yield that is substantially more than sufficient to support the notes issued; that the originator is also the swap provider; and that the swap is structured such that it extracts all the excess spread from the SPE while paying back just sufficient income for the SPE to pass the credit stresses needed to pay its liabilities (such as the standardised stresses of the credit rating agencies). In such circumstances, the swap is essentially acting as a profit extraction method, in lieu of deferred consideration or excess spread. The originator is reaping the rewards from its participation in the securitisation, but in its capacity as swap counterparty to the SPE rather than its capacity as noteholder, equity holder, or suchlike.

A final consideration is any asymmetry in the extent to which the SPE has contractual safeguards against the counterparty that the counterparty does not in turn have against the SPE. For instance, there may be a requirement in certain circumstances to post collateral under the terms of a credit support annex (or "CSA"); the SPE will typically have the right to demand such collateral posting by the counterparty, but the counterparty will typically not have the right to demand such posting of collateral by the SPE. Such issues are examined in more detail in Chapter IV, when the extent to which risk transfer can be overestimated is analysed. However, at this juncture it should be noted that there is often an inherent asymmetry of risk exposure between the SPE and its counterparties, and this can substantially increase the true risk (as opposed to perceived risk) retained by the counterparty (which is frequently also the originator). In most other respects, however, the extent to which the swap counterparty is assuming asset-based or non-market / idiosyncratic risks versus the SPE is typically limited – as long as the swap counterparty is senior in the waterfall and the elements being hedged can be somehow measured, observed or priced with market variables.

Guarantees / Letters of Credit / Monoline Wraps

Another form of external support is when the obligations of the SPE as a whole, or the performance of specific tranches of bonds issued by the SPE, receive support from an external financial guarantee provider or similar institution. This can come in a number of forms, ranging from a monoline wrap to a letter of credit to a financial guarantee of the obligations of the vehicle. Each of these is outlined briefly below.

A monoline wrap is when an insurer guarantees the timely payment of interest and principal on a tranche (or multiple tranches) of bonds issued by an SPE in return for the payment of an insurance premium. The cost of this premium will be based upon the credit quality of the assets. Typically, when the SPE is being structured the bonds issued will receive a "shadow

rating" from a credit rating agency, which indicates the rating that would be expected on the bonds in the absence of any wrap. The extent to which the shadow rating of the bonds (without a wrap) differs from the final rating of the bonds (after a wrap) will be reflected in the insurance premium charged by the insurer. The insurer is often referred to as a "monoline" as it typically specialises in the provision of financial guarantees and wraps.

A financial guarantee involves a financial guarantee provider (typically an insurance company acting in this capacity) guaranteeing the performance of the obligations of an SPE or (like a monoline wrap) bonds issued by an SPE. A typical example of this was outlined earlier when transformer vehicles were analysed. Under this structure, the transformer SPE enters into a CDS contract whereby it sells protection to a third-party counterparty that buys protection on a specific credit exposure. The insurance company in turn guarantees the transformer's payments under the CDS by issuing a financial guaranty insurance policy to the third-party counterparty, with the premiums for such a guarantee being paid by the transformer SPE. As a result, the insurance company has guaranteed the obligation of the SPE to make payments to the third-party counterparty in case of a credit event. It should be noted, however, that this is only one form of financial guarantee and that the variations upon this are numerous.

A letter of credit is similar to a financial guarantee and monoline wrap, albeit with certain distinctions. A letter of credit will typically be provided by a bank or other financial institution in advance of a transaction (to ensure that it can proceed), and allows for the credit quality of the letter provider to be substituted for that of the primary obligor (for instance, the SPE) in making full and timely payment on obligations. It generally ensures that parties related to the SPE will receive payments due to them as long as certain criteria are met or certain services are performed.

The return to the financial guarantor is the premium it is paid for providing protection. The risk to the financial guarantor, which consists of the need to make investors whole should losses arise on their bonds, will depend upon the credit quality of the assets, the credit structure of the transaction, and the extent to which the assets are able to pay the liabilities of the SPE in baseline and severe stress scenarios. Financial guarantors have traditionally been thought of as assuming only catastrophe risk, with a low probability of having to make a payment. This is because it was expected that even under stress scenarios the credit enhancement of the underlying SPE in the absence of any financial guarantee would be sufficient to protect investors. However, this view has been challenged by the recent stresses suffered by both subprime RMBS in the US and CDOs of ABS globally, whereby financial guarantors are increasingly being called upon to fulfil their obligations, thus weakening the credit quality of these financial guarantors themselves significantly.

From an investor's perspective, there are a number of benefits when a bond or SPE as a whole has received a financial guarantee. First, the credit quality of the bonds issued by the SPE benefit from the unconditional and irrevocable obligation of the financial guarantor on the receipt of interest and principal payments. Second, investors often assume that the involvement of financial guarantors in a transaction ensures a higher degree of due diligence and analysis on both the assets and the credit structure of the SPE, as well as potentially also a closer level of engagement with the servicer of the assets. Conversely, the existence of a financial guarantee may depress the yield on bonds issued by an SPE – both because of the cost of the premium and because the higher credit quality and rating of the bonds issued should result in investors demanding a lower yield.

Several monoline insurance companies have faced extreme financial distress of their own during the recent financial crisis. The simultaneous deterioration of multiple asset classes that are specifically those that tend to be wrapped by financial guarantors (in particular, subprime RMBS and CDOs) has weakened the credit profile of the financial guarantors. This

has lead to these guarantors being downgraded, which in turn leads to the guaranteed tranches being downgraded, as well as raising the risk of actual losses should a simultaneous insolvency of the financial guarantor coincide with further deterioration of the assets in the future.

Repurchase Commitments

Another form of risk retention, and one that can by its very nature only be assumed by the originator, is the obligation to repurchase assets under certain circumstances. The most common repurchase commitments have to do with breach of representations and warranties upon sale of the assets to the SPE. For example, if commercial mortgage loans are sold to an SPE and it is subsequently found that the terms and conditions of the loans are different from those represented by the originator when the sale was initially undertaken, the originator might be under an obligation to repurchase such loans. This would be the case whether or not such assets are performing; in other words, the assets may have defaulted by the time of repurchase (in fact, the two events are likely to be correlated, as it is typically a default of the obligor that will expose the deficiencies in underwriting standards and hence the breach of representations and warranties).

In other instances, particularly in UK RMBS master trusts, the originator may have to repurchase loans because the product of the borrower has changed, for instance the originator has refinanced the borrower from one product into another. For instance, if the mortgage loan of a borrower is sold into an SPE and the borrower subsequently switches to a product that is not eligible to be held in the SPE, then there may be an obligation to repurchase such a loan out of the SPE.

It is extremely rare for there to be a repurchase commitment explicitly because a loan has defaulted, as such a provision would question the extent of risk transfer to the SPE, and thus also endanger the legal solidity of the true sale of assets to the SPE. However, in certain circumstances (such as European structured covered bonds) there may be either an obligation or an extreme incentive (via a collateral haircut) built into the structure for the originator to repurchase defaulted assets from the SPE. (However, it should be made clear that regulatory capital relief is not generally applicable to such transactions, making the repurchase of defaulted loans less problematic.) Furthermore, in US RMBS transactions there can be an obligation to repurchase a loan if it defaults almost immediately, or within a very short pre-specified timeframe (for instance, a certain number of months). The reason for this latter repurchase obligation is that it is assumed that if a loan defaults immediately the underwriting of such a loan must be at fault. This latter repurchase provision recently manifested itself most broadly in the case of the unexpected levels of early payment defaults (“EPDs”) on US subprime mortgage loans, whereby the originators were obliged to repurchase the loans of subprime borrowers that defaulted when the first payment was due (or shortly thereafter). This repurchase obligation placed considerable strain upon such institutions, in some cases contributing to their demise.

Repurchase commitments should typically only arise due to the errors of the lender (for instance, breach of representations and warranties) or the voluntary actions of the lender (for instance, the originator refinances a borrower with one loan product into an alternative loan product). However, even under such limited circumstances, if an originator is required to repurchase assets in large quantities, the potential funding pressures and balance sheet constraints of the originator could come under stress. Three examples are as follows:

- In non-granular asset classes, such as CMBS, the exercise of the repurchase obligation for a single large commercial mortgage loan could place a smaller institution under pressure, as it would have to both fund the repurchase of the loan

and also ensure that the reabsorption of the loan onto its balance sheet does not breach any leverage or sector allocation constraints.

- Even in more granular asset classes, such as RMBS, if there is a wave of simultaneous repurchase obligations this can place pressure on the institution, especially if the assets that must be repurchased are of dubious quality. It was this phenomenon that was among the causes of the first collapses of subprime mortgage lenders in the US, as lenders found themselves unable to fund their obligations to repurchase an unexpected volume of loans that had entered a state of EPD.
- Finally, as the environment or performance of an asset class deteriorates, it becomes increasingly likely that investors with exposure to loans within that sector will seek any possibility of being able to put a risky loan back to the original lender, and will as a result seek out any potential breach of representations and warranties in order to put such loans back to the originator and have their bonds repaid accordingly.

Consequently, while this form of risk retention may seem innocuous during a benign economic and market environment, it can potentially place unexpected pressure upon an originator that has such an obligation in a deteriorating credit environment.

Other Types

There are other forms of external or third-party risk assumption that are occasionally used in structured finance transactions.

- As outlined previously, the noteholders of variable rate demand obligations (VRDOs) have a put option under which they can put their bonds back to the issuer at par in a timeframe that typically coincides with a daily or weekly yield reset. Consequently, nearly all VRDOs are supported by two types of external credit enhancement to meet these contingent liquidity needs: a letter of credit, or a stand-by bond purchase agreement. The letter of credit typically provides unconditional liquidity in the event that the VRDOs cannot be remarketed at the reset date. The stand-by bond purchase agreement is typically a liquidity facility that is provided by a commercial bank and then wrapped by a monoline municipal bond insurance company.
- Another form of external credit enhancement is that a parent company or other entity related to the SPE can potentially provide a comfort letter to investors or counterparties to that SPE. This is typically drafted as a non-legally enforceable undertaking to support the activities of the SPE, and is a statement of intent that is typically not enforceable by law.
- Finally, a less tangible and quantifiable form of external or third-party risk assumption is the implicit (but non-contractual) support that a sponsor or originator intends to (or is expected to) provide to an SPE. This is the situation that arises where the originator or sponsor of an SPE considers itself to be sufficiently closely linked to this SPE in the eyes of investors and other capital market participants that any adverse development or default on the part of the SPE would increase the perceived risk level of the sponsor in the eyes of other capital market participants, and would potentially also tarnish the sponsor's own access to the capital markets going forward. Under such circumstances, the sponsor is likely to "step in" and make investors whole on any potential losses that result from the SPE, even if such losses should contractually be allocated to investors. While this is not an identifiable form of credit enhancement that can be explicitly diagrammed within the credit structure of an SPE, or found referenced in its underlying transaction documents, it is the

frequent and invisible residue of the risk disaggregation process that may be (justifiably or unjustifiably, directly or indirectly) relied upon by investors before investing in the bonds issued by a sponsor's SPE.

Triggers in SPEs

Aside from the risk disaggregation process outlined above, it should also be noted that SPEs typically reallocate risk via the use of triggers that relate to the performance of assets or the counterparties to the transaction. Such triggers are designed to protect both noteholders and other secured creditors (for instance, liquidity facility providers) that have exposure to the SPE, and are intended to adjust for potential deterioration in the performance of the SPE before this has advanced too far. To give just one example of such a trigger, if the proportion of loans in an SPE's portfolio that are delinquent or in default rises above a certain level, then principal cash flows must cease to be paid pro-rata across all bonds, but must instead begin to be allocated sequentially from the most senior bonds (until paid off) to the most junior bonds.

The range of such triggers – which will vary greatly by asset class, jurisdiction, and credit structure – is too broad to elaborate in full, but some examples are provided in Table [X] below.

Select trigger types in securitisation SPEs

Excess spread falls below a preset level	Credit card ABS
LTV of the underlying property(ies) falls below a preset level	CMBS
Debt service coverage ratio ("DSCR") or interest coverage ratio ("ICR") of the underlying loan(s) falls below a preset level	CMBS
Market value of the assets falls below a preset level	SIV
Delinquencies, defaults or losses rise above a certain level	RMBS
Default of the servicer of the assets	Auto ABS
Operating income falls below a predefined level	Whole business securitisation
Overcollateralisation or interest coverage ratio falls below a preset level	CDO, CLO
Credit quality of receivables falls below threshold levels	ABCP

Likewise, the results of breaching such triggers – in terms of cash flow changes or actions undertaken by the SPE – are also very numerous and vary greatly by transaction, asset class and jurisdiction, although once again some typical examples are provided in Table [X] below.

Select results of breaching triggers in securitisation SPEs

Excess spread or revenues are trapped in a reserve fund
Excess spread or revenues are used to pay down the most senior notes
The paydown profile between the originator and the bonds changes, eg in master trusts the originator ("seller share") is not repaid until all bonds ("funding share") are paid off
The paydown profile between the bonds themselves changes, for instance from pro-rata between all noteholders to sequential from AAA down to BBB
The transaction enters "early amortisation" and no longer revolves (ie no new receivables are purchased from the originator)
Interest payments to junior noteholders are stopped to prevent leakage of cash flows away from senior noteholders
There is an event of default at the underlying loan level, and the property securing the loan can be enforced upon and sold

An illustrative example of the risks that such triggers can represent when embedded into structures is the "non-asset trigger" that is a feature of UK RMBS master trusts. This is a trigger that can accelerate the repayment of noteholders to the detriment of the repayment seniority of the originator. The typical events that cause the breach of this trigger are outlined immediately below. When such a non-asset trigger is breached (for instance, if the trust is not maintained above a certain threshold size), then all principal flows are directed to noteholders until they are repaid in full, and only then are principal flows directed to pay off the originator's share of the trust. Because the originator's share of the trust is consequently outstanding for a longer period of time and in greater size, it can potentially absorb a greater share of losses on the assets (even assuming pro-rata allocation of such losses between the originator and noteholders at each individual point in time). In other words, the extension risk assumed by the originator via this trigger indirectly also leads to increased credit risk.

Events typically causing a "non-asset trigger" in an RMBS master trust

1 The originator becomes insolvent
2 The originator ceases to be servicer and no replacement is found
3 There is a breach of the minimum seller share requirement, ie seller's portion of the trust is not sufficiently large
4 There is a breach of the minimum trust size, ie total size of the trust is not sufficiently large

As triggers are generally designed to protect the interest of the most senior noteholders and secured creditors, this is typically to the detriment of the most junior noteholders and the originator of the assets. Consequently, the breaching of triggers can significantly affect cash flows to investors and originators, as well as potentially causing deterioration in an originator's liquidity and funding position thereby.

Non-Credit Related Risk Disaggregation

There have already been instances above where it became clear that the risk/return disaggregation process via SPEs can reallocate more than just credit risk. In this respect, it must be stated explicitly that the process of risk disaggregation does indeed apply to non-credit related risks as well as credit-related risks.

In some structures, for instance, the maturity transformation of funding long-dated assets with short-dated liabilities via an SPE may leave the residual duration or prepayment risk with the originator/sponsor of the SPE. One example of the explicit assumption of duration risk is in the case of ABCP conduits, where the risk lies explicitly with the liquidity provider, which is typically also the sponsor of the conduit. This is because if it is not possible to refinance the commercial paper outstanding by "rolling" it and issuing new paper, and if the assets are not paying down sufficiently quickly to absorb this asset/liability mismatch, the liquidity facility is drawn upon to repay outstanding commercial paper and thus fund this asset/liability mismatch.

The same could be said of tender option bonds and variable rate demand obligations, whereby the put option feature embedded in the bonds issued by the SPE implies that the external credit enhancement provider (via the relevant liquidity facility agreement or stand-by purchase agreement) has explicitly assumed this duration mismatch risk should it not be possible to clear this mismatch via remarketing or new issuance or other forms of rolling the debt over. In the latter case it is very explicitly duration risk (rather than credit risk) that is being assumed by the credit enhancement provider, as both the municipal bonds backing these structures and the notes issued by the SPE are frequently rated AAA.

Another example of the implicit assumption of duration risk is the case of the optional call feature in many RMBS, CMBS and consumer ABS transactions. It is possible that if payment rates on the assets slow down the bonds may not be repayable from asset cash flows alone by the bonds' expected maturity date (which is also their optional call date). The originator has the option to "keep the bonds on schedule" by calling them on this optional call date, thus funding the asset/liability mismatch itself. While it has no obligation to do so, it may feel a certain amount of indirect pressure and market expectations for it to do so, and may fear the potential that it could be closed out of the secured funding markets going forward if it does not.

These are all instances in which it becomes clear that the risk/return disaggregation process involves more than credit risk, and is indeed very likely to involve the assumption of interest rate risk, duration risk and prepayment risk by the originator or sponsor of the SPE. Consequently, any comprehensive assessment of SPE usage should not just address regulatory capital requirements, but should also address prudential liquidity guidelines.

Appendix 4

Data on SPEs

Table A: US and European ABS Issuance
(US$ billions)

	Auto	Credit Cards	Other (1)	Student Loans	Total ABS	ABCP	MBS (2)	CDO^1 (3)	CDO^2 (4)
2000	78	57	64	20	**219**	644	136	88	18
2001	97	80	60	19	**256**	771	325	158	34
2002	109	70	36	37	**253**	767	488	234	79
2003	99	70	47	51	**267**	754	728	439	111
2004	83	60	59	63	**265**	826	1,036	187	189
2005	108	68	77	78	**331**	1,007	1,416	426	181
2006	96	67	55	81	**299**	1,352	1,527	764	337
2007	77	100	58	68	**303**	967	1,128	974	279
2008	60	70	13	33	**176**	731	955	235	52

Sources: US ABS: JP Morgan (1985-89), JP Morgan and SIFMA (1990-99), JP Morgan, SIFMA and Inside Mortgage Finance (2000+). European ABS: JP Morgan and only available with any granularity since 2001. US MBS: Inside Mortgage Finance. European MBS: ESF. ABCP: Merrill Lynch. CDOs: JP Morgan. Year 2000 ABCP, MBS and CDO data is US only.

(1) European "other" loans includes "whole business" and "sovereign/agency" loans

(2) MBS (both CMBS & RMBS) including home equity loans and securities backed by junior liens – Excludes US agency MBS issuance – which is provided in Table B

(3) CDO^1 data includes unfunded synthetic tranches

(4) CDO^2 data includes unfunded synthetic tranches and ABS CDOs

Table B

US AGENCY ISSUANCE BY YEAR (in $ billions)

year	Ginnie Mae	Freddie Mac	Fannie Mae	Total
1985	45	38	23	106
1986	101	101	60	262
1987	94	75	62	231
1988	55	40	54	149
1989	57	74	70	201
1990	64	73	97	234
1991	62	92	112	266
1992	82	179	195	456
1993	137	209	221	567
1994	111	118	130	359
1995	73	86	110	269
1996	101	119	149	369
1997	103	114	150	367
1998	150	250	326	726
1999	151	233	301	685
2000	103	165	210	478
2001	172	389	525	1086
2002	173	547	723	1443
2003	217	713	1199	2129
2004	125	366	527	1018
2005	85	397	481	963
2006	83	361	457	901
2007	96	445	518	1059
2008	269	358	542	1169
	2,709	5,542	7,242	15,493

Source: Federal Reserve

Table C

US and European Asset Backed Commercial Paper Outstanding

(in US$ billions)

Year	US	Europe	Total
2000	624	20	644
2001	740	31	771
2002	715	52	767
2003	665	89	754
2004	704	122	826
2005	858	149	1,007
2006	1,127	225	1,352
2007	814	153	967
2008	664	67	731

Source: Merrill Lynch

Table D

Global SIV Outstandings (in US$ billions)

Year	Total
2003	103.5
2004	120.3
2005	146.4
2006	204.7
2007	296.9
2008	44.7

Source: Standard & Poor's, "SIV Outlook 2007—Another Bumper Year Ahead For SIVs After Assets Approach $300 Billion In 2006" and "An Update On Structured Investment Vehicles' Outstanding Debt"

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	Régis Weisslinger	Autorité de Contrôle des Assurances det des Mutuelles
Germany	Olaf Weiss	BAFin
Italy	Sergio Sinisi	Bank of Italy
Japan	Takashi Isogai	Bank of Japan
Spain	Marta Estavillo	Banco de España
	José Manuel Portero	Comisión Nacional de Mercado de Valores
Switzerland	Andreas Acherman	FINMA
United Kingdom	Gerard Breen	Financial Services Authority
United States	Larry Rufrano	Board of Governors
	Elizabeth Ling	Federal Reserve Bank of New York
	Suzanne Claire	Federal Deposit Insurance Corporation
	Amrit Sekhon	Office of the Comptroller of the Currency
	Robert Scavotto	Office of the Comptroller of the Currency
	Randall Roy	Securities and Exchange Commission
	Robert Seabolt	Securities and Exchange Commission
	Alexandria Luk	Office of Thrift Supervision
	Ray Spudeck	National Association of Insurance Commissioners
IMF	John Kiff	International Monetary Fund
EC	Martin Spolc	European Commission
Secretariat	Brad Shinn	Basel Committee/Joint Forum Secretariat