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SYNTHETIC SECURITIZATIONS UNDER BASEL I AND BASEL II

By recognizing a broader variety of credit protection sellers and acceptable collateral than its predecessor, Basel II seems likely to facilitate synthetic securitizations. It also goes further in codifying "operational requirements" that banks must satisfy to reduce risk-based capital on account of these transactions.

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Synthetic securitizations can reduce banks' risk-based capital requirements by using one or more credit derivatives to transfer all or part of the risk of a pool of credit exposures. The risk-based capital treatment of these transactions evolved prior to the adoption of the Basel II capital accord. Basel II codifies much of that prior guidance but also changes the rules in some important ways. In this article, we review the treatment of synthetic securitizations under Basel II and the prior accord, limiting our discussion to the U.S. version of each of the accords. We will start with some definitions, an illustration of a synthetic securitization, and some background on the Basel accords.

SOME TERMINOLOGY AND AN ILLUSTRATION

In synthetic securitizations, banks do not sell assets. They continue to fund the subject assets with deposits and other funding sources on their own balance sheets. However, the risk-based capital rules do not look solely at the carrying value of a bank's assets. They also consider the level of risk the bank bears with respect to the assets, though the details and sensitivity of this feature of the rules differs significantly between Basel II and the prior accord. If a bank transfers some of the credit risk associated with a pool of assets to one or more other entities, then the bank may be able to reduce its minimum risk-based capital, while retaining the assets. In synthetic securitizations, banks generally use credit derivatives to transfer risk.

Credit derivatives are arrangements that allow one party (the protection buyer) to transfer the credit risk of one or more credit exposures to another party (the protection seller) without an actual sale of the subject exposure(s). They are often documented using form agreements developed by the International Swaps and Derivatives Association (ISDA), similar to the documentation for interest rate swaps. The credit exposures that are the subject of credit derivatives are often called "reference assets," and a particular credit derivative may relate to one or more reference assets. The protection buyer may, but is not required to, own the reference assets[1], though in synthetic securitizations the

[1] The fact that the protection buyer is not required to own the reference asset(s) is a key point that participants in the credit derivative market rely on in concluding that these contracts do not provide "indemnification" and therefore are not insurance products, so that protection sellers do not have to be licensed as insurance companies. *See, e.g. Aon Financial Products v. Societe Generale,* 476 F.3d 90 (2d Cir. 2007) (unlike insurance

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protection buyer generally does own the reference assets or comparable exposures to the borrowers under the reference assets.

The main economic terms of the most common types of credit derivatives are summarized in the following table.

Credit default swaps	Protection buyer pays a fee to protection seller in exchange for a promise by protection seller to make payments that will compensate protection buyer for losses in the event of specified credit events (such as payment default or bankruptcy of the borrower) relating to the reference asset(s)
Credit linked notes (or "CLNs")	A funded variation on credit default swaps. A bank or special purpose vehicle ("SPV") issues a note with an embedded credit default swap relating to a reference asset. The issuer is not obligated to pay the amount otherwise due under the note if specified credit events occur on the reference asset(s)
Total rate of return swaps	Protection buyer pays the total return on a reference asset, including any appreciation in the asset's price, to protection seller in exchange for a spread over funding costs plus any depreciation in the value of the reference asset(s)

Virtually all synthetic securitizations use credit derivatives, but there is also a tremendous market in credit derivatives apart from synthetic securitizations. The key feature that identifies a transaction as a synthetic securitization, as opposed to some other use of credit derivatives, is the tranching of credit risk.[2] Also, synthetic securitizations generally relate to a pool of reference exposures, rather than a single exposure, and the protection buyer often negotiates some ability to substitute exposures in the reference pool.

In a synthetic securitization, multiple parties split the risk of credit losses on the reference pool. Generally, there are at least three tranches. The riskiest position, which bears the first dollars of loss on the reference asset(s) up to some specified cap, is called the "first loss position." The most senior position, which bears credit risk only after all the other tranches have been wiped out by losses, is often called the "super senior position." Between the first loss and super senior positions, there are generally multiple "mezzanine" positions, the most senior of which is the "senior position" (explaining why the position above that is "super senior").

Figure 1 (Appendix I) shows how these various terms apply in the context of an illustrative synthetic securitization. Sponsoring bank, as the protection buyer, enters into a credit default swap with the SPV. While the aggregate principal amount of the reference assets is $5 billion, the notional amount of the credit default swap

footnote continued from previous page…

contracts, typical credit default swap agreements do not, and are not meant to, indemnify the buyer of protection against loss). This issue can be less clear in synthetic securitizations, because protection buyers in these transactions generally do own the reference assets, and the transactions are often tailored in ways that increase their similarity to credit insurance. While beyond the scope of this article, this is an issue that should be carefully considered in any synthetic securitization.

[2] *See, e.g.*, 12 C.F.R. Part 3, App. A (2007) (for national banks) (defining "Synthetic Securitization" as "a transaction in which: (1) All or a portion of the credit risk of one or more underlying exposures is transferred to one or more third parties through the use of one or more credit derivatives or guarantees (other than a guarantee that transfers only the credit risk of an individual retail exposure); [and] (2) The credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority . . . ."). We have cited a portion of the risk-based capital rules adopted by the Office of the Comptroller of the Currency ("OCC"), which apply to national banks. The other Federal bank regulators (the Board of Governors of the Federal Reserve System (the "Federal Reserve Board" or "FRB")), the Federal Deposit Insurance Corporation ("FDIC"), and the Office of Thrift Supervision ("OTS")) have their own sets of risk-based capital regulations, which apply to banks or other depository institutions that are primarily regulated by each agency. In fact, the FRB has two sets, one for state banks that are members of the Federal Reserve System and one for bank holding companies. Fortunately, for many years, the four agencies have worked in coordination to assure that their regulations are substantially identical. For the sake of simplicity, when we cite the risk-based capital rules below, we reference only the OCC's version.

is only $400 million. The credit default swap does not cover the first $50 million in losses on the reference portfolio, but it covers the next $400 million after that. The SPV issues $400 million in CLNs (in two classes, $100 million junior and $300 million senior) and invests the proceeds from the issuance in U.S. Treasury bonds, which it pledges to the bank to secure the SPV's payment obligations under the credit default swap.

As a result of these arrangements, the credit risk on the reference portfolio has been split into four tranches:

- a $4.55 billion super senior tranche, retained by the bank;
- a $300 million senior mezzanine tranche, held by purchasers of the senior CLNs;
- a $100 million junior mezzanine tranche, held by purchasers of the junior CLNs; and
- a $50 million first loss tranche, retained by the bank.

We will return to this example below to illustrate some aspects of the risk-based capital rules.

THE BASEL CAPITAL ACCORDS

For the past two decades, risk-based capital rules have formed a part of the safety and soundness regime for banks in the U.S. and much of the rest of the world. The risk-based capital rules are similar to a leverage ratio[3] in a corporate loan agreement and have a similar purpose: providing assurance of the solvency of the subject entity by requiring a certain level of equity (and other similar forms of junior capital[4]) to support its debt (or senior debt). As their name suggests, the risk-based capital rules seek to adjust the amount of required capital to reflect the relative riskiness of a bank's credit exposures. We will discuss the risk-adjusting mechanics when we discuss the application of the rules to synthetic securitizations.

The risk-based capital rules stem from an Accord published in 1988 by the Basel Committee on Banking Supervision, entitled "International Convergence of Capital Measurement and Capital Standards." In 1988, securitization was in its infancy, and the modern credit derivatives market had not been born. As a result, the 1988 Accord did not deal specifically with either of these types of transactions. As the securitization and credit derivatives markets grew up, market participants and regulators had to decide how to fit them into the rules. The U.S., in particular, saw a number of regulatory pronouncements dealing with these topics over the course of the 1990s and early 2000s.[5]

In June 1999, the Basel Committee announced that it was working on a new risk-based capital framework to replace the 1988 Accord. After extensive international consultation, the Committee adopted a new Accord in June 2004, which is commonly referred to as "Basel II." Now that there is a "Basel II," the original 1988 Accord is often called "Basel I." Among other things, Basel II deals extensively with securitizations (both traditional and synthetic) and the broad topic of credit risk mitigation (which includes credit derivatives). It also includes two different risk-based capital approaches relating to credit risk: a standardized approach (the "Standardized Approach") and an internal ratings-based approach (the "IRB"). The Standardized Approach, while much more complicated than Basel I, is far simpler than the IRB and was intended for banks that lack the size, sophistication, or desire to tackle the complexities of the IRB. Basel II includes two variations of the IRB: a foundation approach and an advanced approach.

Actions by the Basel Committee do not have direct legal effect in participating countries, so Basel II contemplated a multi-year time period for member countries to adopt and implement the new Accord. In the U.S., the implementation process has lagged somewhat behind the international time frame, as the federal bank regulators, Congress, affected banks, and

[3] In the U.S., an actual leverage ratio test is a separate component of the Federal bank regulations. Synthetic securitizations generally do not affect a bank's leverage ratio since they do not change the bank's balance sheet.

[4] The risk-based capital rules divide "capital" into two categories: tier 1 capital, which is limited to common stockholder's equity, qualifying noncumulative perpetual preferred stock, including related surplus, and minority interest in equity accounts of consolidated subsidiaries; and tier 2 capital, which encompasses allowances for loan and lease losses, some additional types of preferred stock and related surplus, and certain hybrid capital instruments and subordinated debt. Under the risk-based capital rules, Tier 1 capital must make up at least 50% of a bank's required capital amount.

[5] Another feature added to the original Basel framework was a set of rules that require banks with substantial trading activities to separately measure and maintain capital to protect against market risk. For banks that have to comply with them, the market risk rules apply to a bank's "trading book," which consists primarily of securities and derivatives for which there are active markets. We do not address the market risk rules in this article. We focus solely on the rules relating to capital for credit risk.

other constituencies have debated and studied various aspects of the new framework. Also, the U.S. regulators initially announced that they were only going to adopt the advanced IRB framework, which would be mandatory for a defined set of large or internationally active "core"[6] banking organizations. Other banks could opt into this framework with approval from their main federal regulator. Only in July 2007 did the regulators announce that, in response to requests from affected banks, they would implement the Standardized Approach after all, on an opt-in basis for non-core banks. Basel II's foundation IRB still is not expected to be implemented in the U.S.

As a result, it appears that there will ultimately be three different risk-based capital regimes for banks in the U.S., which are currently in different stages of implementation:

- *The advanced IRB*, for core banks and banks that opt into this approach. Final rules to implement this approach were adopted in December 2007,[7] and core banks have begun the implementation process. For convenience, we refer to the U.S. version of the advanced IRB as the "U.S. IRB."

- *A U.S. version of the Standardized Approach*, which will apparently be available to banks on an opt-in basis. Proposed rules to implement this framework were approved by the FDIC and the FRB on June 26, 2008.[8] We will base our discussion of the Standardized Approach on these proposals.

- *The U.S. rules as they existed prior to adoption of the U.S. IRB*, which will continue to apply to banks that are not core banks and do not opt into either of the Basel II approaches. For convenience, we will refer to these rules below as "Modified Basel I."

Modified Basel I will also remain relevant for U.S. IRB banks for a few years, as these banks must go through a multi-year transition period. During the first year, the bank's risk-based capital requirement is still determined using Modified Basel I, but the bank also performs a parallel calculation of its risk-based capital requirements under the U.S. IRB. For at least three years after that, the bank calculates its capital requirements using the U.S. IRB, but the amount of capital that a bank is required to maintain is subject to a floor based on a declining percentage of the result that would have been reached applying Modified Basel I (95%, 90% and 85% over successive periods of at least one year each).

Fortunately, these three sets of rules are pretty similar in their treatment of synthetic securitizations. There was substantial cross-fertilization between U.S. modifications to Basel I and the Basel II consultative process, so many of the key Basel II concepts relating to these topics are already present in Modified Basel I.

It is possible that all three sets of rules may be changed in response to the recent credit crisis. At the international level, the chairman of the Basel Committee has stated that the Committee will review some aspects of Basel II relating to the "capital treatment of certain securitizations of complex products where the vast majority of losses in the banking sector have occurred."[9] Domestically, the President's Working Group on Financial Markets also recently recommended that the U.S. bank regulators reexamine the risk-based capital rules.[10] However, the Basel Committee and the U.S. regulators just concluded a multi-year examination of these rules, which culminated in the adoption of Basel II and the U.S. IRB. It would be surprising if the international community or the U.S. authorities conclude that fundamental changes in approach are needed. Both internationally and domestically, one initial focus is on

[6] Core banks are those with consolidated total assets of $250 billion or more and/or consolidated total on-balance sheet foreign exposure of $10 billion or more. A bank holding company is also a "core bank" if it meets either or both of these tests or if it has any bank subsidiary that is a core bank. If a bank holding company is a core bank, then so are all of its bank subsidiaries (subject to an ability of the principal supervisor to permit some such subsidiaries to opt out in appropriate circumstances).

[7] Risk-Based Capital Standards: Advanced Capital Adequacy Framework — Basel II; Final Rule, 72 Fed. Reg., 69,288 at 69,404 (Dec. 7, 2008) (the *IRB Adopting Release*).

[8] The FRB version is *available at* http://federalreserve.gov/newsevents/press/bcreg/bcred20080626b1.pdf.

[9] Nout Wellink, President of the Netherlands Bank and Chairman of the Basel Committee on Banking Supervision, Recent Market Turmoil – Implications for Supervisors and Risk Managers, Remarks at the GARP 2008 9th Annual Risk Management Convention & Exhibition, New York (Feb. 27, 2008), *available at* http://www.bis.org/review/r080229b.pdf.

[10] *See* President's Working Group on Financial Markets (PWG), Policy Statement on Financial Markets Developments 18 (Mar. 13, 2008), *available at* http://www.treas.gov/press/eleases/reports/pwgpolicystatemktturmoil_03122008.pdf; *see also* John C. Dugan, Comptroller of the Currency, Remarks before the Global Association of Risk Professionals New York (Feb. 27, 2008), *available at* http://www.occ.treas.gov/ftp/elease/2008-22.htm.

collateralized debt obligations where the underlying assets in the pool are themselves asset-backed securities (so-called "CDOs of ABS").[11]

ELIGIBLE GUARANTORS AND ELIGIBLE COLLATERAL

Each of the three actual or anticipated sets of risk-based capital rules adjusts the amount of capital that a bank is required to maintain based on the riskiness of the assets that the bank holds. To give an extreme example, the rules all recognize that there is less credit risk inherent in a $1,000 Treasury bill than there is in a $1,000 balance due under a consumer credit card, and requires less capital (actually none) against the first than against the second. Besides adjusting for the credit risk inherent in a bank's assets, the rules also recognize the effects of two types of arrangements that can be used to mitigate credit risk: guaranties and collateral. Credit derivatives are treated as a type of guaranty.

In a credit derivative, an additional party (the protection seller) takes responsibility for the payments due on the reference credit exposure. If the protection seller is in better financial condition than the primary obligor, then the credit derivative can materially improve the likelihood that the protection buyer will be paid in full, even if the protection seller's obligations are unsecured.[12] In addition, the likelihood that the protection buyer will be paid in full is generally increased if the primary obligor or a protection seller provides collateral securing the performance of the reference obligation.

Eligible Guarantors and Collateral under Modified Basel I

The three sets of risk-based capital rules vary in the extent and details of their recognition of credit derivatives and collateral. Under Modified Basel I, banks organized in an Organisation for Economic Development and Co-Operation ("OECD") country are essentially the only entities that can provide credit derivatives that will be recognized (without collateral) for risk-based capital purposes. Guaranties by some governmental entities are also recognized, but none have been made available for these transactions. An unsecured credit derivative or other guaranty provided by an insurance company[13] or other non-bank, non-governmental entity has no impact on the required capital for the reference exposure under Modified Basel I, no matter how creditworthy the protection seller is. Modified Basel I is also restrictive in its recognition of collateral. Only cash and debt securities issued by the U.S. or another OECD government or their respective agencies or certain government sponsored entities (such as Fannie Mae, Freddy Mac, and Farmer Mac) are recognized as collateral.

As a result of these restrictions, synthetic securitizations completed under Modified Basel I have focused on two primary types of protection sellers: highly rated OECD banks, which can provide either secured or unsecured credit default swaps; and SPVs, which have to provide recognized collateral for their obligations in order for the protection buyer to obtain any risk-based capital reduction. Figure 1 (Appendix I) illustrates a structure using an SPV.

The limits on recognition of credit derivatives and collateral under Modified Basel I stem from its relatively gross method of adjusting capital for credit risk. Under Modified Basel I, the mechanism for recognizing differences in the credit risk of assets is to break up assets into different categories, each of which has a different "risk weight," which is a percentage between 0 and 100%. The face amount of assets in each category is multiplied by the applicable percentage to generate a "risk-adjusted asset amount," and the bank aggregates the risk-adjusted amounts of all of its assets (and specified "off balance sheet" exposures).[14] The bank's minimum risk-based capital amount is 8% of its aggregate risk-weighted assets.

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[11] *See* John C. Dugan, *id.*

[12] In fact, even if the protection seller's financial condition were comparable to that of the primary obligor, a credit derivative (or other guaranty) could improve the likelihood that the protection buyer will be repaid, since both the primary obligor and the protection seller have to default in order for the protection buyer to suffer a credit loss. Basel II permits some limited recognition of this "double default" aspect of credit derivatives (and other guaranties), but not in the context of securitization exposures. *See* IRB Adopting Release, *supra* note 7, at 69354.

[13] As discussed in note 1 above, credit derivatives generally are not viewed as insurance products, so insurance companies may face their own regulatory hurdles in offering these products. Some have participated in the credit derivatives market indirectly using a so-called "transformer" structure, which allows them to assume credit risk as an investor in an SPV, instead of directly providing credit derivatives.

[14] Under the Basel II frameworks, the aggregate risk-adjusted amount of banking book assets is also multiplied by a scaling factor before being added into the aggregate risk-adjusted asset number.

In Basel I, the risk weight categories were relatively gross, and for most banking book assets that was not changed prior to Basel II. The exception is that, since 2001, securitization exposures have had a separate risk weight system, which we will discuss in the section below on Risk Weighting Securitization Tranches. For other credit exposures, Modified Basel I uses the same four risk weight categories that originally appeared in Basel I. The enumeration of assets in those categories takes up several pages in the risk-based capital rules, and we summarize them very briefly below, focusing on items within each category that are relevant to synthetic securitizations:

Zero risk weight	(i) Cash, currency, and claims on (or unconditionally guaranteed by) the U.S. government, its agencies, or the central governments of other OECD[15] countries; and (ii) other assets (and off balance sheet items) collateralized by assets of the types described in clause (i), subject to requirements relating to control of the collateral and margining
20% risk weight	(i) Claims on (or guaranteed by) banks organized in OECD countries; certain collateralized claims on securities firms; and (ii) claims against U.S. sponsored entities (Fannie Mae and Freddy Mac) and claims collateralized by such claims
50% risk weight	Certain residential mortgage loans
100% risk weight	All other claims (which generally includes all claims against business corporations and other private-sector entities, as well as consumer loans other than residential mortgage loans that qualify for the 50% category)

The 100% risk weight category is a large "kitchen sink" category. Essentially only governmental entities, banks, securities firms (with collateral), and residential mortgages are in lower categories. Guaranties and collateral are only mentioned in the zero and 20% risk weight categories, which effectively adopt a "credit substitution" approach for recognized guaranties: the risk weight applicable to the guarantor[16] is substituted for the primary obligor's risk weight. Under this approach, an unsecured guaranty from an entity in the 100% risk weight category mathematically could not reduce the risk weight on the obligations covered by the guaranty, which may be one of the reasons that guaranties are not mentioned in that category.

Besides determining which credit derivatives and collateral are recognized, the risk weight categories also determine how much a credit derivative will reduce the protection buyer's minimum risk-based capital. Because unsecured claims on OECD banks have a risk weight of 20%, an unsecured credit derivative provided by an OECD bank will reduce the risk weight applicable to the reference exposures (or a specified tranche) to 20%. On the other hand, if an SPV (or an OECD bank or other protection seller) secures its obligations under a credit derivative with cash or other recognized collateral with a risk weight of zero, the collateral will completely eliminate the risk-based capital requirement for the reference asset (or a specified tranche).

For example, in the transaction illustrated in Figure 1 (Appendix I), the protection seller would not have to maintain any risk-based capital relating to the $400 million mezzanine risk tranches covered by the special purpose entity's ("SPE's") credit default swap, since the SPV pledged $400 million of U.S. Treasury securities to secure its protection obligations.[17] If an OECD bank were substituted for the SPV as protection seller, and did not provide any collateral, the protection buyer could apply the OECD bank's risk weight (20%) to the $400 million mezzanine tranches. Since most reference assets will fall in the 100% (or occasionally 50%) risk weight categories, either arrangement reduces the capital requirement on that particular tranche, so the choice between the two arrangements is driven by pricing considerations and the all-in risk-based capital impact (which would also take into account the retained first loss and super senior positions, as discussed in the section on Risk Weighting Securitization Tranches below).

[15] Organisation for Economic Co-operation and Development ("OECD"), http://www.oecd.org. *See* 12 C.F.R. Part 3, App. A, section 1(a)(24). The OECD membership other than U.S. currently includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. Various other countries are in accession negotiations with the Organisation.

[16] In the case of conditional guaranties provided by zero risk weight entities, a haircut is applied to the substitutions, resulting in a 10% risk weight.

[17] Alternatively, an SPV may purchase CLNs issued by the sponsoring bank, in which case the cash paid by SPV is treated as cash collateral for the reference obligations, without any requirement that the bank segregate the cash from its general funds. *Capital Interpretations Synthetic Collateralized Loan Obligations*, OCC BB-99-43, FRB SR 99-32 (November 15, 1999).

Eligible Guarantors and Collateral under Basel II

One of the main criticisms of Basel I was the insensitivity of its risk weight categories, and as a result both the standardized and IRB approaches in Basel II are more risk sensitive. The Standardized Approach retains the mechanism of multiplying the face amount of exposures by risk weights to determine risk-adjusted amounts.[18] However, for wholesale exposures, the risk weights are determined by external credit ratings of particular obligors (or, in the case of banks, by the ratings of their nation of incorporation, notched up one rating category) rather than broad entity-type categories. The risk weights for banks[19] and other corporate entities are:

Credit Rating	Banks	Other Corporate
AAA to AA	20%	20%
A+ to A-	50%	50%
BBB+ to BB-	100%	100%
B	100%	150%
CCC	150%	150%
Unrated	100%	100%

The ratings-based approach was not available for retail exposures, though the U.S. regulators have proposed a sliding risk weight scale for residential mortgages based on loan-to-value ratios. Other qualifying retail exposures are risk-weighted at 75%.

The U.S. IRB takes a much different approach to risk weighting wholesale and retail exposures.[20] For wholesale exposures, the capital requirement is calculated separately for each exposure based on four quantitative risk parameters,[21] which the subject bank inputs to an IRB risk-based capital formula. Retail exposures are divided into three subcategories – residential mortgage exposures, qualifying revolving exposures (QREs) (for example, credit cards and overdraft lines), and other retail exposures. Within these subcategories, banks group exposures into segments with similar risk characteristics and determine risk-based capital requirements for each segment. To determine the risk-based capital requirement for a segment, a bank will assign three risk parameters[22] to each segment and input these parameters into an IRB risk-based capital formula.

Since both of the Basel II frameworks recognize differences in credit quality between different corporate entities, it is possible for a credit derivative provided by a non-bank private-sector entity to reduce the risk-adjusted amount of a reference asset. The rules relating to credit risk mitigation (or "CRM") under both the Standardized Approach and the U.S. IRB bear this out by recognizing credit derivatives or other guaranties issued by non-bank entities. Specifically, in the securitization context, the U.S. IRB recognizes credit derivatives issued by "eligible securitization guarantors," which is defined to include:

- sovereign entities, some international organizations, the Federal Home Loan Banks, Farmer Mac, multi-lateral development banks, domestic and foreign banks, bank holding companies, some savings and loan holding companies, and securities firms; and
- other entities (excluding SPVs) that have either (A) unsecured long-term debt ratings not lower than the A category or (B) a PD assigned by the bank under the rules for wholesale exposures that equates to at least the A category.

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[18] The Standardized Approach is also similar to Modified Basel I in permitting a guarantor's risk weight to be substituted for the primary obligor's risk weight.

[19] There are separate risk weights for short-term claims on corporates.

[20] Securitization exposures are treated separately from wholesale and retail exposures, even though the securitized obligations are frequently wholesale or retail exposures. We discuss the risk weighting of securitization exposures in the next section and have not discussed the rules applicable to equity exposures, since they are seldom securitized.

[21] The four factors are: (1) PD (probability of default) – the bank's estimate of the likelihood that the obligor (or a guarantor) will

footnote continued from previous column…

default over a one-year horizon; (2) LGD (loss given default) – the bank's estimate of the percentage economic loss that would occur if the obligor defaults in an economic downturn; (3) EAD (exposure at default) – the bank's estimate of the amount that the obligor would owe the bank at the time of default; and (4) M – the effective remaining maturity of the exposure. Since the U.S. IRB does not use risk weights, the mechanism for reflecting the credit mitigation benefit of a credit derivative under this approach also differs from Modified Basel I and the Standardized Approach. Rather than substituting risk weights (as under the other two approaches), under the U.S. IRB, a bank substitutes risk-weighted asset amounts. The U.S. IRB also specifies adjustments to reflect maturity, currency, or face amount differences between the credit derivative and the reference exposure.

[22] PD, LGD, and EAD, each of which is described, *supra* note 21.

Thus, under the U.S. IRB, a credit derivative (or other guaranty) issued by an insurance company[23] or other non-bank entity may be recognized, but not a credit derivative issued by an SPV. The Standardized Approach as proposed in the U.S. is generally similar to the U.S. IRB on these points, as well as in the treatment of collateral, although option (B) in the bullet point immediately above is not available under the Standardized Approach and one less method is available for treatment of collateral.

Although SPVs are not recognized as guarantors, the Standardized Approach and the U.S. IRB both carry forward the idea that a collateralized credit derivative issued by an SPV can be recognized as collateral for the reference exposures. The categories of collateral that are recognized are also expanded similar to the expanded recognition of guarantors.[24]

WHY SECURITIZE?

Besides broadening the pool of possible recognized protection sellers, the changes in the risk weighting mechanics in the Basel II approaches may also change the incentives for banks to enter into synthetic securitizations. The catch-all 100% risk weight category under Modified Basel I clearly requires too much capital against some types of assets. The OCC and the FRB have long recognized that "one of the motivations behind CLOs and other securitizations is to more closely align the sponsoring institution's regulatory capital requirements with the economic capital required by the market."[25] For banks that move to Basel II approaches, that motivating factor may disappear or diminish as they complete their multi-year transition to Basel II and their risk-based capital requirements move closer to economic capital.

RISK WEIGHTING SECURITIZATION TRANCHES

Once one or more credit derivatives have been used to tranche the credit risk on a pool of reference assets, the question arises how much capital should be required against each tranche to which a bank is exposed. This question brings into play another important feature of the risk-based capital rules: all three versions of those rules treat some "off balance sheet" exposures[26] as if they were assets. In particular, if a bank acts as the protection seller under a credit derivative, the bank's risk-based capital requirement relating to its unfunded exposure under the credit derivative is essentially the same as if the bank had a funded exposure to the reference assets (in the same risk position).[27]

All three approaches apply a risk weight approach to securitization exposures, and the risk weights to be applied to both credit derivatives and funded positions in a synthetic (or traditional) securitization is driven by the position's credit rating, if any. The applicable risk weights vary somewhat among the three approaches, as shown in Appendix II. The same risk weights apply regardless of whether the bank holding a position is a protection buyer or seller; however, a position has to have two ratings for a protection buyer,[28] while protection sellers only need one rating. If a position has split ratings, the lowest rating applies, except that under the U.S. IRB a bank can disregard unsolicited ratings. See Appendix II.

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[23] In at least some jurisdictions, insurance regulations do not currently permit insurance companies to issue credit derivatives.

[24] Under the U.S. IRB, the risk-based capital requirement for a securitization exposure that is collateralized with recognized collateral is determined by multiplying the risk-based capital requirement for the exposure, without giving effect to the collateral, times a factor that takes into account the current market value of the collateral and haircuts for market price volatility and (if applicable) foreign exchange volatility. The proposed U.S. version of the Standardized Approach permits similar calculations or a simpler approach that permits substitution of risk weights (with some limitations) similar to Modified Basel I.

[25] OCC BB-99-43, *supra* note 17.

[26] We put the phrase "off balance sheet" within quotation marks because generally accepted accounting principles (GAAP) have changed since Basel I was adopted, and most of the items referred to as "off balance sheet" in the rules now sometimes do result in a balance sheet item. However, the formulas used to calculate the balance sheet amount of these exposures under GAAP differ from the formulas used to determine credit equivalent amounts under the risk-based capital rules.

[27] Under Modified Basel I, this flows from the treatment of "direct credit substitutes" and "recourse." Initially, there was some ambiguity as to how positions retained by sponsors in synthetic securitizations should be treated, since these positions did not technically fall within the detailed definitions of either "direct credit substitute" or "recourse." Given the economic similarity of the retained positions to direct credit substitutes and recourse, the OCC and the FRB have jointly confirmed that the same treatment applies. OCC Letter No. 988, April 2004.

[28] Under Modified Basel I, this two-rating requirement only applies if the position is not "traded" (*e.g.*, if the sponsor holds the entire tranche). Under the U.S. IRB and the proposed U.S. version of the Standardized Approach, it applies to all positions held by sponsors.

Under all three approaches, an unrated securitization exposure that is senior in all respects to an exposure with one of the ratings specified above can use the same risk weight as the junior rated position. Also, under the U.S. IRB, a bank can apply a supervisory formula approach to determine the risk-adjusted asset amount of an unrated position (for which no rating can be inferred as described in the preceding sentence). The supervisory formula essentially compares an exposure's location in the loss tranching scheme to the amount of risk-based capital that would have been required against the reference assets if the bank held them on its balance sheet without any tranching. That reference capital amount is referred to as "K_{IRB}." To the extent that the position absorbs losses at or below K_{IRB}, the position will be deducted from capital. To the extent that the position absorbs losses above that line, progressively lower proportional capital requirements apply as the position moves up in seniority.

For example, if K_{IRB} for a $100 million pool of loans was $6 million, then under the supervisory formula, to the extent that a given exposure absorbed any of the first $6 million in losses on that pool, that portion of the exposure would be deducted from capital. To the extent that an exposure had at least $6 million of loss protection before it would be impaired, the capital requirement would begin to descend. The supervisory formula requires significant loan level data about the reference assets, which investors often will not have. If an exposure is unrated (and no rating can be inferred), and the bank holding the exposure does not have sufficient information to apply the supervisory formula, then the exposure must be deducted from capital, as indicated above.

As an example of the application of these rules, we return to the tranches in the transaction illustrated in Figure 1. In that transaction, the credit risk on the reference portfolio was split into four tranches:

- a $4.55 billion super senior tranche, retained by the bank;
- a $300 million senior mezzanine tranche, held by purchasers of the senior CLNs (which we will assume for this purpose is rated AAA or the equivalent by two of the major credit rating agencies);
- a $100 million junior mezzanine tranche, held by purchasers of the junior CLNs (which we will assume is rated in an investment grade category by at least one major credit rating agency); and
- a $50 million first loss tranche, retained by the bank.

Because the $4.55 billion super senior tranche is retained, only the protection buyer's perspective needs be considered. Although this tranche does not have its own credit ratings, the rules infer a AAA equivalent rating based on the express ratings of the next most senior position. The resulting risk weight will be derived from the ratings-based table on Appendix II, depending which version of the rules applies.

Because the two mezzanine risk positions are represented by CLNs, which are held by investors, we will consider the perspectives of both a bank that invests in the CLNs (as a protection seller) and the protection buyer. Because the CLNs are externally rated, the risk-based capital requirement for any bank that invests in the CLNs will be determined by the applicable risk weight from the ratings-based table. As discussed in the prior section, the protection buyer's treatment of this transaction is driven by the collateral. Under Modified Basel I, the risk weight of collateral will be substituted for the risk weight of the underlying exposures. Under the U.S. IRB (and, we expect, the U.S. version of the Standardized Approach), the collateral will also be considered, though the details vary among the three approaches.

Finally, the first loss position is (like the super senior position) retained by the protection buyer. Because it is not rated, it will be subject to gross up (under Modified Basel I) or deduction (under Basel II), subject to the possible application of the supervisory formula under the U.S. IRB.

QUALITATIVE REGULATIONS

There is a large over-the-counter market for "plain vanilla" credit derivatives, and participants in that market strive for standardization of terms to facilitate the smooth functioning of the market. Nevertheless, credit derivatives are individually negotiated and documented transactions, and the credit derivatives used in synthetic securitizations can be highly tailored to the particular transaction. Largely because of this flexibility in terms, the bank regulators have found it necessary to address some of the contractual terms of credit derivatives in the context of the risk-based capital rules, in order to make sure that sufficient credit risk is transferred to justify a change in the sponsor's risk-based capital requirements.

Under Modified Basel I, the qualitative guidance on these points was first set out in an annex to a release issued jointly by the OCC and the FRB in November

1999.[29] The annex, which was subsequently modified in 2002[30] and 2004,[31] also addressed internal systems requirements and public disclosure relating to these transactions.

Basel II goes further in codifying the guidance on synthetic securitizations, for banks that are (or become) subject to the U.S. IRB or the Standardized Approach. The qualitative restrictions on the terms of synthetic securitizations are set out in a set of "operational requirements" which must be met in order for a sponsoring bank to reduce its risk-based capital requirement on account of a synthetic securitization. Although the operational requirements currently only apply by their terms to the U.S. IRB, substantially the same requirements are included in the proposed U.S. version of the Standardized Approach, and it would not be surprising for the regulators to look at them for guidance even under Modified Basel I.

These requirements may be summarized as follows:

1. The credit risk mitigant is financial collateral, an eligible credit derivative from an eligible securitization guarantor, or an eligible guarantee from an eligible securitization guarantor.

2. The bank transfers credit risk associated with the underlying exposures to third-party investors,[32] and the terms and conditions in the credit risk mitigants employed do not include provisions that:

   a. allow for the termination of the credit protection due to deterioration in the credit quality of the underlying exposures;

   b. require the bank to alter or replace the underlying exposures to improve their credit quality;

   c. increase the bank's cost of credit protection in response to deterioration in the credit quality of the underlying exposures;

   d. increase the yield payable to parties other than the bank in response to a deterioration in the credit quality of the underlying exposures; or

   e. provide for increases in a retained first loss position or credit enhancement provided by the bank after the inception of the securitization.

3. The bank obtains a well-reasoned opinion from legal counsel that confirms the enforceability of the credit risk mitigant in all relevant jurisdictions.

4. Any clean-up calls relating to the securitization satisfy general requirements that also apply to traditional securitizations.

In addition to these general operational requirements, any credit derivative covering a securitization exposure must be an "eligible guarantee" and an "eligible credit derivative." The eligibility requirements for a guarantee are that it must be in writing, must cover all or a pro rata portion of all contractual payments of the obligor on the reference exposure and must be unconditional and (except for breach of contract by the beneficiary) non-cancelable. It also must give the beneficiary a direct claim against the guarantor, which must be legally enforceable in a jurisdiction where the guarantor has

[29] OCC BB-99-43, *supra* note 17. This guidance described three particular types of synthetic securitizations and discussed the risk-based capital treatment of each for both sponsors and investors. While 2001 amendments to the risk-based capital rules codified some aspects of this guidance, particularly from the perspective of protection sellers, the guidance for protection buyers under Modified Basel I retains a case law flavor. As is typical in a case law system, it is sometimes hard to be sure how much the guidance can be generalized and applied to structures that differ from the specific structures described. As a result, many synthetic securitizations involve upfront consultations with the sponsor's principal regulator, and these consultations have resulted in some additional guidance in the form of interpretive letters dealing with particular transactions. *See* OCC Letter No. 945, Nov. 2002; OCC Letter No. 988, Apr. 2004; OCC Letter No. 1091, Dec. 2007; and Letter from Barbara Bouchard, Associate Director, FRB, July 14, 2005.

[30] OCC BB 2002-22, FRB SR Letter 2002-16, pp. 6-8.

[31] OCC Letter No. 998, April 2004.

[32] The IRB Adopting Release indicates that prior guidance provided by the agencies "to assist banks with assessing the extent to which they have transferred credit risk and, consequently, may recognize any reduction in required regulatory capital" will generally still apply. *See* IRB Adopting

footnote continued from previous column…

Release, supra note 7, at 69361. The prior guidance cited is OCC BB-99-46; FDIC Financial Institution Letter 109-99; FRB SR Letter 99-37; OTS CEO Ltr. 99-119. Under this guidance (as last updated by OCC Letter No. 988), a synthetic securitization must demonstrate that risk transfer has been achieved in order for the sponsoring bank to obtain capital relief. Among other things, a bank is required to produce credible analyses indicating the degree of credit risk transfer, subject the transaction to market discipline through the issuance of a substantive amount of notes or securities to the capital markets and have notes or securities rated by a nationally recognized credit rating agency.

sufficient assets that may be attached and against which a judgment may be executed, and must require the guarantor to pay the beneficiary upon the obligor's default without first requiring the beneficiary to demand payment from the obligor. Finally, it may not increase the beneficiary's cost of credit protection in response to deterioration in the credit quality of the reference exposure and may not be provided by an affiliate of the bank, other than certain affiliates that are insured depository institutions, banks, securities brokers or dealers or insurance companies.

In addition, to be "eligible" a credit derivative must be in the form of a credit default swap, nth-to-default swap,[33] total return swap, or other form approved by the sponsor's primary regulator. For credit default swaps and nth-to-default swaps, the contract must include failure to pay and insolvency credit events, and must state who is responsible for determining if a credit event has occurred (which may not be the sole responsibility of the protection provider) and give the protection purchaser the right to notify the protection provider of the occurrence of a credit event. For total return swaps, if the bank records net swap payments received as net income, the bank must also record offsetting deterioration in the value of the hedged exposure (either through reductions in fair value or by an addition to reserves). The eligibility standards also impose requirements as to the confirmation of the swap and any assignments by relevant parties, and the terms and conditions of settlement.

In addition to the new risk-based capital rules (Pillar 1), Basel II also includes two other "pillars": supervisory review of capital adequacy (Pillar 2); and market discipline through enhanced public disclosures (Pillar 3). The portions of the Modified Basel I qualitative guidance that concerned internal processes and public disclosure are subsumed by these other pillars under Basel II.

CONCLUSION

From the perspective of synthetic securitizations, the biggest difference among the three sets of risk-based capital rules are that the Basel II approaches recognize a broader variety of credit protection sellers and additional types of collateral than does Modified Basel I. By opening up participation to additional protection sellers, these changes seem likely to facilitate synthetic securitizations.

Once a structure has tranched the credit risk on a pool of reference assets using recognized credit risk mitigation methods, the mechanisms for determining the risk-based capital required for the various tranches under the three approaches are quite similar. All focus on credit ratings, when available, and have similar rules for dealing with unrated tranches. The actual risk weights applied to different rating categories vary, especially as between the U.S. IRB and the other two methods, but the mechanics are similar.

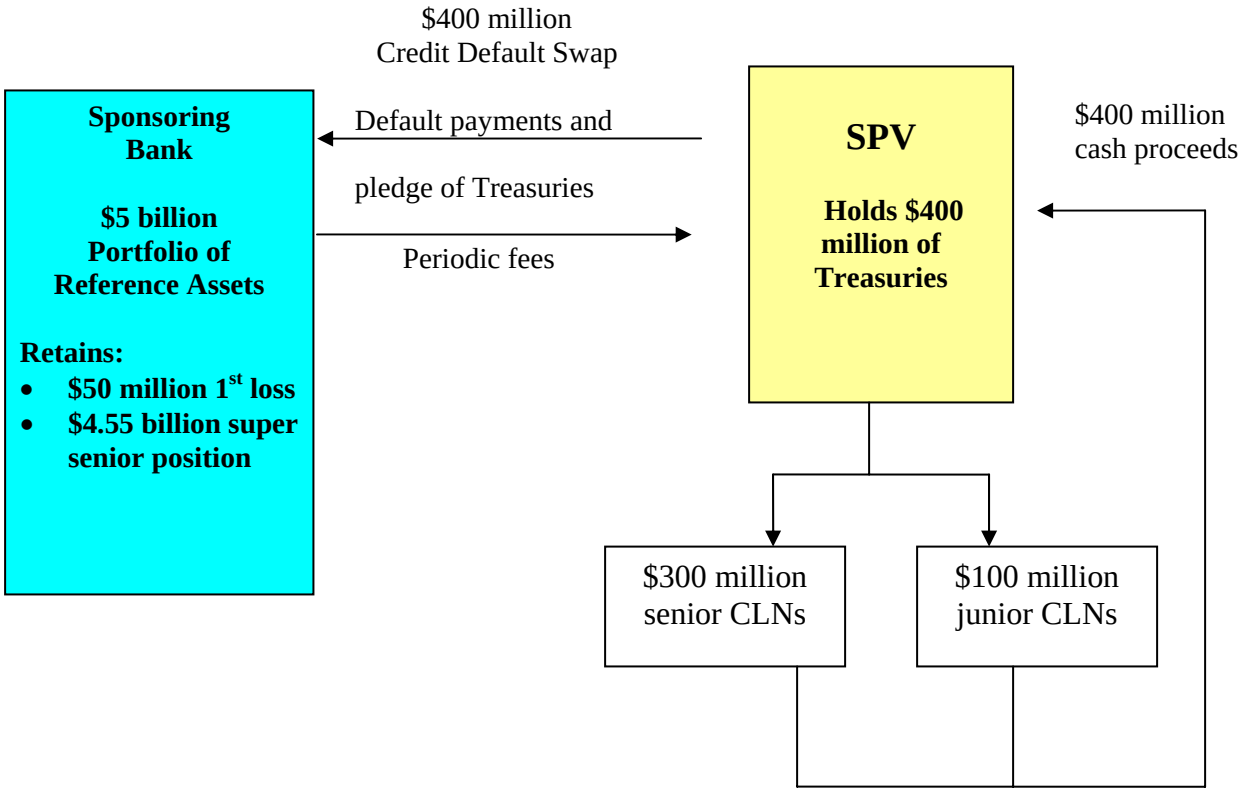
The qualitative operational requirements that have to be satisfied for a protection buyer to recognize a reduction in its risk-based capital requirements are most fully articulated in the U.S. IRB. However, substantially the same requirements are included in the proposed U.S. version of the Standardized Approach. We also would not be surprised to see regulators bringing these "state of the art" rules to bear when analyzing a synthetic securitization under Modified Basel I.

Increased sensitivity in the risk-adjustment mechanisms under the Basel II approaches may reduce one type of incentives for banks subject to those approaches to use synthetic securitizations. However, this change should only affect transactions where the primary motive was relief from excessive risk-based capital requirements, as opposed to transactions where a sponsor has other reasons for wanting to separate credit risk from ownership and funding of assets. As with other types of securitizations, we expect that the market will continue to find sound economic uses for these transactions. ■

[33] An nth-to-default swap is a credit derivative that provides credit protection only for the nth-reference exposure that defaults in a specified group of reference exposures. The U.S. IRB provides specific rules for the capital treatment of these swaps.

Appendix I

Figure 1. An Illustrative Synthetic Securitization



Appendix II

Ratings-Based Risk Weights for Securitization Exposures: Modified Basel I, Standardized Approach, and U.S. IRB

Long Term Ratings	Modified Basel I Risk Weights	Standardized Approach Risk Weights	U.S. IRB Risk Weights		
			Granular Pool[1]		*Non-Granular Pool*
			Senior Exposure	*Non-Senior Exposure*	
AAA	20%	20%	7%	12%	20%
AA			8%	15%	25%
A+	50%	50%	10%	18%	35%
A			12%	20%	
A-			20%	35%	
BBB+	100%	100%	35%	50%	
BBB			60%	75%	
BBB-			100%		
BB+	200%	350%	250%		
BB			425%		
BB-			650%		
B, below or unrated[2]	Gross up	Deduction	Deduction		
Short Term Ratings					
A-1	20%	20%	7%	12%	20%
A-2	50%	50%	12%	20%	35%
A-3	100%	100%	60%	75%	75%

[1] Granularity generally refers to the number of exposures in a pool and whether they are similar in size. Under the U.S. IRB, the granularity of a pool is determined using an "effective" number of exposures , rather than the gross number. A pool is treated as granular if its effective number of exposures is 6 or greater. The effective-number-of-exposures approach is meant to "appropriately assess the diversification of pools that have individual underlying exposures of different sizes. An approach that simply counts the gross number of underlying exposures in a pool treats all exposures in the pool equally. This simplifying assumption could radically overestimate the granularity of a pool with numerous small exposures and one very large exposure. The effective exposure approach captures the notion that the risk profile of such an unbalanced pool is more like a pool of several medium-sized exposures than like a pool of a large number of equally sized small exposures." IRB Adopting Release, *supra* note 7, at 69369.

[2] Both "gross up" and "deduction" essentially mean that an exposure must be funded entirely with capital and cannot be leveraged.

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