PAY AS YOU GO AND DON'T FORGET YOUR CAP:
DEMYSTIFYING CDS OF ABS

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January 26, 2007

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The dizzying growth of a synthetic market for asset-backed securities (ABS) and mortgage-backed securities (MBS) has focused attention on the shortcomings of the 2003 ISDA Credit Derivatives Definitions (the 2003 Credit Derivatives Definitions) as applied to credit default swaps (CDS) referencing ABS or MBS. In order to address these shortcomings, the International Swaps and Derivatives Organization, Inc. (ISDA) has published standardized forms of confirmation for CDS that reference ABS and MBS. ISDA’s standardized documents reflect different approaches to how to reference ABS and MBS in CDS transactions and very different approaches towards the settlement of such trades.

One approach relies on traditional concepts of settlement and seeks to address practical problems of availability of deliverable obligations by providing for cash settlement as an alternative to physical settlement. This approach does not solve the problem of illiquidity of ABS and MBS reference obligations, but reallocates settlement risk to the credit protection seller. The other approach essentially replaces close-out settlement with on-going, two-way cash settlement that purports to put the credit protection seller in a situation similar to that which it would have had if it owned the reference obligation and conditions physical settlement on the availability of deliverable obligations. The innovation of “pay-as-you-go” settlement is a complete departure from the general run of CDS.

ISDA’s standardization process has provided great clarity to the credit derivatives market, but has itself created a confusing plethora of provisions as the standardized documentation has been revised and refined over time, seeking to address the peculiarities of ABS and MBS transactions. This article seeks to dismantle and demystify some of these provisions for practitioners and others who are trying to

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understand the documentation conventions for CDS referencing ABS and MBS and the relationship between the documentation for those transactions and the 2003 Credit Derivatives Definitions. It will start with a brief illustration of how traditional CDS conventions for credit defaults and settlement do not work as well for ABS or MBS reference obligations as for corporate or sovereign reference entities. It will then survey the evolution of documentation for CDS, highlighting certain differences among the pay-as-you-go confirmation templates. It will then address certain issues key to understanding the payment and settlement of transactions under the pay-as-you-go template.

The Imperfect Fit Between CDS and ABS Conventions

The 2003 Credit Derivatives Definitions were intended to facilitate the trading of credit risk of operating companies with a large public float of debt securities. Consequently, they reflect two basic underlying assumptions. The first is that credit risk of an issuer’s obligations may be effectively measured by reference to the same types of events that are benchmarks of its financial health (and the risks associated with its operations). The second is that when a credit event occurs with respect to an issuer (i.e., a reference entity), the market value of all its securities of the same category that have similar characteristics should be equivalently affected. This principal is a variant of the efficient markets hypothesis. However, neither of these concepts is relevant to ABS or MBS to nearly the same extent as they are for corporate obligations. As a consequence, many of the detailed provisions of the 2003 Credit Derivatives Definitions are unworkable for transactions referencing ABS or MBS. This section will discuss some of the reasons that the credit events and settlement mechanics of the 2003 Credit Derivatives Definitions do not work well for CDS referencing ABS and MBS.

Credit Events

A standard single-name corporate CDS may provide protection on the specific obligation (if any) identified as a “reference obligation” in the confirmation. It may also provide protection on obligations of the reference entity that fit within a designated “obligation category” and that are described by the “obligation characteristics” specified within the confirmation, whether as primary obligor or as provider of a qualifying guarantee. If a credit event affects any of the selected obligations during the scheduled term of the transaction, the credit protection buyer is entitled to commence the process of settlement to realize its protection.

The 2003 Credit Derivatives Definitions list six well-defined credit events: (i) bankruptcy of the reference entity, (ii) failure to pay principal of or interest on a covered obligation, (iii) repudiation of or declaration of a moratorium with respect to a covered obligation, (iv) acceleration of covered obligations in excess of an aggregate threshold amount, (v) non-payment default under covered obligations in excess of an aggregate threshold amount and (vi) restructuring. The application of these standard credit events

There are three types of restructuring, which do not affect whether a credit event occurs but that provide for different restrictions on settlement intended to provide the credit protection buyer with different levels of credit protection from anomalous valuations arising from the exercise of the “cheapest to deliver” option. These are described in the 2003 Credit Derivatives Definitions at
to ABS or MBS is problematic because indicators of credit risk for corporate or sovereign entities may not be relevant indicators of credit risk for ABS. Indeed, risks inherent in ABS are often more ambiguous than those of corporate credit because an ABS issuer relies on cash flows from underlying assets that may be affected by macroeconomic events and servicing decisions over which the reference entity has no control. Consider the following examples.

- Since the issuer in a securitization is typically established as a bankruptcy-remote special purpose vehicle, and the participants in the transaction typically covenant not to file involuntary bankruptcy petitions against it for the period during which payments could be reclaimed as a preference, bankruptcy in and of itself is not a meaningful credit risk for investors.

- The complex cash-flow structuring and credit trancheing of many types of ABS and MBS transactions mean that events affecting cash flow that may, on their face, appear to be indicative of credit issues are not meaningful as credit events. For example, the failure to pay principal as pass-through certificates or as pay-through debt securities does not ordinarily give rise to an event of default until the final maturity of the transaction because principal repayment generally depends on amortization of the underlying asset pool, which may be affected by extensions and similar provisions.

- In commercial MBS transactions the underlying assets may be structured with a so-called “soft bullet.” A soft bullet is the date on which the parties expect the obligation to be paid in full, typically with proceeds of the sale or refinancing of the underlying assets. If the principal is not paid in full on the soft bullet date the coupon on the obligation will increase but there will not be an event of default.

Securitization transactions also frequently are structured so that shortfalls in funds available to pay interest on all or certain classes of securities are absorbed by the transaction. This is the case with many MBS transactions, many of which are structured to allocate the risk of insufficient excess spread to holders of one or more classes of securities that accrue interest subject to an available funds cap. Usually, these caps take one of the following forms: (i) a fixed rate subject to a cap equal to the weighted average net coupon of the underlying asset pool, (ii) a floating rate equal to the weighted average net coupon of the underlying asset pool or (iii) a rate equal to the weighted average net coupon of the underlying asset pool less a spread. In these transactions the security holders’ right to receive interest is expressed as the lesser of the contractual rate of accrual and the capped rate.

In a similar vein, cash-flow collateralized debt obligations (CDOs), generally faced with pressure to create a spread arbitrage, tend to include an interest deferral

Section 4.7 (standard restructuring), Section 2.32 (modified restructuring) and 2.33 (modified modified restructuring).

Interest shortfalls are an integral risk of ABS and MBS, particularly where there is an unhedged mismatch between the basis of interest accrual on the asset pool and the basis of accrual of interest on the ABS or where the securities are subject to an available funds cap.
feature. These features permit accrued interest on mezzanine classes of bonds to be deferred and capitalized (or “paid in kind”) (PIK), to the extent that funds are not available, so that a temporary shortfall in interest collections does not trigger an event of default or early termination event, or necessitates the use of principal collections during the reinvestment period to pay such interest (instead of being invested in new assets).

Conversely, the credit events set forth in the 2003 Credit Derivatives Definitions fail to capture distressed scenarios in which securitization cash flows may be affected, and the creditworthiness of an investment in ABS or MBS may be impaired, without the occurrence of an event of default. Consider the following examples.

- While a weighted average net coupon cap limitation in an MBS does not represent a reduction in the payment entitlement on the securities, but the increase in the coupon does reflect a jump in the riskiness of nonpayment on the principal of the underlying asset. For example, to the extent that the borrower’s failure to repay an underlying mortgage loan by the expected repayment date reflects market conditions, investors may be concerned that there may be increased difficulty in selling or refinancing the related mortgaged property in time to permit the loan to be repaid at its legal final maturity date.

- A coupon step-up following the occurrence of a soft bullet on the underlying asset in an ABS or (more likely) MBS transaction does not represent an increase in the payment entitlement on the securities, but the increase in the coupon does reflect a jump in the riskiness of nonpayment on the principal of the underlying asset. For example, to the extent that the borrower’s failure to repay an underlying mortgage loan by the expected repayment date reflects market conditions, investors may be concerned that there may be increased difficulty in selling or refinancing the related mortgaged property in time to permit the loan to be repaid at its legal final maturity date.

- Often, where the issuer is a grantor trust or a partnership for tax purposes, losses on the underlying pool of assets will be passed directly to investors in the securitization through the allocation of realized losses and writedowns to one or more classes of securities.

Other ABS- or MBS-specific credit events are inherent in the principles of structuring MBS and ABS. Downgrades are one example. Although corporate securities are often rated by one or more rating agencies, ratings are of paramount importance in the ABS context. Securitizations are highly leveraged and utilize credit enhancement through subordinate, rated tranches of securities that are sized to provide as efficient a capital structure as possible, including obtaining high investment grade ratings for the largest possible slice of the securitization offering. Tight structuring of most securitization transactions means that there is usually a direct correlation between ratings downgrades and distress because there is no graceful decline in the ratings of the securities following a performance-related issue. Ratings of ABS and MBS are sensitive not only to the same macroeconomic trends that affect rated corporate bonds but also to factors that are unique to securitization, such as servicer misfeasance, issues relating to underwriting standards and vintage selection issues. As a consequence, a ratings downgrade can have more immediate and drastic consequences for investors in securitizations – particularly investors in mezzanine tranches – than for investors in similarly rated corporate bonds.
Settlement

Once a credit event has occurred and the conditions to settlement are satisfied, a CDS may be settled physically or by cash settlement. In physical settlement (subject to applicable cash settlement fall-back provisions and buy-in procedures set forth in Article 9 of the 2003 Credit Derivatives Definitions) the credit protection buyer receives cash in an amount equal to the notional amount of the CDS in exchange for physical delivery of “deliverable obligations” specified in the notice of physical settlement having a face amount equal to the notional amount of the swap. If cash settlement applies to a transaction, a valuation process occurs with respect to the reference obligation or other valuation obligations; on settlement, the credit protection buyer is entitled to receive cash in an amount equal to the difference between the notional amount of the swap and the market value of deliverable obligations having a par or face amount equal to such notional amount. In either case, the credit protection buyer has significant discretion to select the cheapest obligation of the reference entity that falls within agreed “category” and “characteristic” parameters for purposes of delivery (in physical settlement) or valuation (in cash settlement).

The settlement procedures set out in the 2003 Credit Derivatives Definitions are based on the implicit assumption that there is a large supply of fungible securities within the applicable deliverable obligations categories such that debt obligations of a given entity within certain parameters ought to trade at a similar discount or premium to par regardless of the original coupon, tenor or other economic terms. This fungible supply of deliverable securities supports physical settlement or cash settlement based on the credit protection buyer’s selection of the cheapest covered obligation of the reference entity for purposes of valuation or delivery. This assumption, however, has been disproven for CDS referencing corporate names following the bankruptcies of several companies included in CDS indices. Efforts to settle CDS transactions referencing these entities following those events revealed that the notional amount of exposure to the credit risk of such entities in the CDS market was far greater than the actual amount of securities issued by them that would satisfy the criteria for deliverable obligations.

ABS or MBS (particularly mezzanine tranches) are far less liquid and fungible than bonds issued by publicly traded operating companies. They generally represent an

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3 For CDS that reference North American corporate names, the market standard deliverable obligation category is “bond or loan,” and the market standard deliverable obligation characteristics are (i) Not Subordinated, (ii) Standard Specified Currencies, (iii) Not Contingent, (iv) Maximum Maturity (30 years), (v) Not Bearer, (vi) Assignable Loan, (vii) Consent Required Loan and (viii) Transferable. These categories may differ for reference entities from other jurisdictions. The ISDA Physical Settlement Matrix provides standard categories and characteristics for a variety of jurisdictions.

4 For example, when automotive supplier Delphi Corporation filed for bankruptcy in 2005 an imbalance between the notional amount of CDS referencing Delphi and the aggregate principal amount of Delphi deliverable obligations helped to create a short squeeze that impacted the economics of Delphi CDS trades. This ultimately contributed to the creation by ISDA of the cash settlement protocol for settlement of index trades referencing Delphi. See Nomura Securities CDO/CDS Update for 10/31/05 (noting that Delphi bonds traded up to nearly 70 cents on the dollar owing to short squeeze following its bankruptcy credit event).
interest in a discrete pool of underlying assets rather than a general claim on the sponsor. A specific asset pool may perform very differently than other similar pools owned by other special purpose issuers, even if the two asset pools are originated by a single originator and serviced by the same servicer; securities backed by one pool are not usually cross-defaulted to securities backed by another pool. Furthermore, through subordination and tranching, the securities backed by a single pool of assets typically cover the spectrum of creditworthiness, ranging from AAA-rated securities all the way down to unrated securities. Consequently, even with respect to a single issuer, a subordinated tranche could be in default at the same time that more senior tranches are performing.

The Evolution of ISDA’s ABS CDS Documentation

Before mid-2005, credit protection on ABS could be bought and sold synthetically only by devising custom swap documentation that was neither standard nor, necessarily comprehensive. The synthetic market relied on individually negotiated transactions; there was a sense that some end-users were not able to access the credit derivatives market on even terms. In addition, there was some concern that rating agency criteria may not have been sufficiently sensitive to certain legal considerations, such as the need to structure risk transfers in such a way that investors in a synthetic CDO not be considered to be engaged in the business of insurance.

ISDA began the process of standardizing ABS CDS in June 2005, when it published two primary forms of confirmation for ABS CDS. The simpler of these, which is known as “Credit Derivative Transaction on Asset-Backed Security With Cash or Physical Settlement” (the CPS Template), was primarily intended to address trading in European markets. It has been revised once, in June 2006. The other form of ABS CDS confirmation, which is known as the “Credit Derivative Transaction on Mortgage-Backed Security With Pay-As-You Go or Physical Settlement” (the PAUG Template), was developed by the dealer community to address more specifically the settlement and credit issues associated with CDS referencing MBS and certain types of ABS.

The PAUG Template was initially intended to apply principally to commercial and residential MBS (the CMBS/RMBS PAUG Form). In June 2006 ISDA also

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5 See, e.g. Mallesons Stephen Jaques, “ISDA’s standard asset-backed securities credit default swap documentation: what impact will it have?” (July 15, 2005) (suggesting that the publication of standard documentation for CDS of ABS would result in a “level playing field” for end-users).


7 There are reports that ISDA may seek to replace the CPS Template with a European pay-as-you-go template. See “ISDA, Dealers Working to Create European PAUG Settlement Docs,” Securitization News (January 22, 2007) p. 1.

8 The PAUG Template has been revised and refined on multiple occasions in successive versions published in January 2006, April 2006 and November 2006, respectively, to facilitate the inclusion of commercial mortgage backed securities, correct errors in earlier versions and make some changes to settlement provisions and other mechanical changes in response to the concerns of end-users as described in the next paragraph.
published a version of the PAUG Template that is specifically adapted for use in CDS referencing CDO tranches (the \textit{CDO PAUG Form}). In addition to the CDO-specific provisions, the CDO PAUG Form reflects the general refinements to the PAUG Template made through its date of publication.\footnote{ISDA is currently revising the PAUG CDO Form. The principal differences between the RMBS/CMBS PAUG Form and the CDO Form relate to the calculation and treatment of interest shortfalls. Unlike the RMBS/CMBS PAUG Form, the CDO PAUG Form does not provide for the parties to elect WAC Cap Interest Provision or Coupon Step-Up because these concepts are not relevant to CDOs. The forms also diverge in their treatment of interest shortfalls. Where an interest shortfall can only give rise to a floating amount event under the RMBS/CMBS PAUG Form, the CDO PAUG Form permits the credit protection buyer to treat an interest shortfall as either a floating amount event or as a credit event. A third difference is that the parties can elect to delay the realization of an interest shortfall on PIK bonds as a credit event until a certain amount of time has passed without deferred interest being caught up under the CDO PAUG Form.}

An important sub-plot in the evolution of the PAUG Template has been the efforts of end-users, principally monoline insurance companies, which were participating in the synthetic securitization market as sellers of super-senior credit protection, to set alternative standards for settlement focusing in large part on the assumption that by selling credit protection on a reference obligation they are not assuming greater risk of loss than they would do by guaranteeing the cash bond.\footnote{One of the principal motivations for creating the two-way settlement process described above was to create a credit derivative that mimics the economics of holding a long or short position in the reference obligation so that the credit protection buyer receives essentially the same cash flows (subject to scalability) that it would have received if it had held the notional amount of the reference obligation while the credit protection seller bears losses similar to those that it would have borne if it had held the non-performing reference obligation. However, as discussed in greater detail below, the exposure to losses and the cash flow benefits of a CDS on the PAUG Template never exactly mirror the cash bond that is the reference obligation. The disparity between cash flow and loss experience on the reference obligation and two-way payments on the PAUG Template, also known as “cash basis risk,” has worried some credit protection sellers since before original publication of the PAUG Template.} These efforts culminated in ISDA’s publication of a modified version of the RMBS/CMBS PAUG Form in December 2005. Commonly known as “Form II” or the “End-User Template,” this form was radically different than the RMBS/CMBS PAUG Form in several important respects. The principal differences related to the pricing and amount of protection, the length of the tail for reimbursements of floating amount events, and provisions relating to the integrity of information about events that may trigger payment of a floating amount.\footnote{Although Form II has not been embraced by the market, some of its provisions have been adopted in altered form in the January 2006, April 2006, June 2006 and November 2006 revisions to the PAUG Template. Provisions suggested by Form II and incorporated in the RMBS/CMBS PAUG Form include the deletion of the credit event for maturity extension, the inclusion of an option to limit the severity of interest shortfalls and the ability to reprice the risk premium following the occurrence of certain “soft bullets” on the reference obligation. Suggestions from Form II that were not carried over in the PAUG Template include giving the credit protection seller the option to require physical settlement following the occurrence of a credit event, limiting the credit protections seller’s liability for interest shortfalls and for principal shortfalls not caused by explicit writedowns limiting the ability of the credit protection seller to exercise voting rights as holder of reference obligations in such a way...}
Both the CPS Template and the PAUG Template effect significant modifications to standard CDS conventions in order to address some of the issues pertinent to securitizations. The first change is to replace the six standard credit events provided for in the 2003 Credit Derivatives Definitions with fewer credit events that are appropriate to the cash-flow and other structural credit risks of structured finance, such as the cliff risk of distressed ratings downgrade with respect to the reference obligation.\textsuperscript{12} A second change is to provide for cash settlement, which permits the parties to avoid difficulties that arise in physical settlement due to the unavailability of the reference obligation in the cash market.\textsuperscript{13} However, the CPS Template and the PAUG Template reflect very different approaches towards settlement.

The CPS Template is similar to standard CDS in that it presupposes that the occurrence of a credit event will give rise to close-out settlement of the transaction. It further presupposes that physical settlement will apply but acknowledges that physical settlement may not be possible and sets forth a fallback option for cash settlement. Close-out cash settlement theoretically avoids problems caused by the unavailability of deliverable obligations. But, it is not a perfect solution; because it does not resolve the problems of valuing illiquid securities. Cash settlement presents challenges even in the context of CDS that reference corporate entities with large volumes of outstanding publicly traded debt securities because of the many and varied considerations that may affect the valuations of deliverable obligations for which there exists a deep and liquid trading market after the occurrence of a credit event.\textsuperscript{14} These challenges are magnified, though, for CDS for which the specified deliverable obligation is “reference obligation

\textsuperscript{12} Although generally similar, the exact enumeration and contours of credit events is different in each of the two ABS CDS templates. These differences reflect differences between ABS conventions and regulatory requirements in Europe and the United States. For example, the predominance of pass-through securities structures in United States ABS markets is reflected in the presence of writedown as a credit event in the PAUG Template, while European regulatory concerns and the structure of many European ABS have resulted in bankruptcy being retained as a credit event in the CPS Template.

\textsuperscript{13} Additional modifications include, for example, that the PAUG Template seeks to address the mismatch between the requirements of the 2003 Credit Derivatives Definitions for a “notice of publicly available information” and the type of information that is typically provided in ABS transactions.

\textsuperscript{14} These challenges include the correct period of time that should be allowed to elapse between the occurrence of the credit event and the first valuation date, the number of valuation dates and bifurcation of credit risk from recovery risk.
only,” particularly where the reference obligation is a small and illiquid security such as a mezzanine tranche of ABS. Because valuations must be applied to the particular reference obligation rather than to a broader basket of similar obligations of the same issue, it may prove very difficult to generate sufficient price quotes to satisfy the needs of cash settlement.\footnote{Paragraph 7(e) of the CPS Template allocates the risks associated with cash settlement of ABS to the credit protection seller by assigning a valuation of zero if adequate price discovery cannot be obtained.}

The PAUG Template addresses these settlement challenges by essentially eliminating close-out settlement except for physical settlement in circumstances in which the credit protection buyer can obtain deliverable obligations. It does this through a structure of two-way, ongoing cash settlement. This structure, which is the innovation at the heart of the PAUG Template, is based on provisions that characterize relevant events on the reference obligation as credit events, floating amount events or both. If an event has a dual characterization, the credit protection buyer is entitled to determine whether to treat it as a floating amount event or as a credit event. If a credit event occurs, the transaction may be physically settled in whole or in part with respect to that credit event, subject to the credit protection buyer’s ability to deliver the reference obligation in the applicable exercise amount. If a shortfall or deficiency occurs on the reference obligation that gives rise to a floating amount event, the credit protection seller must pay to the credit protection buyer an amount in respect of the shortfall or deficiency, subject to the right to be reimbursed for such amounts.\footnote{The conditions for reimbursement are described below in “Determination of Fixed Payments Under the PAUG Template – Additional Fixed Amounts.”} As a consequence of this two-way cash settlement process, the notional amount of the CDS may be adjusted up or down throughout the life of the trade.

**Determination of Floating Payments under the PAUG Template**

**Credit Events and Floating Amount Events**

The key distinguishing feature of the pay-as-you-go structure is the introduction of floating amount events. This structure seeks to replicate the cash flow of the underlying cash asset by offering two-way, partial cash settlement of “soft” credit events, i.e., potentially remediable events that do not constitute an event of default under the reference obligation but that affect its cash flows. These events interact with more traditionally conceived credit events.

The PAUG Template recognizes three categories of events that affect the type of settlement process that may apply to an ABS or MBS CDS transaction. The first category consists of events that at the credit protection buyer’s option may give rise either to full or partial physical settlement or pay-as-you-go cash settlement, i.e., may be either credit events or floating amount events. These events are “writedown” and “failure to pay principal.” The second category consists of events that can only give rise to floating
amount events, i.e., that can only give rise to pay-as-you-go cash settlement and do not entitle the credit protection buyer to require settlement. The only event in this category is “interest shortfall.” The third category consists of events that can only constitute a credit event. In the CDO PAUG Form these are “distressed ratings downgrade” and “failure to pay interest.” In the RMBS/CMBS PAUG Form, the only event in this category is “distressed ratings downgrade.” These categories of events are described below.

- **Distressed Ratings Downgrade.** A distressed ratings downgrade of the reference obligation gives rise only to physical settlement and may not be treated as a floating amount event. A distressed rating downgrade is triggered by the downgrade of the reference obligation below “CC” or its equivalent by S&P, Moody’s and/or Fitch or a withdrawal of such rating, and such rating has not, in either case, been reinstated within five business days of such downgrading or withdrawal. Notwithstanding the foregoing, the withdrawal of a rating of a reference obligation that was rated investment grade by the relevant rating agency will not constitute a distressed ratings downgrade if the reference obligation is assigned a rating not less than CCC+ or its equivalent by that rating agency within three calendar months of the withdrawal.

- **Failure to Pay Principal.** A failure to pay principal is an event that may constitute either a floating amount event or a credit event, at the option of the credit protection buyer. This is triggered on any date if the issuer (or a financial guaranty insurer) does not pay the outstanding principal amount of the reference obligation (exclusive of capitalized interest) in full by its legal final maturity date or, if earlier, the date on which the reference obligation is amortized in full by the liquidation and distribution of all of the underlying collateral, subject to any grace period provided for in the pooling and servicing agreement, indenture or other securitization documents for the reference obligation. The outstanding principal amount of the reference obligation is the outstanding principal balance thereof calculated after taking into account all payments of principal, all writedowns or applied losses pursuant to the pooling and servicing agreement, indenture or other securitization documents that result in a reduction of the outstanding principal.

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17 In the original version of the PAUG Template another such event was “maturity extension.” However, following a suggestion from Form II, this credit event has been eliminated.

18 Market participants may wish to not apply (or opt out of) distressed ratings downgrades for several reasons. For example, where the reference obligation is a commercial mortgage backed security this credit event can introduce interest-rate risk to a trade that is priced exclusively on the basis of credit spread risk. For this reason, the November 2006 form of the dealer template replaces this credit event with a broader formulation. This is less likely to be a concern in the case of subprime residential mortgage-backed securities, which have tended to be popular for inclusion in CDO vehicles in recent years. Fitch has expressed its preference that distressed ratings downgrade not be included as a credit event in pay-as-you-go CDS that are included in CDOs, citing both the undesirability of exposing the rated notes to contingent interest rate risk exposure and the other risks that are inherent with taking physical delivery of a fixed asset. For a discussion of some considerations related to whether to apply this or not, See Fitch Ratings, “Fitch Examines Effect of Pay-As-You-Go (CDO and Single Name)” (November 11, 2005).
balance of the reference obligation, forgiveness of any amount by the holders of the reference obligation pursuant to an amendment to the applicable documents that results in a reduction of the outstanding principal balance of the reference obligation and any reversals of writedowns or forgiveness amounts. In addition, where the reference obligation does not, by its terms, provide for allocation of writedowns or realized losses to the reference obligation, the outstanding principal balance is further adjusted to take into account any aggregate implied writedown amounts and any aggregate principal deficiency balance or realized loss that is attributable to the reference obligation.  

- **Writedown; Implied Writedown.** Similar to a failure to pay principal, a writedown is an event that may constitute either a floating amount event or a credit event. It is triggered by a writedown or applied loss that results in a reduction of the outstanding principal amount, the attribution of a principal deficiency or realized loss resulting in a reduction or subordination of the current interest payable, and the forgiveness of principal by the holders of the reference obligation pursuant to an amendment (so long as that amendment results in a reduction of the outstanding principal balance of the reference obligation).

In the context of pass-through MBS, writedowns accrue as defaulted loans are liquidated and losses are realized and allocated. This is because for most purposes pass-through certificates are considered to represent undivided equity interests in the underlying asset pool. However, most securitizations that are not structured with pass-through certificates (including MBS that are structured as debt evidenced by pay-through notes) do not pass along writedowns. Instead, they rely on overcollateralization triggers to reflect defaults and writedowns on the underlying asset pool. If the reference obligation does not provide for the allocation of writedowns, then applied losses, principal deficiencies or realized losses to the reference obligation – each, an “implied writedown” – may be calculated using the inferred undercollateralization of the reference obligation based on the amount of any shortfall between the pool balance backing the reference obligation and the aggregate principal balance of all securities backed by the same asset pool and ranking pari passu with or senior to the reference obligation.

Under the RMBS/CMBS PAUG Form implied writedown is an integral part of the definition of writedown. This is not controversial for most transactions referencing MBS because the PAUG Template clarifies that a reference obligation that provides for writedowns, applied losses, principal deficiencies or realized losses cannot have an

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19 The reference to forgiveness in the definition of “outstanding principal amount” in the PAUG Template covers forgiveness of any amount that reduces the principal balance of the reference obligation. This is broader than the corresponding provision in the definition of “writedown” in the PAUG Template which only covers forgiveness of principal.
implied writedown amount. Under the CDO PAUG Form, by contrast, the parties may elect whether an “implied writedown” will be a floating amount event.

E lecting implied writedown would appear to open the door to a mismatch between the cash flows on the CDS and a loss on the reference obligation. CDOs with overcollateralization tests or sequential pay tests typically provide that undercollateralization below certain levels – which is essentially what implied writedown captures – will result in redemption of the affected classes, thus curing undercollateralization at the expense of shortening the weighted average life of the ABS or MBS tranche. However, the timing of collections and whether redemption can be funded from interest collections or only from principal proceeds may affect the exposure of an investor to credit risks owing to undercollateralization that could be appropriately covered by an implied writedown.

**Interest Shortfall; Failure to Pay Interest** Unlike the events described above, an interest shortfall can give rise only to a floating amount event under the CMBS/RMBS PAUG Form; it may also be a credit event under the CDO PAUG Form that permits the credit protection buyer to require physical settlement if the aggregate interest shortfall amount exceeds a designated payment amount, which will be US$10,000 unless the parties agree otherwise.

An interest shortfall occurs if the actual interest amount for a payment date is less than the expected interest amount after taking into account any payment made under an applicable financial guaranty insurance policy. The “actual interest amount” is the actual amount paid in respect of interest (including, without limitation, any deferred interest, defaulted interest and capitalized interest but excluding payments in respect of prepayment penalties, yield maintenance provisions or principal other than capitalized interest). The “expected interest amount” is the amount of current interest that would accrue during the related calculation period at the coupon rate in effect on the CDS effective date on a principal balance equal to the outstanding principal amount of the reference obligation, assuming that sufficient funds are available therefor in accordance with the securitization documents. However, it is calculated without regard to any amounts of accrued interest due on prior to interest payment dates or any prepayment penalties or yield maintenance provisions. Generally, the amount of expected interest is calculated also without giving effect to any provisions of the securitization documents that otherwise limit payments to distributions of funds available from proceeds of the underlying assets, that provide for the capitalization or deferral of interest on the reference obligation, or that extinguish or reduce such payments or distributions (other than writedowns).

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20 This addresses concerns of the end-user community of possible double counting by calculating an implied writedown for a pass-through security that has already been allocated a writedown in accordance with the terms of the securitization documents for the reference obligation.

21 For purposes of calculating the expected interest amount, the principal balance of the reference obligation is reduced by any principal deficiency balance, any realized loss amount attributable to the reference obligation and the aggregate amounts of any implied writedowns and that would otherwise be payable on the related payment date for the reference obligation.
**Capping Interest Shortfall Exposure**

As mentioned above, interest shortfalls on the reference obligation are floating amount events under the PAUG Template, and under the PAUG CDO Form an aggregate interest shortfall exceeding a threshold amount can be a credit event. The floating amount that is due following the declaration of a floating amount event occasioned by interest shortfall is an amount (not less than zero) equal to the product of the “applicable percentage” and the difference between the expected interest amount and the actual interest amount, with adjustments to day count fraction to address short or long initial calculation periods. There are various mechanisms to allocate the risks of an interest shortfall on the reference obligation between the parties. The following discussion covers WAC Cap Interest Provision, PIK CDO tranches and interest shortfall caps.

**WAC Cap Interest Provision Election.** In a feature borrowed from Form II, the RMBS/CMBS PAUG Form allows the parties to choose whether or not to cover the risk that the interest rate or the interest payment entitlement of the reference obligation may be less than the coupon rate on the reference obligation owing to a weighted average coupon cap or a weighted average rate cap provision (a “WAC Cap”). The parties to a transaction would do this by electing whether or not to make “WAC Cap Interest Provision” applicable to the transaction.

If WAC Cap Interest Provision is applicable to the transaction, the expected interest for purposes of determining whether an interest shortfall has occurred is calculated giving effect to the WAC Cap; the credit protection seller does not compensate the buyer for any interest shortfall caused by applying the WAC Cap. On the other hand, if WAC Cap Interest Provision does not apply, then the expected interest is calculated based on the interest entitlement of the reference obligation without taking into consideration any limitation. Consequently, the credit protection seller compensates the credit protection buyer for any interest shortfall caused by the reference obligation’s

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22 The “applicable percentage” concept is a scaling device that is intended to ensure that the payments back and forth and reductions of notional amount provide the protection buyer and the credit protection seller with the same risk profile and cash flow experience as if they held a long and a short position, respectively, in the reference obligation with a principal amount equal to the notional amount of the swap. While standard CDS achieve scalability simply by specifying the notional amount, such an approach would not work under the PAUG Template because the timing and amount of payments made to either counterparty on the CDS must be tied to an actual principal amount of a reference obligation. The applicable percentage is intended to provide a mechanism to relate the notional amount and payments based thereon to the principal amount of the reference obligation and payments based thereon. The formula is very complicated. For a very interesting discussion of the scalability issue for the PAUG Template, see Adam W. Glass, “Explaining the ISDA ‘Pay as You Go or Physical Settlement’ ABS Credit Default Swap Template” (November 2005).

23 References to the WAC Cap are to the weighted average coupon (or rate) cap provision in the securitization documents of the reference obligation. The WAC Cap Interest Provision does not apply to available funds caps generally, but only to caps that are directed specifically to the weighted average coupon of the underlying asset pool.

24 The WAC Cap Interest Provision does not apply to the CDO PAUG Form.
hitting a WAC Cap. The WAC Cap Interest Provision election is important regardless of whether “interest shortfall cap” applies or the basis of the cap because it affects the likelihood that an interest shortfall will occur at all.

It is important to recognize the limits of WAC Cap Interest Provision. Regardless of whether the WAC Cap Interest Provision is elected to apply, the credit protection seller is exposed to the risk of an interest shortfall caused by any provision that limits payments due to distributions of funds available from proceeds of the underlying assets or that extinguishes or reduces such payments or distributions. Second, if the CDS reference obligation consists of a tranche of a mortgage CDO that is structured to allocate the effects of a WAC Cap on the underlying MBS to the bondholders through deferral or the similar provision, the CDO PAUG Form (absent the parties’ agreement otherwise) will not permit the parties to allocate that risk to the credit protection buyer.

PIK CDO Tranches. As discussed above, it is not uncommon for many CDOs to provide for capitalization or deferral of interest on certain tranches of their bonds – usually mezzanine tranches. Reference obligations that have this feature are referred to as “PIK-able.” This deferral feature is not taken into account for determining whether an interest shortfall has occurred, meaning that the credit protection seller will have to make a floating payment in the event that there is an interest shortfall owing to a PIK or other interest deferral feature. However, this interest deferral feature is taken into account in determining when the transaction can be settled if the credit protection buyer elects to declare a credit event for failure to pay interest (which it may do under the CDO PAUG Form).

In addition to the generally applicable conditions that must be met in order to effect physical settlement of a CDS referencing CDO bonds, the CDO PAUG Form sets forth an additional condition that applies only in respect of the credit event for failure to pay interest. If the reference obligation is PIK-able as of the effective date of the CDS, the deferred interest must remain outstanding and unpaid for a minimum period of time after the occurrence of the credit event before the credit protection buyer would be entitled to deliver the reference obligation in settlement and payment of the notional amount. The CDO PAUG Form suggests 360 days as the appropriate period, and the parties have latitude to determine an appropriate time period in which deferred interest may be repaid before the deferral gives rise to a credit event for failure to pay interest.

Interest Shortfall Cap Elections. The election of WAC Cap Interest Provision and the reimbursement of PIK interest determine whether an interest shortfall will be deemed to have occurred for the purpose of entitling the credit protection buyer to receive a floating amount or to physically settle the transaction, as the case may be. However, these provisions do not affect the size of any floating payment amount that the credit protection seller may be required to make once an interest shortfall has occurred. That will depend on whether the parties have agreed to limit the credit protection seller’s liability for interest shortfalls by capping the floating amount that may be due following the occurrence of an interest shortfall floating amount event. If they have so chosen to cap the credit protection seller’s liability, the floating amount is further influenced by the parties’ agreement to apply “fixed cap” or “variable cap.”
As a threshold matter, the parties must elect whether or not to make interest shortfall cap applicable. If the parties do not elect to make interest shortfall cap apply, the credit protection seller is liable for the entire amount of an interest shortfall on the reference obligation allocable to the notional amount of the CDS under the applicable percentage scaling methodology described below. If interest shortfall cap is applicable, the parties must further agree on the basis of the cap.

The PAUG Template provides two applicable elections, which are referred to respectively as fixed cap and variable cap. If the cap basis is fixed cap, the credit protection seller will be required to cover interest shortfalls in an amount up to the fixed premium. In practical terms, selecting fixed cap applicable means that the credit protection seller likely will not be required to go out of pocket to pay the relevant floating amount because the credit protection buyer will simply offset the interest shortfall amount from the fixed premium that it pays. If the cap basis is variable cap, the seller will be required to cover (likely pay out of pocket, at least in part) interest shortfalls on the reference obligation in an amount up to an amount equal to the product of the notional amount and a rate equal to the sum of the fixed rate used to calculate accrual of the premium plus the relevant rate specified in the confirmation (for example, USD-BBA-LIBOR).

Being required to pay out of pocket may be an issue for certain CDOs and other counterparties with limited sources of cash, in particular where cash flow is derived from total return swaps or guaranteed investment contracts that may provide for a sub-LIBOR return. In part for these reasons, market preference appears to be to make fixed cap applicable unless it is clear that there is a LIBOR source of funds from which to pay floating amounts resulting from interest shortfalls that apply variable cap. This may be due to liquidity concerns, and, more generally, reflects the difficulty that credit protection sellers have in determining the risk associated with interest shortfalls in varying interest rate environments (and their risks in accurately pricing the variable cap and covering interest shortfalls) without a call.

**Determination of Fixed Amounts under the PAUG Template**

In any CDS, the credit protection buyer pays a credit protection spread to the credit protection seller, either up front or at regular intervals, in exchange for the agreed-on credit protection on the reference obligation. The PAUG Template maintains this payment obligation of the credit protection buyer but also obligates the credit protection

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25 Regardless of the cap basis, the credit protection buyer may be required to go out of pocket to pay any related additional fixed amounts to the extent the covered amount of interest shortfalls could exceed the fixed premium.

26 The choice of interest shortfall cap basis can have important economic effects for the credit protection seller in the case of reference obligations that trade at a premium. For useful discussions of the impact of interest shortfall cap risk on premium securities, see Anthony Thompson and Ellen Callahan, “Pay as You Go CDS and New Frontiers in ABS CDOs” (June 9, 2005) and Inna Koren, Joseph Astorina and Elena Warshawsky, “ABS CDS: The Next Frontier” (November 21, 2005).
buyer to make additional fixed payments to reimburse the credit protection seller for certain floating amounts previously paid.

**Fixed Amounts; Coupon Step-Up**

Similarly to standard CDS, the fixed amount is essentially a credit protection premium calculated as the product of the agreed upon credit spread, the reference obligation notional amount and the actual number of days in the calculation period divided by 360. In a feature adopted from Form II, under the CMBS/RMBS PAUG Form parties to a transaction may elect to have the fixed amount adjusted upward in the event of a “coupon step-up” with respect to the reference obligation. A coupon step-up is triggered if the reference obligation is not called for redemption before a certain date that precedes its final maturity. This would come into play if a clean-up call or auction redemption did not occur when it could have; it could also be applicable if the reference obligation is structured with a soft bullet, as discussed above.

The parties have the option to make coupon step-up applicable or not to a CDS transaction. If coupon step-up is not applicable, the step-up in the coupon of the underlying reference obligation will have no effect on the fixed amount that the credit protection buyer is required to pay. On the other hand, if coupon step-up is applicable, the fixed rate will increase by the same number of basis points as the coupon step-up in the reference obligation. However, in a departure from the provision as suggested by Form II, the credit protection buyer has the option to terminate the transaction upon the occurrence of a coupon step-up, and thus avoid having to pay an increased premium. Of course, if the coupon on the reference obligation is unaffected by the failure to redeem the reference obligation by a certain date, the coupon step-up election would have no effect on the pricing of the transaction.

**Additional Fixed Amounts**

In addition to the fixed amount, the credit protection buyer is obligated to reimburse floating payments made for interest shortfalls and principal writedowns that have been subsequently reversed.\(^{27}\) This reflects the notion that the credit protection seller has the risk profile of a long investor in the reference obligation. The amount of the reimbursement is called an additional fixed payment.\(^{28}\)

The additional fixed payment obligation is generally similar to provisions in many securitization structures that provide for a tail period (normally one year) following the

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\(^{27}\) If a principal writedown on an ABS is reversed, the principal balance that has previously been written down is written back up. If an interest shortfall on an ABS is reversed it is applied to pay accrued and unpaid interest on the security.

\(^{28}\) If an additional fixed payment event occurs, the credit protection buyer’s obligation to pay the relevant additional fixed amount to the credit protection seller is conditioned on the delivery of a notice by the calculation agent to the parties, or by the credit protection seller to the credit protection buyer, stating that the related additional fixed amount is due and showing in reasonable detail how such additional fixed amount was determined.
maturity date during which reversals of realized losses or writedowns and late collections of interest are passed on to the former security holders. The purpose of having this tail period for catch-up payments is to permit investors who have borne losses to receive reimbursement of those losses following a successful workout or final liquidation of a defaulted loan even if the workout process extends beyond the term of the related MBS transaction.

Generally speaking, the PAUG Template mirrors this feature in that the credit protection buyer’s obligation to pay additional fixed amounts extends beyond the maturity of the reference obligation. However, the tail period is not necessarily coterminous with that which could be expected for the reference obligation because the credit protection buyer’s obligation to pay an additional fixed amount in reimbursement of floating amounts is effective for one year after the earlier of the scheduled termination date of the CDS, the legal final maturity of the reference obligation and the date on which the reference obligation has been amortized to zero through liquidation and distribution of the underlying collateral. By tying the time limit to the scheduled termination date of the CDS transaction, the credit protection seller could potentially be denied reimbursement for floating amounts that it has paid even though a holder of the reference obligation would be entitled to be reimbursed the corresponding shortfall. To the extent that a cash basis mismatch exists, the credit protection buyer that owns the reference obligation may obtain a double recovery in respect of a floating amount event that has been reimbursed by the issuer of the reference obligation following the additional fixed amount cut-off date.

Because the scheduled maturity date is defined to be coterminous with the legal final maturity date, this should not create a mismatch between the CDS and the cash exposure to the reference obligation. However, there are two circumstances in which tying the reimbursement cut-off to the scheduled maturity date could create such a mismatch.

- First, Section 5 of the RMBS/CMBS PAUG Form provides that the scheduled termination date may be shortened if the credit protection buyer elects to terminate the transaction rather than paying a premium at the increased fixed rate following the occurrence of a coupon step-up. If such termination was early in the transaction, but after a floating amount had been paid, the credit protection buyer would only be required to pay an additional fixed amount for the related floating amount for a period of one year from such termination notwithstanding that holders of the reference obligation would be entitled to be reimbursed for the related shortfalls for a longer period.

- Second, if the reference obligation provides for the reimbursement tail period to commence on the legal final maturity date of the reference obligation, it will not match the reimbursement tail on the CDS because the reimbursement tail

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29 This issue does not arise in the CDO PAUG Form because that form does not provide for coupon step-up.
for payment of additional fixed amounts would run from the earlier of the legal
final maturity date and the date on which the reference obligation is amortized in
full.

**Pay-as-You-Go Settlement and Physical Settlement under the PAUG
Template**

The PAUG Template gives the credit protection buyer the overriding option to
treat a writedown / implied writedown and principal shortfall / failure to pay principal as
a credit event in lieu of treating such an event as a floating amount event. If the credit
protection buyer treats such event as a credit event, it is entitled to deliver a notice of
physical settlement to the seller with respect to all or part of the CDS.

**Physical Settlement**

As with any CDS, in order to invoke physical settlement of a CDS under the
PAUG Template the credit protection buyer must provide the credit protection seller with
a notice of physical settlement within the notice delivery period and, unless it has
previously delivered a floating amount event notice, it must also deliver a notice of
publicly available information with at least one public source confirming the occurrence
of the credit event.

In general, the publicly available information delivered to must cite sources of the
type enumerated in Section 3.7 of the 2003 Credit Derivatives Definitions, except that
public sources are deemed to include servicer reports in respect of the reference
obligation and, in respect of distressed ratings downgrade only, public communications
by any of the rating agencies in respect of the reference obligation are also considered to
be public sources. Notably, if the credit protection buyer, after having delivered a notice
of physical settlement, does not deliver in full the deliverable obligations specified
therein on or prior to the physical settlement date, then it is deemed never to have
delivered the notice of physical settlement and effectively the only way in which to settle
the transaction is through the pay-as-you go mechanism. A similar consequence obtains
if the effective maturity date of the transaction (i.e., the scheduled termination date of the
CDS or the maturity or amortization in full of the reference obligation) occurs between
the time that the notice of physical settlement has been delivered, but before the credit
protection buyer has delivered the deliverable obligations specified therein.\(^{30}\)

**Two Way Cash Settlement**

The conditions to settlement are somewhat different for two-way cash settlement
under the PAUG Template than they are for physical settlement. In relation to a floating
amount event, the only condition is the delivery of a notice by the calculation agent to the
parties, or a notice by the credit protection buyer to the credit protection seller, to the

\(^{30}\) The PAUG Template specifically makes the partial cash settlement provisions contained in Article 9
of the 2003 Credit Derivatives Definitions inapplicable in such an event.
effect that the related floating amount is due and showing in reasonable detail how it was determined.

The notice of a floating amount event must be given on or prior to the fifth business day following the earlier to occur of (a) of the scheduled termination date of the transaction, (b) the date on which the notional amount is reduced to zero and (c) the date on which the assets securing the reference obligation or designated to fund amounts due in respect of the reference obligation are liquidated, distributed or otherwise disposed of in full and the proceeds thereof are distributed or otherwise disposed of in full (such earliest date, the “effective maturity date”). The notice of an additional fixed payment event must be given on or prior to the fifth business day following the day that is one calendar year after the effective maturity date.\footnote{If the Calculation Agent has previously delivered a notice to the parties or the credit protection buyer has previously delivered a notice to the credit protection seller pursuant to the definition of “Floating Rate Payer Payment Dates” in respect of a writedown or a failure to pay principal, the only condition to settlement with respect to any credit event is delivery of a notice of physical settlement.}

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