Credit Derivatives

Glossary

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ABCDS – A CDS where the underlying is an Asset Backed Security.

Asset Swap Spread – An asset swap involves a swap of a fixed rate in return for a floating rate. The fixed rate is derived from an asset. The floating rate is composed of a spread over LIBOR (or another floating benchmark). The asset swap spread (gross spread) is derived by valuing a bond's cash flows via the swap curve's implied zero rates. This gross spread is the basis point amount added to the swap curve, which causes a bond's computed value to equal the market price of the bond. It is comparable to a CDS spread in that it is interest rate insensitive.

Basel III – The third and latest installment of global regulatory standards on bank capital adequacy and liquidity agreed by the members of the Basel Committee on Banking Supervision developed in response to the deficiencies in financial regulation revealed by the financial crisis. Basel III strengthens bank capital requirements and introduces new regulatory requirements on bank liquidity and bank leverage.

Basis – In finance, the *basis* represents the difference between two instruments. In the world of credit derivatives, the basis may refer to the difference between the CDS and the reference obligation (calculated as the Par Spread minus the bond's Asset Swap Spread or Z-spread). Other potential basis metrics are:

- *Restructuring basis*: the difference in the cost of protection between a contract trading with or without restructuring (mostly prevalent in North America).
- *Quanto basis*: the difference in the cost of protection for the same entity trading in different currencies (applies principally to sovereign credits).
- *Tier basis*: the difference between the cost of protection for different tiers of debt for the same entity.

Basis Point – 1/100th of 1%. 100 basis points = 1%. A common term in fixed income and credit derivative markets.

Basket CDS – A CDS where a group of reference entities are specified in one contract. There are several types of basket CDS including first or Nth-to-default swaps (where settlement is triggered when the first or Nth entity defaults).

Big Bang Protocol – On April 8 2009, the Big Bang Protocol went into effect, hardwiring the auction mechanism and creating Determinations Committees (DC) with the responsibility to declare whether a credit or succession event has occurred. The Protocol also introduced the concept of rolling effective dates with "lookback" periods defining credit event and succession event protection (T-60 days for credit events, and T- 90 days for succession events). Simultaneously, with the global contract changes, North American corporate single names started trading with fixed coupons (50 or 100 bp) and a full first accrual period.

Calculation Agent – The party responsible for determining when a credit event or succession event has occurred, and for calculating the amount of payment required by the Protection Seller.

CDS Spread – Also called a *premium*. The amount paid by the Protection Buyer to the Protection Seller, typically denominated in basis points and paid quarterly. For example, if the spread for Acme Inc. is 200 basis points, the Protection Buyer will pay the Protection Seller 200 basis points multiplied by the notional of the trade annually (typically paid quarterly, on an 'actual number of days per period/360' basis).

Composite Spread – Refers to the spread of a single name or an index derived by aggregating all the spreads individually submitted by Markit's contributors after deleting the outliers.

Composite Price – Refers to the price for price-based indices (CDX.NA.HY, CDX EM, LCDX, LevX) derived by aggregating all the prices individually submitted by Markit's contributors after deleting the outliers.

Conventional Spreads – These spreads represent the translation of fixed coupon and upfront payment into a single number. Investment grade names are expected to be quoted using this convention as they may have either the 100 or the 500 bps coupon associated with them, depending on the dealer's preference.

Credit Default Swap (CDS) – A credit derivative transaction in which two parties enter into an agreement, whereby one party (the Protection Buyer) pays the other party (the Protection Seller) periodic payments for the specified life of the agreement. The Protection Seller makes no payment unless a credit event relating to a predetermined reference asset occurs. If such an event occurs, it triggers the Protection Seller's settlement obligation, which can be either cash or physical.

Credit Event Auction – Industry standard mechanism designed to ease the settlement of credit derivative trades following a credit event. The auction process determines the cash settlement price of a CDS, with the compensation received by the protection buyer based on the final agreed-upon auction price. Markit and Creditex have jointly acted as administrators of credit auctions since their inception in June 2005.

Credit Swaptions – **aka Credit Options** – Allow the investor to either buy protection (for payer swaptions) or sell protection (for receiver swaptions) at a pre-agreed strike for a single credit or an index. Payer Swaptions can be further classified as Knock-Outs or Non-Knock Outs depending on whether the option ceases to exist following a credit event ahead of the option maturity.

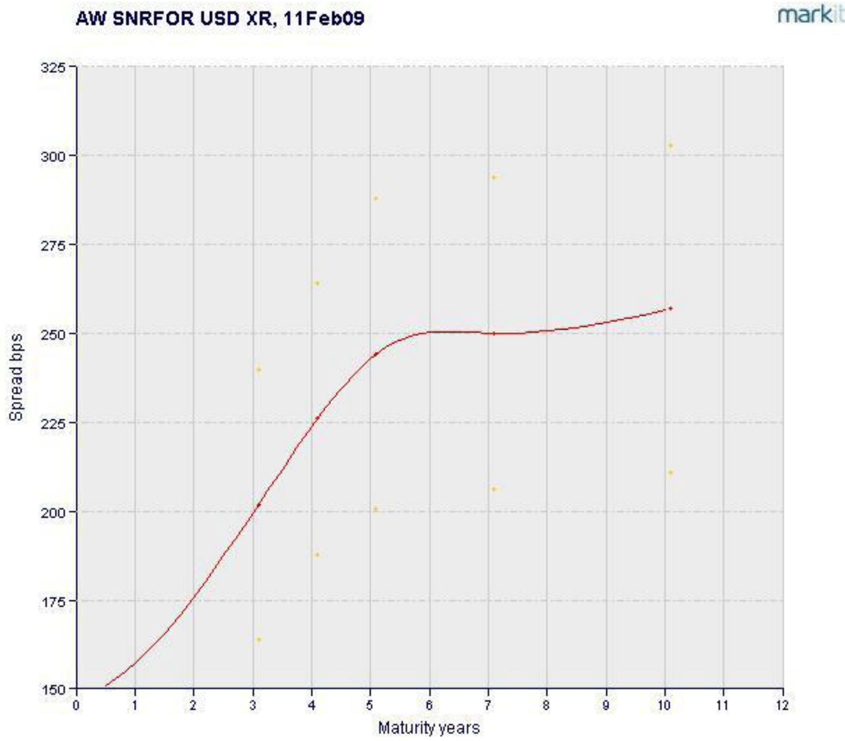
Coupons – **aka 'deal spread'** – Since the release of ISDA's protocols for the standardization of the credit markets, the most common coupon strikes have been 100bps and 500bps, though exceptions may apply (see inset below for details).

		Coupon Strikes			
	Implementation Date	25	100	500	1000
Asian Corporate & Sovereign CDS	December, 2009		☑	☑	
Australian Corporate & Sovereign CDS	September, 2009		☑	☑	
Eastern & Central European Corporate & Sovereign CDS	September, 2009		☑	☑	
European Corporate CDS	June, 2009	☑	☑	☑	☑
Japanese Corporate & Sovereign CDS	December, 2009	☑	☑	☑	
Latin American Corporate & Sovereign CDS	September, 2009		☑	☑	
Middle Eastern Corporate & Sovereign CDS	September, 2009		☑	☑	
New Zealand Corporate & Sovereign CDS	September, 2009		☑	☑	
North American Corporate & Sovereign CDS	April, 2009		☑	☑	
Western European Sovereign CDS	June, 2009	☑	☑		

Credit Event – This is the event-triggering settlement under the CDS contract. The DCs determine whether a credit event has occurred, and whether an auction should take place to settle trades. Since the original ISDA Agreement in 1999, six categories of Credit Events have been defined:

- *Bankruptcy* – although the ISDA 2003 Definitions refer to different ways a bankruptcy can occur, the experience has been that the reference entity has filed for relief under bankruptcy law (or equivalent law).
- *Failure to pay* – The reference entity fails to make interest or principal payments when due, after the grace period expires (if grace period is applicable in the trading documentation).
- *Debt restructuring* – The configuration of debt obligations is changed in such a way that the credit holder is unfavorably affected (maturity extended and/or coupon reduced). For more details, see the definition for *Restructuring Credit Event* further below.
- *Obligation default, obligation acceleration, and repudiation/moratorium* – The 2003 ISDA definitions define these three credit events, but they are very rare.

Credit Spread Curve – The curve display of the credit spread for a unique reference entity/tier/currency/doc-clause combination over different nodes or tenors. Find below a picture of the Allied Waste credit spread curve from Markit's CDS pricing service.



Derivative – A broad term describing financial instruments that "derive" their value from an underlying asset or benchmark. Many derivatives are designed to transfer some form of risk from one party to another. Included in this broad definition would be: Futures, Options (including caps and floors), Swaps (including CDS and interest rate swaps), Forwards and hybrids of the above.

DTCC – Depository Trust & Clearing Corporation provides clearance, settlement and information services for equities, corporate and municipal bonds, government and mortgage-backed securities and over-the-counter derivatives. The CDS matching and confirmation service provides automated, real-time matching and confirmation for standard single reference entity CDS (including North American, European, Asian corporate credits, and sovereign credits), as well as CDS indices.

DV01 – **aka Risky Duration** – The change in the mark-to-market value of a CDS trade for a 1bp parallel shift in CDS spreads. Though Risky Duration and Risky Annuity are often used interchangeably, the two measures yield changes that are very close only for CDS spreads trading at par. For larger spread movements away from par, this assumption becomes increasingly inaccurate.

FAS 157 – Financial accounting standards which define and establish a framework for measuring *fair value.* Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at a specified date.
Fair value is measured using market-based inputs categorized in 3 levels of 'quality':

- *Level 1*: quoted prices in active markets.
- *Level 2*: quoted prices for similar assets or liabilities or corroborated by observable market data by correlation or other means.
- *Level 3*: unobservable inputs.

Gross Notional – Gross notional values are the sum of CDS contracts bought (or equivalently sold) for all Warehouse contracts in aggregate, by sector or for single reference entities displayed. Aggregate gross notional value and contract data provided are calculated on a per-trade basis.

Hazard Rate – the conditional probability of default in Period *n* for a particular entity given this entity has survived until the beginning of Period *n*. Hazard rates are 'backed out' of a CDS spread curve and ‘bootstrapped’ to create a term structure of Hazard rates. This term structure of Hazard rates is then translated into a term structure of Survival Probabilities and a term structure of Non-conditional Default Probabilities. The former is used to weigh the premium (or ‘fee’) leg of the CDS, while the latter is used to weigh the protection (or ‘contingent’) payment leg. The PV of each leg is discounted to find the MTM value of a CDS contract.

Implied Rating – A field used by Markit and calculated on a weekly basis by comparing the issuer's 5Y senior standard trading convention spread to the 5Y spreads of our sector curves and applying the rating of the logarithmically nearest rating curve specific to that sector**.**

Index Price – In standard quotation, CDX HY,CDX EM, LCDX, and Lev-X indices are quoted on a price basis.

Index Roll – Process which, for the Markit iTraxx and Markit CDX suite of indices, takes place twice a year in March and September to create a new index series. The previous index becomes off-the-run, and the new index is the new on-the- run series.

Index Spread – In standard quotation, CDX IG, iTraxx Main and XOver, SovX and MCDX indices are quoted on a spread basis. Converting the price to spread and vice versa can be achieved via the ‘Converter’ (www.markit.com/cds) or can be approximated using the dollar value of 1 basis point (DV01) and multiplying that by the difference between the deal spread and the quoted spread.

Index Skew – Market participants refer, by convention, to the index skew as the difference between the price (or spread) of the Credit index traded in the market and its ‘fair value’ derived from the index constituents. It is also called the index basis.
There are several reasons why actual spreads may differ from fair value, e.g lower liquidity in single name spreads, differences in maturity between on-the-run single names and index contracts, and general credit market demand for protection selling and buying, among others.

ISDA – The International Swaps and Derivatives Association is the global trade association representing participants in the privately negotiated derivatives industry, a business covering swaps and options across all asset classes (interest rate, currency, commodity and energy, credit and equity). ISDA was chartered in 1985.

Jump-to-Default risk – The risk that a credit defaults suddenly before the market has had time to factor its increased default risk into current spreads.

LCDS – A CDS contract where the underlying instrument is a syndicated loan, senior secured in the capital structure.

LIBOR – London Interbank Offered Rate – An interest rate fixing in the interbank market, representing the rate at which highly-rated banks will lend to one another. Also widely used as a floating rate reference on interest rate and currency swaps, and floating rate notes. LIBOR is calculated daily for a variety of currencies including USD and GBP. The EUR equivalent is EURIBOR and the JPY equivalent is TIBOR.

Long Basis – aka ‘buying the basis’ – A trade that seeks to profit from a widening of the basis (becoming more positive), and can be executed by selling the bond and selling the CDS.

Long Credit – Refers to the position of the CDS Protection Seller who is exposed to the credit risk and who receives periodic payments from the Protection Buyer.

Markit CDX – Markit credit indices focused on the Americas. Investment Grade, High Yield, and Emerging Markets are the three major sub-indices.

Markit iTraxx – European and Asian CDS indices owned by Markit. The Markit iTraxx represents the most liquid part of the CDS market for Asia and Europe.

Markit iTraxx LevX – The Markit iTraxx LevX indices are based on European Loan credit derivatives - they are constructed from the universe of European corporates.

Markit iTraxx SovX – Markit iTraxx SovX Indices are a family of sovereign CDS indices covering countries across the globe. The indices have 5-year and 10-year maturities and the underlying currency is USD.

Markit LCDX – Markit LCDX is the North American benchmark for first lien leverage loans CDS

Markit MCDX – Markit MCDX index references U.S. municipal credits covering revenue and general obligations.

Markit RED™ – Markit's Reference Entity Database. Markit RED is the industry standard identifier for reference entities and reference obligations in the credit derivative market.

Markit VolX – The Markit VolX indices are the benchmark family of indices that track the realized volatility in the European and North American credit derivatives markets.

MCDS – A CDS contract where the underlying is a municipality, and the reference obligation is either a Revenue Liability, a General Obligation Liability, a Moral Obligation Liability or a Full Faith and Credit Liability.

Negative Basis – Occurs when the ASW or Z-Spread of a bond is wider than the CDS spread.

Negative index skew – A bullish credit indicator, suggesting that there are more sellers of index protection, than buyers of single name protection.

Net Notional – The sum net protection bought by buyers (or equivalently net protection sold by net sellers). Assuming a recovery of 0, net notional positions generally represent the maximum possible net funds transfers between net sellers of protection and net buyers of protection that could be required upon the occurrence of a credit event relating to particular reference entities. Actual net fund transfers are dependent on the recovery rate for the underlying bonds or other debt instruments.

Notional Principal – The quantity of the underlying asset or benchmark to which the derivative contract applies.

Off-the-run / On-the-run – Markit iTraxx and CDX indices 'roll' every six months when a new series of the index is created with updated constituents. The previous series continues trading although liquidity is concentrated on the new series. The new series is referred to as being on-the-run, with previous series referred to as being off-the-run.

OTC – Over-The-Counter – Refers to trades negotiated and conducted directly between two parties. This contrasts with trades conducted on exchanges, where the trades are defined by the rules of the particular exchange. CDS are examples of an OTC-traded instrument.

Par Spread – The spread of a CDS contract that ensures the PV of the expected premium payments (fee leg) equal the PV of the expected default payment payments (contingent leg).

Positive Basis – Occurs when the CDS spread is trading wider than the ASW or Z-spread of the bond.

Positive index skew – A bearish credit indicator suggesting index protection buyers outweigh sellers of single name protection.

Present Value – An asset valuation method, which maps future cash flows from an asset and discounts the future cash flows by an appropriate discount rate.

Protection Buyer – This is the party to a CDS contract which pays a premium for protection in case a credit event occurs. The Protection Buyer can also speculate that the cost of protection will rise and profit from selling the CDS contract at a higher price than was paid.

Protection Seller – This is the party to a CDS contract receiving the premium payments, and who is exposed to the credit risk of the reference entity.

Quanto CDS – FX swaps embedded in CDS contracts - quoted on all the major sovereigns in addition to some single name corporate swaps and CDS indices. The buyers and sellers of the quanto swap take opposite views on the correlation between currency and credit risk

Recovery Rate – An estimate of percentage of par value that bondholders will receive after a credit event. CDS for investment grade bonds generally assume a 40% recovery rate when valuing CDS trades. However, CDS for lower rated bonds are more dynamic and often reflect lower estimated recovery rates.

Reference Entity – Refers to the legal entity that is the subject of a CDS contract. The reference entity can be the issuer or the guarantor of the debt.

Reference Obligation – The specific bond (debt obligation) that is referenced in the CDS contract.

Restructuring Credit Event – One of the types of credit events which trigger settlement under the CDS contract. Restructuring is a "soft" event, whereby the loss to the owner of the reference obligation is not obvious. In addition, Restructuring often retains a complex maturity structure, so that debt of different maturities may remain outstanding with significant differences in value. The following are the different types of Restructuring clauses:

- *Full Restructuring* (CR): This allows the Protection Buyer to deliver bonds of *any* maturity after restructuring of debt in *any* form occurs. This type of clause is more prevalent in Asia.
- *Modified Restructuring* (MR): limits deliverable obligations to bonds with maturities of less than 30 months after a credit event.
- *Modified Modified Restructuring (MM):* This is a "modified" version of the Modified Restructuring clause whereby deliverable obligations can mature up to 60 months (5 years) following the credit event. This type of clause if more prevalent in Europe.
- *No Restructuring* (XR): This option excludes restructuring altogether from the CDS contract, eliminating the possibility that the Protection Seller suffers a "soft" Credit Event that does not necessarily result in losses to the Protection Buyer. No-R protection typically trades cheaper than Mod-R protection. Following the implementation of SNAC, this clause is mainly traded in North America.

Risky PV01 – **aka Risky Annuity –** The sum of the discount factors used in CDS valuation weighed by their corresponding survival probabilities. The Risky PV01 or Annuity measures the present value of 1bp risky annuity received or paid until the occurrence of a credit event or the expiration of the contract.

Series – Term which identifies the series of a specific index, and its main characteristics. In September 2008, Markit rolled the Markit CDX IG index to series 11. Series 11 has a maturity of December 20, 2013, and fixed coupon of 150basis points. In March 2009, Markit will roll the Markit CDX IG index to series 12.

Settlement – What occurs in the case of a credit event. Settlement can be cash or physical delivery, depending on the terms of the contract. Traditionally, CDS specified physical delivery but in the last three years numerous auctions have been held to allow for cash settlement.

Short Basis – **aka 'selling the basis'** – a trade that seeks to profit from a tightening of the basis (becoming more negative), which can be executed by buying the bond and buying a CDS.

Short Credit – This is the credit risk position of the Protection Buyer, who sold the credit risk of a bond to the Protection Seller.

Small Bang Protocol – While the CDS Big Bang authorized the Determinations Committees (DC) to decide whether or not a Restructuring Event took place, the DC rules under the CDS Big Bang specifically prohibited them from authorizing auctions to settle trades for Restructuring Events – consequently, the CDS Small Bang (issued June 20, 2009) addressed the need to incorporate the auction settlement mechanism for Restructuring Events, whereby DCs are able to decide whether or not to hold auctions for specific Maturity Buckets and implement a "Use It or Lose It" date.
Simultaneously, since June 20th, 2009, standard European corporate entities started trading with fixed coupons of 25, 100, 500 and 1000, similar to North American corporate entities albeit with additional coupons.

SNAC (Standard North American Corporate Contract) – Defines trades based on the new CDS conventions, with full coupon, subject to the Big Bang Protocol (determination committee, auction hardwiring, lookback period).

STEC (Standard European Corporate Contract) – Defines trades based on the new CDS conventions, with full coupons, subject to the Small Bang Protocol which focuses on restructuring clauses.

Theoretical Spread (Price) – **aka 'Intrinsic Value' or 'Fair Spread'** – the spread of an index implied by the underlying index constituents with currency, doc clause, day counts, coupon, coupon frequency, and maturity identical to that of the index.

Tranches – Allow investors to gain exposure on a particular portion of the index loss distribution. Tranches are defined by attachment and detachment points. Defaults affect the tranches according to the seniority of the tranche in the capital structure. For example, the 5Y 3-6% tranche on a portfolio of 125 single names with a 40% recovery would protect the investor up to the sixth default – 1/125* (1-0.4)= 0.48% loss on one name. By the seventh default (0.48%*7= 3.36%), the investor is no longer protected and will incur principal loss. After the thirteenth default (0. 48% * 13 = 6.24%), the entire principal is lost and no further losses are incurred on this tranche.

Succession Event – An event such as a merger, consolidation, amalgamation, transfer of assets or liabilities, demerger, spin-off or other similar events where one entity succeeds to the obligations of another entity. Rules for succession events are defined in the 2003 ISDA definitions and the Determinations Committees review and determine such events and debt movement and respective impact on the CDS.

Probability of Survival – The probability of an entity not defaulting in period *n* and subsequent periods. These probabilities are modeled as a function of Hazard Rates and a term structure of survival probabilities is used to weigh the premium (or fee) leg when valuing a CDS transaction quantitatively.

Probability of Default – The probability that an entity defaults in a particular period.

Swap – An agreement between two parties to exchange future cash flows or credit risk.

Tenor – Refers to the duration of a CDS contract. Most CDS are written with 5 year terms, and this remains the most liquid and frequently quoted part of the credit curve; however other tenors, such as the 10 year, are becoming more common.

Tier – Refers to one of four levels of debt in the capital structure of the reference entities. Each tier represents a different level of seniority or preference in liquidation or bankruptcy. There will generally be different levels for CDS protection for each of the tiers.

- *JRSUBUT2* – Junior Subordinated or Upper Tier 2 Debt (Banks)
- *PREFT1* – Preference Shares, or Tier 1 Capital (Banks)
- *SECDOM* – Secured Debt (Corporate/Financial) or Domestic Currency Sovereign Debt (Government)

- *SNRFOR* – Senior Unsecured Debt (Corporate/Financial), Foreign Currency Sovereign Debt (Government)
- *SUBLT2* – Subordinated or Lower Tier 2 Debt (Banks)

Upfront – Refers to the initial (i.e. upfront) lump sum payment made when entering a CDS transaction. Upfront payments tend to apply to transactions where the credit quality of the entity referenced is poor – in other words, where the perceived risk of the entity defaulting is high. It ensures the Protection Seller receives a payment upon trade execution that reflects the riskiness of the contract.

Version – Each index series is identified by a version number. After an index rolls, the initial version will be one. To represent removal of constituents because of credit events and early termination (for LCDX), a new version of the index is published. For example Markit CDX HY 11 v1 was the version of the Markit CDX HY index launched at the roll of September 2008. After the removal of Tribune Company because of bankruptcy, a new version Markit CDX HY 11 v2 was published. After the removal of Nortel Networks Corporation, a new version was published, Markit CDX HY 11 v3.

Z-spread – The basis point value that must be added to the zero coupon curve, such that the security's discounted cashflows equal the security's market price. At its simplest, the zero-volatility spread measures the spread to Treasury spot (zero) rates all along the curve.