

# Clients & Friends Memo

## A Plain English Summary of Credit Default Swap Settlement Protocol

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ISDA has published numerous protocols for the settlement of Credit Events under ISDA-documented credit default swaps (typically excluding reference-obligation-only, fixed-recovery, loan-only and preferred credit default swaps). Most of the protocols have included only a few deliverable obligations. More recently, ISDA has published protocols for reference entities that have a much greater number of deliverable obligations and has proposed a variant of the protocol for monoline financial guaranty insurers that, for reasons we shall discuss below, includes all of a reference entity's deliverable obligations, without enumerating them.

### Background

Credit default swaps under which a Credit Event has occurred are settled in one of two ways: by physical settlement (*i.e.*, the exchange of debt obligations for their outstanding principal balance) or by cash settlement (*i.e.*, the payment to the protection buyer of the difference between an agreed-upon reference price of those obligations—typically, 100%—and the approximate market value of those obligations at the time of settlement). While physical settlement avoids the potential drawbacks of the cash settlement process, it can both cause and become impaired by market illiquidity—most notably the “short squeeze” condition that constrains supply and increases prices as protection buyers all simultaneously seek to buy the same debt obligations for use in settling their credit default swaps. As the credit default swap market has grown (and with it, its susceptibility to market-wide dislocation at physical-settlement time), it has, with the help of ISDA, moved toward a hybrid form of settlement, in which the parties cash settle their transactions using a market value that is generated by a carefully choreographed set of market transactions. The combination of parties' agreement to cash-settle their trades using this special market value and their potential participation in the price-generating market transactions together constitute a “CDS protocol.” These protocols have been tested by the credit default swap market, and their parameters refined, over the course of a number of major Credit Events, including the Dura and Lehman bankruptcies and the Fannie Mae and Freddie Mac conservatorships.

## The Protocol

Each CDS protocol consists of two price-generating auctions (we will refer to them here as an “Inside Market Auction” and an “Open Market Auction”), separated by an “Open-Interest Determination” process in which the unsatisfied, or “open,” buy- or sell-side interest in the deliverable obligations (“DOs”) is determined.

### Inside Market Auction

Only dealers participate in the Inside Market Auction, in which they each submit a bid and an offer for a predetermined quantity (i.e., outstanding principal amount) of the DOs designated as eligible for purposes of the protocol. An individual dealer’s bid and offer may differ by no more than a predetermined spread. The quality of the bids and offers is then assessed by pairing the best bid and best offer, the second-best bid and the second-best offer, etc. Any two dealers whose respective paired bid and offer touch or cross (*i.e.*, where the bid is equal to or higher than the offer) are each penalized by being required to pay a penalty amount to ISDA that is used to defray the costs of administering the protocol. Of the pairs of non-touching and non-crossing bids and offers, the half that exhibit the narrowest bid-offer spreads are used to calculate a mid-market price called the Inside Market Midpoint, which is used as a constraint on the Final Price that will be determined in the Open Market Auction.

### Open-Interest Determination

All participants in the protocol will cash settle all their credit default swaps at the Final Price determined by the protocol. However, some participants nonetheless may want, *in addition*, to sell DOs (for example, those who already hold “cheap” DOs) or receive DOs (for example, those who need to acquire DOs to deliver under physically settled transactions with parties who did not adhere to the protocol). The protocol allows these parties to buy or sell DOs by means of bids or offers they place in the Open-Interest Determination and the Open Market Auction. For the Open-Interest Determination, each dealer (directly) and any customer of a dealer (through that dealer) may submit to the protocol administrator a Physical Settlement Request specifying how much of the DOs it wants to buy or sell (it may not specify more than its aggregate net position under all its credit default swaps that will settle at the protocol’s Final Price). These Physical Settlement Requests specify a quantity, but not a price, because they will be settled at the Final Price that will be determined by the Open Market Auction. The administrator then compares the respective sums of the Physical Settlement Requests to buy and sell DOs. The excess demand to buy or sell that

emerges from such comparison constitutes the market “open interest,” for which participants will offer or bid in the Open Market Auction, which is essentially a modified Dutch auction.

### **Open Market Auction**

After the direction (buy or sell) and quantity of the open interest is determined and announced, anyone (regardless whether or not an adherent to the protocol or a party to a credit default swap) who desires to bid or offer for a portion of that interest may submit a limit order (specifying a quantity and limit price) to buy or sell DOs, depending on whether the open interest is to sell or to buy. These limit orders will be matched against the open interest in the Open Market Auction. The market-clearing price in that auction becomes the Final Price for use in the physical settlement of all the Physical Settlement Requests, limit orders and inside market quotes (either bids or offers, depending on the direction of the open interest) and the cash settlement of all the credit default swaps covered by the protocol. Now, if the open interest is small relative to a party’s net long or short exposure under its credit default swaps that are covered by the protocol, it might be worthwhile for such a party to place an unrealistically-priced limit order in order to produce a Final Price that would earn it more on its cash settlements than it would lose on its limit order. This brings us to the value of the Inside Market Midpoint: it serves as an important guide to participants submitting bids or offers in the Open Market Auction; it serves to limit the aforementioned potential price manipulation in that the protocol constrains how far the Final Price may be above or below (depending on the direction of the open interest) the Inside Market Midpoint; and it serves as the Final Price itself in the event that the Open-Interest Determination determines that there is no open interest.

### **Recent Changes in the Protocols**

The first protocols included relatively few DOs. Recent protocols, however, have included larger numbers of DOs. It generally is presumed that, after a Bankruptcy Credit Event, all DOs of a reference entity will be accelerated and that, consequently, all such DOs having the same seniority will trade at essentially the same price—namely, their recovery value. However, under circumstances in which DOs will not be accelerated following a Credit Event, any DOs having either a lower coupon or longer maturity (other things being equal and presuming long-term rates exceed short-term rates) would be expected to trade at a lower price and to be relatively cheap to purchase for delivery in settlement of a credit default swap. A protection buyer’s option to deliver such cheap DOs is referred to as the “cheapest-to-deliver option,” and where such an option exists, credit default swap parties are presumed to have priced its value into their transactions. Having paid for that option, credit default swap protection buyers will want to realize its value when they settle their trades. In the cases of Fannie Mae and Freddie Mac, their obligations were not accelerated following the Credit Events. Accordingly, the wide array of obligations deliverable

under the Fannie Mae and Freddie Mac protocols presumably included relatively cheap-to-deliver obligations that allowed protection buyers to realize that value.

The cheapest-to-deliver options in the Fannie Mae and Freddie Mac Credit Events are not the only ones that may need to be included in CDS protocols. Recently, the scope of circumstances that may be covered by protocols has expanded to include other Credit Events after which DOs may not be accelerated and that, therefore, include a cheapest-to-deliver option. Such additional circumstances include those in which (i) the sole Credit Event is a Restructuring, (ii) the reference entity is a municipal/sovereign issuer whose obligations are not accelerable due to default and (iii) the DOs include obligations of solvent issuers that are guaranteed by a monoline financial guaranty insurer.

For potential monoline financial guaranty insurer Credit Events, ISDA recently proposed not to name specific protocol-eligible DOs, but to designate as eligible all obligations that would be deliverable under the 2003 Credit Derivatives Definitions. This approach will streamline any monoline Credit Event protocol. Since vast numbers of the obligations insured by the monoline financial guaranty insurers are potentially deliverable, the proposed approach could avoid what might otherwise be an unwieldy process of attempting to review every single possible deliverable obligation individually. The proposed approach will also ensure the preservation of the cheapest-to-deliver option in such monoline CDS protocols. Future protocols will no doubt continue to address the particular dynamics affecting obligations of reference entities that are subject to Credit Events.

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