

## SWAPS

### Adjusting Post-Default Allocation Rule May Force Buyers to Compete More Aggressively



**Igor Makarov**, an assistant professor at London Business School, proposes adjustments to allocation rules to correct underpricing during cash auctions aimed at setting compensation for CDS buyers after a bond issuer defaults.

In the market for credit-default swaps, one of the trickiest challenges has been figuring out how much the swaps are worth when a default actually happens. Our research suggests the current mechanism of auctions hasn't solved the problem.

Credit-default swaps, or CDS, provide their buyers with protection against losses in the event a bond issuer fails to pay its debts. In the market's early days, when a default happened, the CDS buyer would have to deliver actual bonds to the seller to collect compensation. As the CDS market grew and the notional amount of contracts came to exceed the amount of deliverable bonds, physical delivery became impractical. Instead, the industry developed an auction mechanism that allows buyers to collect in cash, with no need for bonds to change hands.

Cash settlement, though, presents its own difficulties. For one, to figure out how much the CDS seller owes the buyer, a fair

price must be established for the defaulted bonds -- a challenging task, given the fact that the market for such bonds is opaque, illiquid and easy to manipulate. Also, if the cash settlement procedure can't perfectly replicate the outcome of physical settlement, those that have positions in both CDS and the underlying bonds can face losses if they don't close those positions simultaneously.

In our research, we find that the current auction mechanism doesn't generate a fair value. On average, it underprices the underlying bonds by about 10 percent. The phenomenon appears directly related to the volume of physical settlement requests: For every one-percentage-point increase in the net open interest (the aggregate amount of such requests), the underpricing increases by 1.2 percent. Furthermore, underlying bond prices follow a V pattern around the auction day. In the 10 days preceding the auction, prices decrease by 30 percent on average. In the 10 days following the auction, prices revert back to their pre-auction levels.

To understand our finding, we analyze the auction's design. In a first stage, parties who wish to replicate the outcome of the physical settlement submit requests for physical delivery through dealers. These are aggregated into the net open interest, which in most cases is positive, meaning that requests from CDS buyers exceed those

of sellers. In a second stage, an auction is held to find the price at which the demand for bonds clears the net open interest. This price is used to settle the CDS contracts in cash.

The auction's main flaw appears to be its failure to balance the conflicting incentives of CDS buyers and sellers. Buyers of protection benefit in cash settlement if the price is set below the fair value, while sellers benefit if the price is set too high.

The auction includes a mechanism to protect against overpricing. At the first stage, dealers submit bid and offer prices with a commitment to transact in a predetermined minimal amount. These are used to construct an initial midpoint price, which serves as a cap on the final auction price.

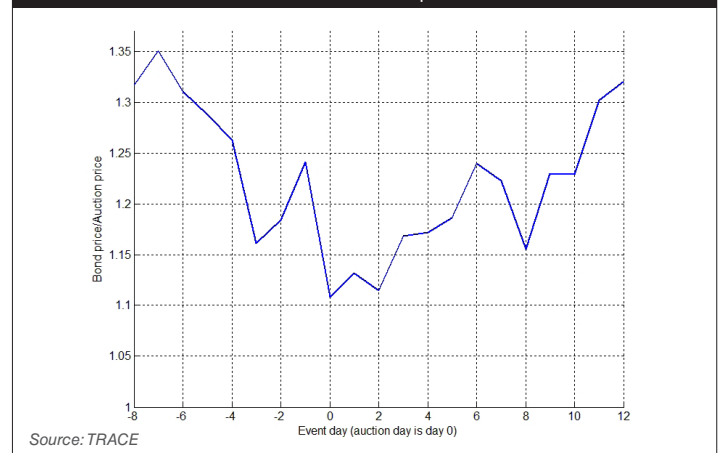
The cap, however, does not protect against the auction

price being too low. As a result, strategic bidding behavior at the auction can result in the underpricing that CDS buyers desire.

To correct this flaw, we suggest a potential modification. One way underpricing can occur is if auction participants choose not to bid aggressively. The current auction rule is such that their bids above the final price are guaranteed to be fully filled, so they are not sufficiently rewarded for raising their bids. Their aggressiveness can be enhanced, however, by adjusting the allocation rule. Specifically, the whole net open interest should be split in proportion to individual total demands at and above the final price. Now, by submitting low bids, the participants would not be able to obtain a large allocation of bonds and thus would be forced to compete more aggressively.

#### Average Prices

Figure shows daily bond prices scaled by the final auction price and averaged across 23 auctions for which bond data is present in TRACE database.



#### REFERENCES

Chernov, Mikhail, Gorbenko, Alexander S. and Makarov, Igor, CDS Auctions (June 2011). Available at SSRN: <http://ssrn.com/abstract=1866266>