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The practice of posting collateral against the risk of failed derivatives trades may protect dealers from the worst of the losses arising from Lehman's bankruptcy, says Joseph Pimbley. But what about trades that were not covered by such collateral agreements?

The bankruptcy of Lehman Brothers and the reports of derivatives dealer counterparties working through the preceding weekend to untangle the Gordian knot of thousands of Lehman trades have focused attention on the subject of counterparty credit risk. Though there are thousands of inter-dealer trades with billions of dollars of notional trade sizes, ultimate losses to dealers from Lehman's default should be minimal.

Substantial losses to dealers, though, have arisen from their transactions with non-dealer insurance companies. The dealers made a risk management concession to win business. Bank regulators had long maintained - without substantiation - that derivatives transactions increase systemic risk. Current events are certainly consistent with this claim. We do find that derivatives counterparty risk is a big piece of the current financial world distress, but the story of what to blame is mixed.

Corporate and municipal clients of Lehman have been disrupted and face potential losses due both to Lehman's inability to pay the appropriate bankruptcy claim and to the absence of the hedge agreements Lehman had provided.

Consider the recent bankruptcy filing of Lehman Brothers. This entity and its subsidiaries were certainly among the most active derivatives dealers. It is not an exaggeration to say that Lehman had thousands of derivatives trades with each of several dealer counterparties (such as Citibank, Merrill Lynch, etc) prior to bankruptcy. It would be reasonable to expect that these dealer counterparties may take substantial losses due to Lehman's default.

Fortunately, such losses are highly unlikely. When dealers trade between themselves, they agree to mutual credit support annexes (see box). As a result of these CSAs, dealers should not suffer significant losses; or, at least, the absence of significant Lehman counterparty losses for other dealers is the likely outcome in the absence of data errors. The dealers' database systems that have the details of the thousands of outstanding transactions are highly evolved. Potential errors in the data or errors in the valuations of the trades, though, may be the source for discoveries that collateral held by one or more dealers is insufficient. The current environment is a real-world test of the operational risk of running a large derivatives book.

Wall Street and international derivatives dealers have little to fear from the default of other dealers if they have correctly executed their CSAs and related operations. The greatest danger for dealers is the transactions with non-dealer counterparties they have in their portfolios with no CSA protection. The dealers trusted the credit quality of what were, at the time, highly rated entities. Over the past year, insurance companies such as FGIC, CIFG, XL, MBIA, Ambac and AIG have either proven incapable of honouring derivatives contracts or have teetered on the edge of insolvency.

Insupportable

The dealers would certainly have preferred to have CSAs in place with these insurance companies. But the insurance companies didn't want the CSAs. That's completely understandable from the insurers' perspective. Nobody likes posting collateral. Collateral posting is unpredictable and, furthermore, the bond insurance business model could not withstand liquidity shocks. Each dealer faced the choice of trading with insurance companies with no CSA (thereby bearing an unknown future credit risk) or not winning any derivatives business with these companies.

Dealers ploughed forward and executed numerous credit default swap trades referencing super-senior tranches of residential mortgage-backed security (RMBS) transactions with no CSAs. Individual trade sizes often exceeded \$100 million and aggregate trade sizes of some dealers with the insurance companies exceeded \$1 billion. CDS trades - like interest rate swaps - typically begin life with a valuation of zero. So there's no loss to the dealer if the counterparty defaults the next day. Unlike interest rate swaps, the CDS on super-senior RMBS tranches hold the potential to increase tremendously in value to more than 50% of the trade size. Thus, with the recent RMBS market debacle, some dealers found themselves with literally billions of dollars at risk to faltering insurance companies.

The credit departments of these dealers would never have authorised direct loans of billions of dollars to the financial insurance industry. But the complexity of the derivatives contracts landed them in the same place. A good portion of the total credit writedowns of the worldwide financial industry (now exceeding \$500 billion) arose from this derivatives counterparty credit risk.

Threat to the system

International banking regulators have pounded the drum for years, if not decades, warning of systemic risk. Avoidance of this systemic risk was the principal justification for most banking regulation. Regulators even singled out derivatives as a likely culprit in any future financial failure. Based on what we now see, the warnings appear prescient.

Ironically, the regulators may have been right for the wrong reason. Concern always centred on hedge funds (unregulated!) that executed derivatives trades with banks. The fear was that failure of a hedge fund would produce losses for its bank counterparty. This scenario never truly made sense since every bank enforces CSA agreements with hedge funds and is otherwise highly sceptical of hedge fund credit quality.

One regulatory sceptic observed seven years ago that no bank would ever take credit exposure to a counterparty in an amount that is any sizable fraction of the bank's capital. So how could the default of a counterparty bring down a bank?

Unfortunately, this excessive risk concentration is precisely what happened with some banks. (For example, when the US government agreed to lend to struggling insurance group AIG, the company drew down \$37 billion to pay to just two banks as collateral for derivatives transactions. This \$37 billion, a large share of the banks' equity, might have been lost had AIG declared bankruptcy.) Banks waived CSAs with seemingly strong insurance company counterparties and their credit exposures to these companies grew to billions of dollars.

That old sceptic also asked: "If regulators can prevent systemic collapse, are they behaving in a manner that will prevent systemic collapse?" Based only on how the past few years have played out, the short answer is no. There was no effective disincentive to executing derivatives transactions with huge potential credit exposure unprotected by CSAs (or protected only by ratings-based CSAs which proved illusory).

We should also add the clarification that the greatest actual and potential risk of systemic collapse arises when most banks take the same risks. The experience of the last two years is that many homeowners have not made their mortgage payments. Since the great majority of banks participated directly or indirectly in mortgage lending, the current collapse is due primarily to the shared appetite for mortgage risk.

Non-dealers

Wall Street dealers should not suffer significant derivatives credit losses with Lehman's bankruptcy. The dealers will take (or have taken) painful losses with counterparties such as insurance companies with which they had no CSAs. A final class to consider is that of non-dealer counterparties to Lehman (and any other dealer that may default) since the non-dealer clients are generally not protected by CSAs.

An industrial company that issued fixed rate debt and then converted this debt interest to floating rate with a Lehman interest rate swap is now in a potential loss position. Regardless of the loss amount, this former client is now without the derivatives agreement that hedges the risk position. Both the claim determination to submit to Lehman bankruptcy proceedings and the re-establishment of the correct derivatives hedge require significant and varied expertise. Other derivatives dealers will rush to fill this void. Such dealers have their own interests and firms will need to decide based on their understanding and experience whether they should seek independent advice.

Municipal clients are similar to corporate clients in that they executed derivatives contracts with dealers such as Lehman to reduce interest rate risk. A difference, though, is that such hedges were often contractually tied to specific municipal debt issuances. When such issuances are not general obligation (GO), there may be confusion surrounding how the underlying project can make a required termination payment (to the bankrupt Lehman) or how this project can re-establish or afford a replacement hedge under the bond documents. Further, it is our experience that municipalities often have, in the past, entered into what appear to be inappropriate hedges. The municipality should carefully match any new hedges to their risk management objectives.

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What are 'credit support annexes'?

Credit support annexes, or CSAs, specify that the party to a derivatives contract with a positive value will receive collateral from the counterparty for this amount on a weekly, and even daily, basis. Thus, if Party A's book of swaps with Party B is in-the-money by \$20 million, Party A will have \$20 million of collateral at hand should Party B declare bankruptcy tomorrow.

There are numerous essential details regarding CSAs that are relevant to this discussion. The concept of 'netting' allows the two parties to aggregate all derivatives trades between the two so that the posted collateral value is less than the simple sum due for each trade. The precise subsidiary that executes the derivatives transaction may vary for different types of trades and this variation will materially affect total collateral requirements. Finally, there may be a threshold amount such that one party will be willing to take some uncollateralised risk exposure to the other party. Such threshold amounts are small (typically less than \$10 million) relative to the total transaction sizes.

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