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Derivatives and Mass Financial Destruction

Complex financial products can be useful if regulated properly.

By **DARRELL DUFFIE**

Proposals for a makeover of the financial system include reform of the credit derivatives market, which offers over \$50 trillion of default insurance coverage. Do investors need that much insurance, or is this mainly a dangerous casino operating under the radar of regulators -- until a major financial institution like AIG needs a bailout? What sort of reform is needed?

The seller of protection in a credit derivatives contract receives premiums from the buyer of protection until maturity, or until default of the named borrower. Contracts are negotiated over the counter, not on an exchange, so it is difficult to know how much insurance exists on each borrower, or to know who has insured whom, and for how much.

That privacy is not unusual in the normal course of business contracts. What is unusual is the size of the potential claims. There is a public interest in knowing that systemically important sellers of protection have not overdone it. If a large bank or insurance company does not have enough capital to cover settlement claims, then its failure, or the threat of it, can cause mayhem, as we have just seen.

The largest credit derivatives positions are held by big-bank credit derivatives dealers. Because they intermediate between buyers and sellers, dealers often have nearly offsetting positions. For example, according to J.P. Morgan's latest quarterly report, it had bought protection coverage on \$5.2 trillion of debt principal, and sold protection on \$5 trillion. The vast quantity of outstanding derivatives in the global market is therefore not a good gauge of the effective amount of insurance offered.

Of the \$532 trillion notional amount of financial instruments covered by over-the-counter derivatives in June of this year -- including credit derivatives, interest-rate swaps and equity derivatives -- the International Swaps and Derivatives Association estimates potential exposures to counterparties of \$2.7 trillion. These exposures are further reduced by collateral held against the potential failure of counterparties.

Of roughly \$350 billion in credit derivative settlement claims that arose in Lehman's default, about \$6 billion in actual settlement payments were scheduled

for payment yesterday, after canceling offsetting claims. For illustration, suppose that Goldman Sachs had sold protection to the point that it owed \$7 billion in Lehman settlement claims, and had purchased protection on which it was owed \$7.5 billion. In this situation, Goldman would collect a net of \$0.5 billion, unless a counterparty fails to pay. Suppose that one of Goldman's counterparties, say a hedge fund, had failed to pay Goldman a \$100 million settlement claim. If Goldman had received the industry-average 65% collateralization from its counterparty, it would keep the collateral and be out \$35 million. Goldman could then pursue additional recoveries as a claimant in the hedge fund's bankruptcy. The Depository Trust & Clearing Corporation, which keeps records of the majority of credit derivatives trades and settlements, reported yesterday that there were no payment failures on scheduled Lehman credit derivative settlements.

So far, the credit derivatives settlement process has worked smoothly through several large defaults, but the safety of the settlement process could be improved significantly. Because dealers lay off such large positions with each other, a large fraction of their exposures is unnecessary. For example, suppose that Bank A is exposed to Bank B for \$1 billion, while B is exposed to C for \$1 billion, and C is exposed to A for \$1 billion, all on the same underlying named borrower. That circle of exposures is eliminated if all three banks clear their positions with the same central clearing counterparty. Because Bank A is long and short by the same amount, it would have no settlement payment to make or to receive from the clearing counterparty. Banks B and C would likewise have no potential loss. In practice, exposures would not be offset so neatly, but a large fraction of them would.

The Fed is pressing dealers to quickly establish clearing in credit derivatives. The dealers have expressed an interest in using their own clearing counterparty, the Chicago Clearing Corporation. Alternatively, they could clear credit derivatives with a new joint venture of the Chicago Mercantile Exchange and Citadel (a large hedge fund). Either way, regulators should ensure that a clearing counterparty is extremely well capitalized and has strong operational controls.

Unfortunately, the urgency to set up clearing for credit derivatives may lead us to miss the opportunity to reduce exposures even further by clearing credit derivatives along with other forms of over-the-counter derivatives, such as interest-rate swaps and equity derivatives, which represent similarly large amounts of risk transfer. Regulators should press dealers to clear more types of derivatives with the same clearing house.

That investors can benefit from a market for insurance against default risk does not seem controversial. The market premiums offered on credit derivatives also provide investors with "price discovery" of the financial health of corporations and sovereign states. (Although trading is private, samples of prices are disseminated by financial news services.)

There is a public interest in limiting the exposure of large, systemically important financial institutions, relative to their capital, whether from derivatives or from other forms of risk taking. We were supposed to have had

such limits, but they were not effective, and will presumably be revisited by regulators soon.

Regulators should also have access to more detailed information on the potential exposures of large financial players to each other. But general public disclosure of specific derivatives trades seems unnecessary in most cases, can lower incentives to invest efficiently, and runs counter to our norms for privacy. We do nothing like this in other financial markets, such as those for common stocks, except when positions are large enough to suggest the potential control of public corporations. (Derivatives do not carry control rights.)

Public disclosure can nevertheless be a good disinfectant whenever sufficiently severe conflicts of interest lead to inefficient control of risk (moral hazard) or to unfair exploitation of counterparties. If a lender can largely insure itself against its borrower's default, it has lessened its interest in the financial health of the borrower, and may neglect to monitor the borrower. Default losses to the lender would be passed on to credit derivatives counterparties, who may not be aware of the conflict of interest.

When unconstrained by good regulations, derivatives can be financial weapons of mass destruction. Our new regulations should be smart and surgical.

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