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US Economics

Credit Derivatives: Benefits and Risks

What's New: The credit derivatives market is booming because it meets broad needs and carries well-known benefits. These innovations have improved market efficiency and financial stability. But that very stability may have increased risk taking and leverage, creating the fuel for future shocks to menace financial stability. While shocks may be less frequent, this new financial architecture may make them larger.

Conclusions: Market participants and their overseers should measure and manage counterparty risks, correlations, concentration and liquidity. In combination, for example, ebbing liquidity and hidden concentration risks could turn idiosyncratic credit shocks into systemic problems. Building strong financial “shock absorbers” like those discussed in the CRMPG II report is a key element for ensuring financial stability.

Market Implications and Risks: Credit spreads are tight by historical standards, but fundamentals are still highly favorable. Thus, it is hard to make the case that credit risks are wildly mispriced. But it is also difficult to distinguish between the secular and cyclical forces contributing to tight credit spreads. We won't know for some time whether the trend toward increased leverage is excessive, but in my view, it's not in the price.

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Credit Derivatives: Benefits and Risks

The Federal Reserve Bank of Atlanta held a conference this week to ask academics, market participants, regulators, and central bankers to consider where are the risks in using credit derivatives. I discussed a paper entitled "Credit Derivatives, Macro Risks and Systemic Risks" by Tim Weithers of the University of Chicago. My edited comments follow.

Credit derivatives are one of the most important financial innovations of the last decade, and I thank the Atlanta Fed for sponsoring this conference to explore their considerable benefits and potential macro and systemic risks. Coming from one of the large, complex financial institutions participating in the CRMPG II process under Jerry Corrigan's leadership, we agree that building strong shock absorbers in the financial system is essential to guard against the risk of financial shocks.

Congratulations to Tim Weithers for admirably framing the tension between those benefits and risks.

The credit derivatives market is booming because it meets broad needs and carries well-known benefits. Some benefits are microeconomic:

- Credit derivatives enable lenders and investors better to take credit risks they want and to lay off the ones they don't want.
- Using them, we can price risk more precisely by separating credit from other risks.
- They improve the intermediation process by enhancing market liquidity, efficiency and completeness.

There are also important macro benefits.

- They may diffuse credit risks across markets and may tend to reduce risk concentration by putting such risks in the hands of those who want and are better equipped to hold them.
- This evolving structure acts as a set of financial shock absorbers for the economy, making financial infrastructure more resilient than in the past.

More broadly, the growth of the credit derivatives market appears to have created a virtuous circle of macroeconomic and financial stability. As an observer of markets and a market participant, I believe that these financial innovations have

contributed to favorable financial conditions and thus to strong global growth. In turn, that stable macro environment has legitimately increased risk appetite and willingness to embrace leverage.

But some of the same factors that carry those benefits also create risks.

- Many market participants believe that they can now lay off credit risk at will. So armed, they may thus increase leverage and risk taking.
- Investors have tested credit derivatives in past credit cycles, like the TMT bust of 2001-02 and the WorldCom/Enron scandals of 2002. But new instruments appear constantly. Those associated with the leveraged loan market are untested.
- Credit derivatives' *availability* to manage risk depends on markets staying relatively liquid even in periods of stress.
- Credit derivatives may not always channel risk to those who best understand and are best equipped to manage it.
- The diffusion of credit risk outside of traditional banking institutions makes it more difficult to oversee.
- And there is the nagging question of moral hazard: That the authorities appear to have sanctioned the extra risk taking that accompanies this innovation may create the perception among some investors that central banks will step in to bail them out of big shocks.

Of course, context inevitably colors our weighing of these benefits and risks. Consider the buoyancy of today's credit-market and macroeconomic setting:

Credit spreads are tight by historical standards, and investors are only beginning to discriminate among rungs of the credit ladder. Small wonder: Profit growth is slowing but the returns on invested capital and margins are at record levels. Corporate balance sheets are flush with cash, and by most metrics, aggregate credit quality is pristine. And in contrast with rising subprime mortgage defaults, high-yield default rates are at record lows—less than 1%. Global growth is in the midst of an unprecedented five-year boom, and macro or "funding" liquidity

is outstripping global GDP. Massive and rapidly growing pools of capital in OPEC and Asian countries are contributing.

Against this favorable backdrop, it is hard to make the case that credit risks are wildly mispriced. And it is thus difficult to distinguish between the two sets of forces contributing to tight credit spreads.

- One is the potential *secular* contributions of the growth of structured credit and credit derivatives to market efficiency and risk perceptions.
- The other set includes the *cyclical* benefits from an unprecedented golden era for credit quality and an equally unprecedented period of abundant global liquidity — each of which may now be ending.

To disentangle those factors from each other, Tim Weithers asks three macro questions:

1. Do credit derivatives promote lax lending and excessive leverage? Tim says probably not. I'm less sure. It may be sheer coincidence, but the explosion in credit derivatives has coincided with a boom in leverage. Corporate America is leveraging up with a record boom in privatizations, buyouts, and buybacks. To be sure, CFOs are leveraging up the capital structure from a position of balance-sheet strength, but many companies will emerge from this process with significantly higher leverage. For their part, investors are feeling exposed to the credit events represented by privatization and the "covenant-light" structure of today's deals. That has distorted market pricing and disconnected credit ratings from credit risk. As result, investors are willing to move down the ratings spectrum but higher in seniority to get protection from LBO risk. Empirical work supports the connection between credit derivatives and leverage. Ashcraft and Santos at the New York Fed tentatively find some evidence that structuring tightens spreads, and significant evidence that issuing CDS seems to enable borrowers more readily to lever up (see Adam Ashcraft and Joao Santos, "Has the Development of the Structured Credit Market Affected the Cost of Corporate Debt?" October 29, 2006). We won't know for some time whether this increased leverage is excessive. But in my view, it's not in the price.
2. Do credit derivatives promote credit contagion? Tim and I agree that's not likely. Credit events themselves will likely be the trigger for dislocations. But the

embedded leverage in credit derivatives is difficult to measure and stress test, so an unwinding of credit risk exposure by leveraged counterparties will, in Tim's words, "test these products, contracts, markets and institutions."

3. Do credit derivatives help stabilize the financial system? Tim's answer is a highly qualified yes. He is concerned that insurance companies are significant net sellers of credit derivatives. And these sellers may lack the financial strength or risk management talent or both to absorb the widespread financial distress that a broader run of credit events could trigger. I share that concern.

These answers aren't definitive. But they suggest that the growth of structured credit/credit derivatives may have contributed to a narrowing of credit spreads. Then again, even if we accept the proposition that the benefits of credit derivatives have been net positive in the past, I don't think we have enough identifying restrictions to predict future outcomes. The problem for investors and risk managers, of course, is one of changing structure: We just don't know whether any apparent secular improvement will hold up in the credit cycle to come.

To examine the resilience of this new financial architecture to shocks that potentially might propagate systemic risk, Tim and I agree that one must explore carefully four other important issues. Each has both micro and macro dimensions. All require more serious work by the people in this room and others.

1. *Counterparty risks*: Diffusion of risks — a benefit of credit derivatives — also increases the complexity and potentially the opacity of the intermediation process. For example, do hedge funds that use credit derivatives create unknowable counterparty risk? Answer: Possibly, but in the aggregate hedge funds are relatively balanced on net between being short and long protection. Of course, that may not apply to individual funds or groups of funds. Do lenders/prime brokers/hedge funds generally know their counterparty risks? What matters is materiality: Conducting regular, detailed analyses of their top counterparties will help risk managers understand where the risks lie.

2. *Correlations*: Does state-of-the-art credit modeling allow us accurately to predict credit events? Or even more important, the causality or even correlations among them? Of course not, nor will it ever. There is no substitute for the judgment of seasoned risk managers. Our confidence that model-based

correlations are reasonable guides to the future depends on markets staying liquid and the models being approximately "correct." Despite their limitations, however, appropriately maintained, back-tested and calibrated models can be useful inputs to a disciplined risk management process. We must also recognize that in a low-volatility world, the history of five years ago involving say, a 3-sigma event, may be inadequate to characterize future shocks. Maybe shocks will be less frequent (that is, the distribution of tail events could be even more leptokurtotic than you think), but they could be 5-sigma events.

3. *Concentration*: Do credit derivatives create the potential for unknown concentration risks to emerge in the form of crowded trades? The answer is a resounding yes. So long as markets remain liquid, however, crowded trades may threaten income but not likely the solvency of any important group of institutions. Nonetheless, it is a fact that there are today a relatively small number of very large and complex institutions at the core of the global financial system. And the recent accelerated pace of ever-larger combinations should be viewed as a challenge to the notion that all risk is evenly diffused throughout the financial system.

4. *Liquidity*: At some point, the funding liquidity I described earlier will dwindle. And the tension point may not be in developed-economy central banks. Like many other things these days, the next liquidity cycle may be made in China. When funding liquidity ebbs, my guess is that transactional liquidity will also dry up somewhat, and that will push up volatility and widen spreads. And the combination of ebbing liquidity and hidden concentration risks could turn idiosyncratic credit shocks into systemic problems.

Let me conclude with two final concerns.

The first is the hardest: Capital. Tim Geithner and I agree that adequate capital is a critical financial shock absorber (see his "Liquidity Risk and the Global Economy," May 15, 2007). But how do we know how much is enough? In Basel II, we base capital requirements on risk buckets, and for large institutions, those are based on sober assessments of the strength of the underlying collateral. But for smaller institutions, the risk buckets are defined by rating agencies. If the raters implicitly bless structured credit with ratings that are too high, will supervised institutions under Basel II hold too little capital?

The second may be easier: Recoveries. For investors/lenders, the ultimate loss in the event of default depends on the recovery rate. The combinations of easier access to credit, more risk taking, the growing use of "covenant-light" structures,

and less monitoring of changes to creditworthiness likely means that even if the origination process is sound, recoveries may fall short of past norms.

The good news is that we market participants now separately price and trade recoveries just like credit. This market is immature, involves only a few names, and lacks liquidity, but it is evolving rapidly: It began in 2005 with "recovery locks." Today investors can now use zero-recovery CDS on indexes, and fixed-recovery tranches. So the risk manager has benchmarks against which to judge performance and a way to buy protection as a compass in an uncertain environment. That's a real benefit in today's credit world, even if we still don't quite know where is true North.

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