Risky Business

Have recent innovations in credit markets made the financial system safer or riskier?

BY VANESSA SUMO

In his annual letter to shareholders five years ago, Warren Buffett made clear what he thought of derivatives: "financial weapons of mass destruction," he famously called them. Derivatives are financial instruments that allow investors to put down relatively little money in taking bets on the future value of an underlying asset. Critics say that these instruments make it too easy for speculators to take excessive risks. Buffett pointed to the experience of Long Term Capital Management, the hedge fund whose derivative-heavy investment strategy backfired in 1998 and prompted a $3.5 billion bailout to maintain stability in the financial markets.

But despite this cautionary view, the market for credit derivatives and other credit market innovations has been rapidly expanding in recent years. The volume of outstanding credit derivatives soared to $34 trillion in 2006 compared with less than $1 trillion just five years earlier, according to the International Swaps and Derivatives Association. Securitization and single-name credit default swaps, once exotic names, are now just plain vanilla. More sophisticated structures are entering the market, offering investors new risk and return opportunities.

These innovations have created new ways to distribute credit risk, or the risk of default on a bond or a loan, to a broader set of market players. Strong demand from investors means that lenders are better able to offload and manage risk, which ultimately frees up more capital and funding. Consequently, borrowers benefit by having more credit available at better prices.

Recent events have raised questions about whether financial innovations have gone too far. This summer's financial market turbulence, with the wobbly subprime mortgage market at its center, has burned many investors. The discussion on whether new financial devices have made the system more stable or, as Buffett sees them, "time bombs" which carry dangers that are "potentially lethal," persists as strong as ever.

Earlier this year, some of the leading experts on credit market innovations gathered in Charlotte, N.C., to weigh in on this question. (All the views and comments in this article came from participants during the event, which happened in March.) Overall, credit market innovations should help make the financial system more efficient and more resilient, said New York Fed President Timothy Geithner at the symposium, which was hosted by the Federal Reserve Bank of Richmond. But Geithner is part of the prevailing economic view that certain characteristics of this wave of innovation — its complexity and the market-based nature of credit — require attention. So even as bankers, asset managers, risk managers, and policymakers gathered at the symposium to extol the virtues of this new financial order, they also aimed to address the challenges that have come with remarkable growth in credit markets.

Deeper Markets

Credit market innovations have dramatically changed the way that banks do business. "I would say business has changed for the better," says Donald Truslow, chief risk officer at Wachovia Corp. "[These innovations] have allowed us to be much more effective risk managers ... and [to have] many more tools for helping to balance the risk-reward equation in our institution than we used to have."

For instance, banks have benefited tremendously from the emergence of credit derivatives. They now have a feasible way to hedge against the risk that a borrower will default, and also a better way to diversify or avoid huge concentrations of one type of exposure in their portfolios. Instead of "originating" loans and then holding on to the risk that borrowers won't repay, banks today can lend money and then transfer that credit exposure to others through the capital markets. By "isolating" the risk of default and then selling this risk to investors who are willing to hold it, credit risk becomes a tradable asset.

The most widely used credit derivative, the credit default swap, helps illustrate this process. It is a contract that transfers the risk of default from the protection *buyer* (the bank) to the protection *seller* (the counterparty). The bank pays a premium for this protection and the seller of the credit default swap agrees to compensate the bank in the event that the borrowing company cannot or is unwilling to pay its loan. Alternatively, banks may wish to *sell* protection in order to gain exposure to other types of borrowers and further diversify their portfolios.

But the most dynamic area in credit markets in recent years comes from an impressive array of alphabet soup structures that slice, dice, and distribute credit risk. One

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such type of instrument is called a "synthetic" collateralized debt obligation. Traditional collateralized debt obligations involve the transfer of loans to a "special purpose vehicle," which is responsible for bundling and repackaging a bunch of these loans and then issuing them in groups, or "tranches," with different levels of seniority that determine the order of repayment. However, many loans have confidentiality clauses and transfer restrictions, which makes it difficult for banks to set up this type of credit structure. But with the widespread use of credit default swaps, banks can now replicate this arrangement by pooling together swaps instead of loans.

Such instruments target different investors by giving them the opportunity to invest in or sell protection on a particular tranche or slice of losses in the event that companies in that portfolio default. For instance, an investor could agree to compensate a protection buyer on the first 3 percent to 7 percent of losses of a portfolio. Other investors can take a slice of the remaining exposure, depending on their appetite for risk. Some investors may be willing to take on more risk in exchange for higher returns. Equity tranches are the riskiest and the first to absorb losses. These are sometimes called "toxic waste" because of their high exposure to risk. But separating this exposure also allows the creation of senior tranches that earn AAA credit ratings. It should be noted that, in the context of mortgage-related securities, some observers have recently questioned the accuracy of credit ratings on complex financial instruments.

A wide range of instruments with varying risk and return opportunities means that there is potentially something to satisfy every taste, thus encouraging more players to participate in the market. The more participants there are, the easier it will be to buy and sell these credit instruments at prices that everyone can see, which in turn attracts more investors. Ultimately, credit risks are spread out to those who are better suited to hold or trade these risks, which should make financial markets less volatile. "On its face, a wider dispersion of credit risk would seem to enhance the stability of the financial system by reducing the likelihood that credit defaults will weaken any one financial institution or class of financial institutions," says Fed Board Governor Randall Kroszner.

The consequences of these new instruments may be too early to assess, but the experience with earlier vintages offers some evidence that credit market innovations have made financial markets more stable. For instance, the U.S. financial system was able to absorb the substantial scale of corporate defaults that peaked in 2002, Geithner says. He added that there hasn't been strong empirical support that derivatives increase volatility in financial markets, nor has credit market innovation so far resulted in a large increase in leverage in the corporate sector.

Credit market innovation may also smooth credit cycles — the ups and downs of the volume of credit extended to companies. Before credit derivatives were traded, banks adjusted their supply of credit mostly in response to their own loan review process, which came with significant lags to actual turns in the credit cycle. But with a growing credit derivatives market, the price and quality of credit has become more transparent, such that banks may be better able to anticipate and manage the effects of the turns in the credit cycle, according to the 2006 International Monetary Fund (IMF) Global Financial Stability Report. This allows them to act on price signals sooner and adjust their credit portfolios in a more gradual manner, thus creating less volatility in credit supply.

Mark Carey, an economist at the Fed's Board of Governors, is optimistic about less cyclicality in credit supply. "It's been my observation that a crunch happens when people start to feel that they don't understand what's happening, and there's more knowledge of credit risk now than there was 10, 20, 30 years ago," Carey says. "Even though there are more complicated products, and certainly in the next downturn some sellers of credit protection are going to get wiped out, as long as understanding continues to grow, the market will function very efficiently."

The Risk of Spreading Risk

Credit market innovations can promote financial stability by spreading out the potential pain of a market disruption. However, there is a concern that the same process that allows more participants to carry and trade risk also gives them the opportunity to accumulate a lot of it. In other words, there may be more hands to pass the risk around, but that risk could still be concentrated in the hands of a few.

Hence, diversity, in terms of the type of participants, their strategies, and the factors that influence their behavior, significantly determines the liquidity of the credit risk transfer market, says Todd Groome, an economist at the IMF. Liquidity, or the relative ease with which a buyer and seller can trade, is especially important in times of financial stress, in order to ensure that a rapid reshuffling of assets does not trigger a sharp change in market prices. "If I look around in the market and everybody looks like me, then that's not a good thing," Groome says. "They're likely to be influenced for the same reasons that I'm influenced to seek liquidity at the same times."

Nonbank financial institutions have been much more active in credit markets in recent years. This has enhanced the "transferability," or the liquidity, of credit risk in the *primary* market; that is, the ability of banks to find a willing buyer for the credit risk on their balance sheets. Once that risk has been sold, the relevant question becomes, are there enough buyers and sellers out there in the *secondary* market to keep financial markets steady in the event of a disruption?

Investors with longer-term horizons such as insurance companies, pension funds, and mutual funds may be looking to buy credit risk to satisfy their asset-liability manage-

ment objectives but not necessarily trade it. What this implies, according to Groome, is that the private sector response to market disruptions increasingly is tied to one group of investors: the hedge fund community.

Hedge funds typically invest amounts well in excess of their capital base on complex trading techniques and instruments, in pursuit of high returns promised to wealthy clients. They are not subject to the same regulations as many other financial market players. There is a concern about hedge funds using a lot of leverage and investing in instruments that themselves can be highly leveraged, like derivatives. But because of the nature of their strategies, hedge funds are very active in the credit market. "The nimble investor out there, the guy looking for relative value is really centered in the hedge fund community ... they're the ones buying distressed institutions, buying portfolios, and providing lines of credit," says Groome.

This invites the question: How diverse is the hedge fund community? That may be a difficult one to answer, although a recent experience can provide some perspective. In May 2005, debt downgrades of some automakers caused a painful period of turmoil in the credit derivatives market. Some hedge funds closed as a result. But according to the IMF, that disruption was relatively limited and short-lived, primarily because other hedge funds with diverse investment strategies and sufficient capital thought that those credit instruments were a bargain. "[Hedge funds] could lean against the market and within three to four days of the major downdraft provide important stabilizing liquidity," says Groome.

But with the growing role of hedge funds in credit markets, Kroszner thinks that banks which trade with and lend to hedge funds must ask whether they "have enough collateral to protect them against a stress scenario that goes well beyond the recent benign experience in credit markets." Large losses to hedge funds can threaten financial stability by severely affecting banks that are at the core of the financial system. Prime brokers, for instance, are typically large globally active investment banks that provide leverage and issue credit lines to hedge funds, along with the business of consolidating a hedge fund's trades with several dealers. A crucial part of the structure rests on these core institutions that act as gatekeepers to the broader financial system.

Thus, in times of stress, how much of a shock absorber can these banks be? Effective risk management is key. "The important thing is to understand the risks that are in your book," says Thomas Daula, chief risk officer of investment bank Morgan Stanley.

Adam Gilbert, managing director of risk management services at JPMorgan, another investment bank, thinks that stronger liquidity management and capital practices have put financial institutions in a position to be that shock absorber. "The extent to which one might do that in any particular circumstance will be a function of the environment at that time, but we think about potential problems or disruptions in an opportunistic way rather than trying to head for the door," says Gilbert.

The difficulty of managing these risks is exacerbated by the complexity and short history of these new credit instruments. Investors take positions based on what they think will happen in the future, taking into account certain risks and scenarios. But because there may be behaviors and relationships that they do not yet understand, even the most sophisticated investor will be vulnerable to unanticipated losses.

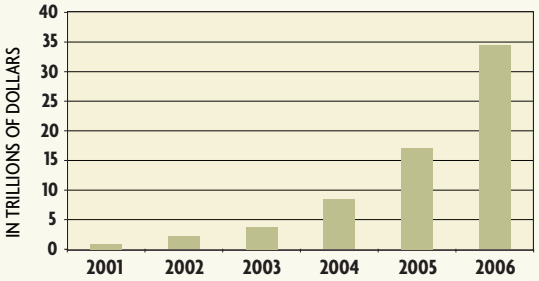
There is also concern that transferring risks may have created incentives for financial institutions to overextend credit and assume excessive credit risk. If the credit risks attached to a loan or a bond can be sold off relatively easily, then it may not matter much to the lender whether the borrower eventually pays up. The recent travails in the subprime mortgage market and the relaxation of credit standards there come to mind.

But there are signs that credit standards on the corporate side may have loosened as well. The concerns are naturally coming from investors of these instruments, such as hedge funds. Samuel Cole, chief operating officer of BlueMountain Capital, a New York-based hedge fund, thinks that the deals the market was seeing earlier this year are different from the ones of just a few years ago, that there has been "a steady deterioration of credit quality."

The volume of leveraged loans (those issued by companies with a lower credit quality) with few financial covenants attached, have been setting records and were absorbed by the market "with hardly a speed bump," according to a January 2007 report by Standard and Poor's, a rating agency. The reason for this strong supply was the robust demand for collateralized loan obligations, which quickly repackage these loans and sell them to investors like hedge funds. (A collateralized *loan* obligation is a type of collateralized *debt* obligation that consists of corporate loan exposures.) However, this market is now showing signs of slowing down.

Boom

The volume of credit derivatives has doubled almost every year since 2001.



NOTE: Notional amounts outstanding of credit default swaps at the end of each year.
SOURCE: International Swaps and Derivatives Association, Inc.

Of course, the ease of selling risk does not by itself cause credit standards to weaken as long as the risk is priced appropriately. Thus, there would be a cause for worry if there is a reason to think that the price is not right.

The Role of Policy

Critics are concerned about the transfer of credit risk outside the banking system. They argue that because these market participants are subject to less regulation and supervision, they are not as effective as banks at managing risks. However, Kroszner thinks that unlike banks which have a "safety net" to support them, lightly regulated entities are subject to more market discipline because their creditors "have stronger incentives to monitor and limit their risk-taking."

Still, many have asked policymakers to regulate this new financial order, from its exotic instruments to the financial institutions that use them such as hedge funds. However, while it may be easy in hindsight to identify financial market mistakes, Richmond Fed president Jeff Lacker says that it is important for policymakers "to guard against Monday morning quarterbacking" and easily concluding that judgments made by financial markets were suspect or flawed. Markets should be assessed on whether they made the right decisions at the time that those decisions were being made, which is not an easy thing to do.

Although financial markets may not get things right all the time, it is difficult for policymakers to assess where the stops should be placed without running the risk of disrupting the flow of the market and, in the process, unintentionally inflicting more harm than good. Thus, financial markets may be better arbiters of whether prices of assets reflect their fundamental values and of seizing opportunities during market disruptions.

But policymakers can still play an important role in mitigating the risks that come with credit market innovation. Although they may not have the capacity to monitor risk concentrations outside the banking system, policymakers can help strengthen the core financial institutions, the shock absorbers of the system, by continuing to make sure that they have the capital and liquidity to survive shocks. The stronger these core firms are, "the more resilient markets will be in the face of future shocks, and the more confident we can be that banks will be a source of strength and of liquidity to markets in periods of stress," says Geithner. Policymakers can also help strengthen these core firms by sometimes taking the lead when a collective action by market participants is deemed necessary.

When the Counterparty Risk Management Group II, a group of private-sector market participants, called attention to the mounting backlog of unconfirmed trades in the credit derivatives market, the New York Fed invited the 14 leading dealers in the market to a meeting, urging them to resolve these backlogs. Delays in confirming trades can undermine investor confidence if they jeopardize the enforceability of trades and if errors in recording these transactions lead to incorrect measurement and mismanagement of market risks and counterparty credit risks. The "Fed 14" has so far been successful in their efforts. Kroszner said that between September 2005 and December 2006, the number of confirmations outstanding for more than 30 days fell by 92 percent, a remarkable achievement considering the rapid growth in trading volume in credit derivatives.

But such infrastructure and other efforts to manage the risks presented by these new credit instruments, while laudable, remain untested for a severe downturn. This makes the question of whether the financial system has become safer or riskier a difficult one to answer. Indeed, these credit instruments have been flourishing in a generally benign and supportive macroeconomic environment with strong global economic growth, low and stable inflation, and healthy corporate balance sheets. The rather tumultuous period that the financial market finds itself in today may be its toughest test so far.

Credit market innovations may make shocks to the financial system less frequent, but they could also make the system more sensitive to a big shock. In this way, Buffet's "time bomb" view may be right. But market participants seem to understand that the task at hand is to find ways to defuse that bomb, to mitigate that violent shock should it occur. The threat of the bad constantly reminds that in order to fully reap the benefits of these innovations, market participants and policymakers must respond to the challenges that accompany them. RF

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