Everything You Wanted to Know about Credit Default Swaps--but Were Never Told

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Credit default swaps (CDSs) have been identified in media accounts and by various commentators as sources of risk for the institutions that use them, as potential contributors to systemic risk, and as the underlying reason for the bailouts of Bear Stearns and AIG. These assessments are seriously wide of the mark. They seem to reflect a misunderstanding of how CDSs work and how they contribute to risk management by banks and other intermediaries. In addition, the vigorous market that currently exists for CDSs is a significant source of market-based judgments on the credit conditions of large numbers of companies--information that is not publicly available anywhere else. Although the CDS market can be improved, excessive restrictions on it would create considerably more risk than it would eliminate.

There are so many potential culprits in the current financial crisis that it is difficult to keep them all straight or to assess their relative culpability. Greedy investment banks, incompetent rating agencies, predatory lenders and mortgage brokers--even the entire system of asset securitization--have all been blamed for the current condition of the financial markets. The oddest target, however, is CDSs. Almost every media report and commentary about the collapse of Lehman Brothers in September and the ensuing freeze in the credit markets mentions CDSs as one of the contributing causes, just as similar reports and commentary accompanied the government's decision to rescue Bear Stearns in March and AIG in September. One conventional explanation for the Bear rescue has been that CDSs made the financial markets highly "interconnected." It is in the nature of credit markets to be interconnected, however: that is the way money moves from where it is less useful to where it is most useful, and that is why financial institutions are called "intermediaries." Moreover, there is very little evidence that Bear was bailed out because of its involvement with CDSs--and some good evidence to refute that idea. First, if the government rescued Bear because of CDSs, why did it not also rescue Lehman? If the Treasury Department and the Federal Reserve really believed that Bear had to be rescued because the market was interconnected through CDSs, they would never have allowed Lehman--a much bigger player in CDSs than Bear--to fail. In addition, although Lehman was a major dealer in CDSs--and a borrower on which many CDSs had been written--when it failed there was no discernible effect on its counterparties. Within a month after the Lehman bankruptcy, the swaps in which Lehman was an intermediary dealer were settled bilaterally, and the swaps written on Lehman itself ($72 billion notionally) were settled by the Depository Trust and Clearing Corporation (DTCC). The settlement was completed without incident, with a total cash exchange among all counterparties of $5.2 billion. There is no indication that the Lehman failure caused any systemic risk arising out of its CDS obligations--either as one of the major CDS dealers or as a failed company on which $72 billion in notional CDSs had been written.

Nevertheless, Securities and Exchange Commission (SEC) chairman Christopher Cox was quoted in a recent Washington Post series as telling an SEC roundtable: "The regulatory black hole for credit-default swaps is one of the most significant issues we are confronting in the current credit crisis . . . and requires immediate legislative action. . . . The over-the-counter credit-default swaps market has drawn the world's major financial institutions and others into a tangled web of interconnections where the failure of any one institution might jeopardize the entire financial system." Readers of this Outlook should judge for themselves whether this is even a remotely accurate portrayal of the dangers posed by CDSs.1

The fact that AIG was rescued almost immediately after Lehman's failure led once again to speculation that AIG had written a lot of CDS protection on Lehman and had to be bailed out for that reason. When the DTCC Lehman settlement was completed, however, AIG had to pay only $6.2 million on its Lehman exposure--a rounding error for this huge company. As outlined in a recent Washington Post series on credit risk and discussed below, AIG's exposure was not due to Lehman's failure but rather the result of the use (or misuse) of a credit model that failed to take account of all the risks the firm was taking.2 It is worth mentioning here that faulty credit evaluation on mortgage-backed securities (MBS) and collateralized debt obligations (CDOs) have also been the cause of huge losses to commercial and investment banks. As I argue in this Outlook, there is no substantial difference between making a loan (or buying a portfolio of MBS) and writing protection on any of these assets through a CDS. Faulty credit evaluation in either case will result in losses.

If CDSs did not trigger the rescue of Bear and AIG, what did? The most plausible explanation is that in March, when Bear was about to fail, the international financial markets were very fragile. There was substantial doubt among investors and counterparties about the financial stability and even the solvency of many of the world's major financial institutions. It is likely that the government officials who decided to rescue Bear believed that if a major player like Bear were allowed to fail, there would be a run on other institutions. As Fed chairman Ben Bernanke said at the time, "Under more robust conditions, we might have come to a different decision about Bear Stearns."3 When the markets are in panic mode, every investor and counterparty is on a hair-trigger alert because the first one out the door is likely to be repaid in full while the latecomers will suffer losses. The failure of a large company like Bear in that moblike environment can be responsible for a rush to quality; in a normal market, there would have been a much more muted reaction. For example, when Drexel Burnham failed in 1990, there was nothing like the worldwide shock that ensued after Lehman's collapse, although Drexel was as large a factor in the market at that time as Lehman was before its failure.

After the Lehman bankruptcy, there was a market reaction much like what would have happened if Bear had failed. The markets froze, overnight interbank lending spreads went straight north, and banks stopped lending to one another. In these circumstances, the rescue of AIG was inevitable, although it is likely that the company would have been allowed to fail if the reaction to the Lehman failure had not been so shocking. The Fed's statement on its rescue of AIG pointed to the conditions in the market--not to CDSs or other derivatives--as the reason for its actions: "The Board determined that, in current circumstances, a disorderly failure of AIG

could add to already significant levels of financial market fragility and lead to substantially higher borrowing costs, reduced household wealth, and materially weaker economic performance."4 Indeed, the sensitivity of the markets and the government in September is shown by the reaction of the Treasury and the Fed when the Reserve Fund, a money market mutual fund, "broke the buck"--that is, allowed the value of a share to fall below one dollar. The fund had apparently invested heavily in Lehman commercial paper and thus suffered a loss that the manager could not cover. Treasury moved immediately to guarantee the value of money market fund shares, apparently on fear that the Reserve Fund's losses would trigger a run on all money market funds. Needless to say, money market funds are not "interconnected." The Treasury's action in backing money market mutual funds after Lehman's failure was another response to the market's panic.

So, if CDSs are not responsible for the financial crisis or the need to rescue financial companies, why are they so distrusted? Some observers may simply be drawing a causal connection between the current financial crisis and something new in the financial firmament that they do not fully understand. Misleading references to the large "notional amount" of CDSs outstanding have not helped. This Outlook will outline how CDSs work and explain their value both as risk management devices and market-based sources of credit assessments. It will then review the main complaints about CDSs and explain that most of them are grossly overblown or simply wrong. Improvements can certainly be made in the CDS market, but the current war on this valuable financial innovation makes no sense.

How Credit Default Swaps Work

Figure 1 shows a series of simple CDS transactions. Bank B has bought a $10 million bond from company A, which in CDS parlance is known as "the reference entity." B now has exposure to A. If B does not want to keep this risk--perhaps it believes A's prospects are declining, or perhaps B wants to diversify its assets--it has two choices: sell the bond or transfer the credit risk. For a variety of tax and other reasons, B does not want to sell the bond, but it is able to eliminate most or all of the credit risk of A by entering a CDS. A CDS is nothing more than a contract in which one party (the protection seller) agrees to reimburse another party (the protection buyer) against a default on a financial obligation by a third party (the reference entity). In figure 1, the reference entity is A, the protection buyer is B and the protection seller is C. Although figure 1 shows B purchasing protection against its entire loan to A, it is important to note that B also could have purchased protection for a portion of the principal amount of the $10 million bond. The amount of protection that B purchases is called the "notional amount."

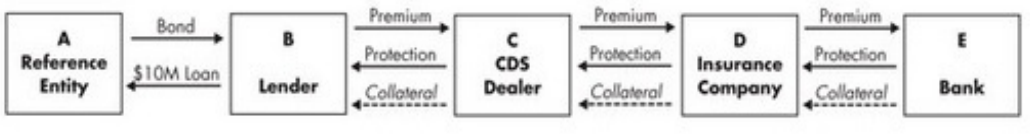
The CDS market is a dealer market, so transactions take place through dealers, over the counter rather than on an exchange. Accordingly, in purchasing protection against A's default, B's swap is with C, a dealer--one of many, including the world's leading banks, that operate in this market. The structure of the CDS is simple. C agrees to pay $10 million (or whatever notional amount the parties negotiate) if A defaults, and B agrees to make an annual premium

payment (usually paid quarterly) to C. The size of this payment or premium will reflect the risk that C believes it is assuming in protecting B against A's default. If A is a good credit, the premium will be small, and correspondingly the premium would be larger when the market perceives greater credit risk in A. Under the typical CDS contract, B is entitled to request collateral from C in order to assure C's performance. As a dealer, C generally aims to keep a matched book. For every risk it takes on, it typically acquires an offsetting hedge. So C enters a CDS with D, and D posts collateral. The transfer of B's risk to C and then to D (and occasionally from D to E and so on) is often described by many CDS critics as a "daisy chain" of obligations, but this description is misleading. Each transaction between counterparties in figure 1 is a separate transaction, so B can look only to C if A defaults, and C must look to D. B will not usually deal directly with E. However, there are now services, such as those of a firm called Trioptima, that are engaged in "compressing" this string of transactions so that the intermediate obligations are "torn up." This reduces outstandings and counterparty risk.

Does this hypothetical string of transactions create any significant new risks that go beyond the risk created when B made its loan to A? In the transaction outlined in figure 1, each of the parties in the chain has two distinct risks--that its counterparty will be unable to perform its obligation either before or after A defaults. If C becomes bankrupt before A defaults, B will have to find a new protection seller; if C defaults after A defaults, B will lose the protection that it sought from the swap. The same is true for C and D if their respective counterparties default. In the CDS market, in which premiums are negotiated based on current views of the risk of A's default, the premium--also known as the spread--for new protection against A's default could be more costly for B, C, and D than the original premium negotiated. Although this might mean a potential loss to any of these parties, it is likely--if the risk of a default by A has been increasing--that the seller of protection will have posted collateral so that each buyer will be able to reimburse itself for the additional premium cost for a new CDS.

It is important at this point to understand how the collateral process works. Either the buyer or the seller in a CDS transaction may be "in the money" at any point--that is, the CDS spread, which is moving with market judgments, may be rising or falling, depending on the market's judgment of the reference entity's credit. At the moment the CDS transaction was entered, the buyer and seller were even, but if the credit of the reference entity begins to decline, the CDS spread will rise, and at that point the buyer is "in the money"--it is paying a lower premium than the risk would warrant. Depending on the terms of the original agreement, the seller then may have to post collateral--or more collateral. But if the reference entity's credit improves--say, its business prospects are better--then the CDS spread will fall and the seller is in the money. In this case, the buyer may have to put up collateral to ensure that it will

FIGURE 1: HOW CREDIT DEFAULT SWAPS OPERATE



SOURCE: Peter J. Wallison.

continue to make the premium payments.

What happens if A defaults? Assuming that there are no other defaults among the parties in figure 1, there is a settlement among the parties, in which E is the ultimate obligor (conceptually, C has paid B, D has paid C, and E has paid D. But if E defaults, D becomes the ultimate payer, and if D defaults, C ends up holding the bag. Of course, D then would have a claim against E or E's bankrupt estate, and the same for C if D defaults. Critics of CDSs argue that this "daisy chain" is an example of interconnections created by CDSs that might in turn create systemic risk as each member of the string of transactions defaults because of the new liability it must assume. But this analysis is superficial. If CDSs did not exist, B would suffer the loss associated with A's default, and there is no reason to believe that the loss would stop with B. B is undoubtedly indebted to others, and its loss on the loan to A might cause B to default on these obligations, just as E's default might have caused D to default on its obligations to C. In other words, the credit markets are already interconnected. With or without CDSs, the failure of a large enough participant can--at least theoretically--send a cascade of losses through this highly interconnected structure. CDSs simply move the risk of that result from B to C, D, or E, but they do not materially increase the risk created when B made its loan to A. No matter how many defaults occur in the series of transactions presented in figure 1, there is still only one $10 million loss. The only question is who ultimately pays it.

The Role of Credit Default Swaps in the Financial Economy

Financial regulators have few resources that will materially reduce risk-taking. They can insist on more capital, which both provides a cushion against losses and a nest egg that management has an incentive to protect, and they can clamp down on innovation, which can always be a source of uncertainty and therefore risk. But beyond that, they are limited to ensuring that banks, securities firms, and insurance companies--to the extent that they are regulated for safety and soundness--carefully review the risks they take and have the records to show for it. The current credit crunch is testimony to the ineffectiveness of regulation. Despite the most comprehensive oversight of any industry, the banking sector is riddled with bad investments and resulting losses. In fact, by creating moral hazard, it is likely that the regulation of banks has reduced the private-sector scrutiny that banks would have received as part of a fully operating system of market discipline.

In light of the consistent failure of traditional regulation, a sophisticated and intelligent regulatory process should now foster risk-management innovations that have been developed by the private sector, especially the derivative instruments that have greater potential to control risk than government oversight. CDSs are one of these instruments, but not the only one. A simple example of effective risk-shifting is the interest rate swap, which--like the CDS--was developed by financial intermediaries looking for ways to manage risk. The documentation for interest rate swaps, as well as for CDSs, was developed by the International Swaps and Derivatives Association (ISDA). Interest rate swaps have been an important and useful risk-management device in the financial markets for at least twenty-five years. The value of an interest rate swap is that it allows financial intermediaries to match their assets and their

liabilities and thus to reduce their interest rate risks. Say that a bank has deposits on which it must pay a market or "floating" rate of interest, but it also holds mortgages on which it receives only a fixed monthly interest payment. This is a typical position for a bank--but a risky one. If interest rates rise, it may be forced to pay more interest to its depositors than it is receiving from the mortgages it holds, and thus would suffer losses. Ideally, it would want to trade the fixed rate it receives on its mortgage portfolio for a floating rate that will more closely match what it has to pay its depositors. That way, it is protected against increases in market rates. An interest swap, in which the bank pays a fixed rate to a counterparty and receives a floating rate in return, is the answer; it matches the bank's interest rate receipts to its payment obligations.

But what kind of entity would want to do such a swap? Consider an insurance company that has fixed obligations to pay out a certain sum monthly on the fixed annuities it has written. Insurance companies try to match this obligation with bonds and notes that are the ultimate source of the funds for meeting its fixed obligations, but these do not necessarily yield a fixed return for periods long enough to fully fund its annuity commitments. Instead, they mature well before its annuity obligations expire, and may--if interest rates decline--yield less than it is required to pay out to annuitants. The insurance company, then, would be able to avoid risk with a swap that is the exact mirror image of what the bank needs. Into this picture steps a swap dealer, which arranges a fixed-for-floating interest rate swap between the bank and insurance company. The notional amount can be set at any number--its purpose in an interest rate swap is simply to provide the principal amount on which the interest will be paid--so the parties agree on $100 million. The bank agrees to pay the insurance company a fixed amount--say, 5 percent--on the notional amount of $100 million, and the insurance company agrees to pay the bank a floating rate of interest on the same notional amount. If interest rates rise to 6 percent, the bank is "in the money" and the insurance company pays the bank the 1 percent difference, and, if they fall to 4 percent, the bank pays the insurance company 1 percent.

The important thing to notice about this transaction is that both the bank and the insurance company are better off--both have reduced their risks. The bank now gets a floating payment that assures it of the funds necessary to pay its depositors no matter how high interest rates rise, and the insurance company is better off because it gets a fixed payment from the bank that allows it to pay its annuitants no matter how far interest rates fall. Both parties have hedged their interest rate risk through use of a derivative. The notional amount of interest rate swaps currently outstanding grew to $464.7 trillion by June 30, 2008.5 This is a frighteningly large number, but--as discussed below--its only reality is as the basis on which counterparties are exchanging fixed for floating rates. No one actually owes anyone any portion of this $464.7 trillion. The payment obligations are only interest. The interest rate swap is a classic example of a private-sector mechanism for risk management that could not have been developed or implemented by a regulatory agency. It is also a good way to think about CDSs, which have risk-management characteristics much like interest rate swaps.6 Let's assume that a bank holds a loan to a corporate customer that makes oil field equipment. The bank is receiving a stream of payments on the loan with which it is satisfied, but it concludes as a matter of risk

management that it has too much credit exposure to the oil business. If oil prices fall, its loans to the industry may be in jeopardy. One of the objectives of risk management is diversification, but even better is holding uncorrelated assets--that is, assets that do not rise or fall in value or marketability at the same time. Still better, from the risk-management standpoint, are assets that are negatively correlated--that rise in value when the others are falling. For example, a bank would like to hold loans to both an auto manufacturer and an oil company; as oil prices rise, the auto manufacturer becomes weaker but the oil company becomes stronger; other things being equal, the bank's risks are balanced.

Using this strategy, the hypothetical bank we are discussing would like to divest some of its oil industry exposure and instead balance its portfolio with exposure to the risk of, say, auto sales. In a world where CDSs are available, this is easily done. The bank enters a swap with an intermediary CDS dealer in which the dealer promises to reimburse the bank if the oil field services company defaults. The dealer must now find a hedge in the form of a company that is willing to sell protection on the oil services company. A logical protection seller might be an insurance company. The insurance company has substantial outstanding loans on commercial real estate. Taking on the risk of an oil service company would provide needed diversification and could be uncorrelated--or even negatively correlated--with the places where the insurance company's commercial real estate is located. Through this transaction, the bank has reduced or eliminated the credit risk of a loan to the oil industry, but the loan remains on its books and it keeps the oil company's stream of interest and principal payments, as well as its commercial relationship with this client. Now the bank enters another CDS, this time with a hedge fund, in which the bank promises to indemnify the fund against losses on a portfolio of loans to auto dealers. For this protection, the hedge fund makes a monthly payment to the bank (for simplicity, we are disregarding the intermediary dealer). After these two transactions, the bank has somewhat diversified and balanced its portfolio by substituting the credit risk of a portfolio of auto loans for an oil industry loan. Because the portfolio of auto loans may be negatively correlated with the oil industry risks, the bank's portfolio is now likely to be more stable. The insurance company has done the same. Once again, a derivative has operated as an effective risk management tool, reducing the credit risk profile of two financial intermediaries.

It is also important to note that the same risk-management purposes can be served by a bank or any other financial intermediary taking on a risk that diversifies its portfolio, even if it has no relation at all to a reference entity. Because the party writing the protection is paid for assuming the credit risk, the CDS functions in much the same way, from a risk management perspective, as an actual loan. This issue is discussed more fully below in the section on whether CDSs represent "gambling" or "betting."

CDSs also offer an increasingly important window into risk-taking that has not previously existed. In this, CDSs can help both investors and regulators. On November 25, for example, a newswire reported: "Credit default swaps protection generally narrowed Tuesday amid improvement in key spread product markets such as the commercial mortgage-backed securities and asset-backed arena."7 Similarly, on December 10, the interim assistant treasury secretary for financial stability, Neel Kashkari, told the House Financial Services Committee that

"one indicator that points to reduced risk of default among financial institutions is the average credit default swap spread for the eight largest U.S. banks, which has declined more than 200 basis points since before Congress passed the [Emergency Economic Stabilization Act]."8

The fact that CDSs are available as an indicator of risk in the financial markets generally, and with respect to particular institutions, is vastly important. Up to now, there has been no generally available, market-based source of credit assessments about financial institutions. Interest rate spreads and stock prices are not as valuable because they are influenced by many factors other than risk-taking and creditworthiness. If properly used, the data on CDS spreads for reference entities can alert regulators to problems at individual banks, securities firms, or insurance companies. Even more important, it can assist investors and creditors in exerting market discipline over financial institutions. In light of the general failure of regulation for controlling risk-taking, the enhancement of market discipline is extremely important. A widening of a reference entity's CDS spread will alert investors that they should investigate risk-taking more fully before advancing funds. Even if CDSs were not important for risk management, the existence of the information generated by the CDS market would alone provide economic justification for allowing this market to operate freely and without restrictions. The importance of this development cannot be overstated. Virtually since their inception, banks have been the repositories of credit information about borrowers. As the securities market grew and public disclosure became more complete, banks lost some of their role as the preferred intermediaries between investors and borrowers; many public companies went to the securities market for credit financing. At the same time, rating agencies began to substitute for credit analysis by some institutional lenders and bond buyers. The growth of CDSs provides for the first time a market-based credit assessment available to all institutional lenders and bond buyers. At a time when the value of rating agencies is being questioned,9 the CDS market offers critical new information to use in credit assessment.

Myths about Credit Default Swaps

Despite these significant benefits, criticism of CDSs is widespread. It is not uncommon to find statements by market observers that CDSs have no economic purpose, create enormous risks for the financial economy, create systemic risks, are little more than irresponsible gambling by market participants, and create hidden liabilities that do not appear in financial statements. Almost all of these claims are either grossly exaggerated or wrong.

Claim: The Notional Amount of CDSs Outstanding Represents a Huge Risk for the World's Financial System. One of the most striking elements associated with credit default swaps is the notional amount outstanding at any one time. As a measure of the growth of CDSs, the aggregate notional amount is of some use, but as a measure of the risk in the market, it is meaningless. Nevertheless, critics of CDS use the aggregate notional amount number to suggest that huge risks are being created in some mysterious way. Shortly after Bear Stearns was rescued, George Soros wrote: "There is an esoteric financial instrument called credit default swaps. The notional amount of CDS contracts outstanding is roughly $45 [trillion]. . . . To put it into perspective, this is about equal to half the total US household wealth."10 This is

not putting CDSs "into perspective." Coming from a sophisticated financier, it seems more like a deliberate attempt to mislead. The notional amount of CDSs outstanding--although suitable for scaring people--is not in any sense relevant to the size of the risks associated with CDSs.

Returning again to the hypothetical transaction in figure 1, we can calculate the notional amount that comes out of the reporting of the transaction by the various participants. B reports that it is paying a premium for protection on a notional amount of $10 million (the loan to A), C reports that it has sold protection for this amount, as have D and E and the dealer intermediary between D and E. Thus, the total notional amount arising from this series of transactions is $50 million, or five times the actual potential loss in the event that A defaults. The DTCC recently began publishing data on CDSs from its Trade Information Warehouse, which gathers about 90 percent of all CDS transactions.11 The DTCC's data eliminate the multiple-counting in each swap transaction and report that as of the week ending December 12, what the DTCC calls the "gross notional amount" of CDSs outstanding was $25.6 trillion.12

This amount is many times the actual potential loss on all CDSs outstanding at any time because the protection sold must be reduced by the protection bought. The result is called the net notional amount and has been estimated at 10 percent of the gross notional amount in the market.13 Accordingly, using the gross notional figure reported by the DTCC, we can estimate that the net notional amount is about $2.5 trillion (a total of $2.75 trillion with the additional 10 percent not reported by DTCC), a sum that is a fraction of the figure Soros used. These are not small numbers, of course, but they are far less than the number usually used to describe the total risk in the CDS market. And even these numbers are only "real" if every reference entity were to default and if sellers' recoveries after these defaults were zero.

Claim: CDSs Are Written by or between Parties That Do Not Understand the Risks They Are Assuming. In one sense, this statement is true. There are always lenders who lose money because they do not understand the risk they are assuming, and there are undoubtedly writers of CDS protection who also do not understand the credit risk to which they are exposed. If the statement is meant to communicate the idea that a CDS risk is different from or more complex than a loan (or the acquisition of a portfolio of MBS), however, it is wrong. First, almost all swaps are negotiated through dealers, who serve as the actual counterparties. Dealers typically carry matched books, which means that they hedge their risks by entering offsetting CDSs. To remain in business, they must be sure of the quality of the counterparties they choose. In figure 1, for example, B buys protection from C, a dealer. C then enters a corresponding swap with D, which sells protection to C to cover C's exposure to B. If D does not have a AAA credit rating (and maybe even if it does), it probably has to post collateral to protect C, and C may have to post collateral to assure B that it is protected. In fact, 63 percent of all CDSs--and 65 percent of the dollar exposure--are collateralized,14 precisely because the parties that are paying for protection want to make sure it is there when they need it. In addition, recalling the earlier discussion of counterparties moving in and out of the money, a protection buyer and a protection seller may have obligations to post collateral if the spread on a particular reference entity rises or falls. No institution that enters this market does so lightly.

The AIG case is a good illustration of the CDS process and was covered extensively in the Washington Post series cited above. Initially, AIG's counterparties generally agreed that AIG would not be required to post collateral because it was rated AAA, but when it was downgraded by the rating agencies, it was immediately required by its swap agreements to post collateral. In addition, AIG had written a lot of protection on MBS and CDO portfolios, and, as these declined in value, it was again required by its counterparties to post collateral to cover its increased exposure. When AIG could not do so, it was threatened with bankruptcy, and that is when the Fed stepped in with a rescue. The rescue of AIG, as noted above, had nothing to do with Lehman's failure, but it did have a lot to do with AIG's failure to assess the risks of MBS and CDOs. Does this sound familiar? Of course it does--it is the same problem faced by many banks that also failed to assess properly the risk of these assets. Apparently, AIG relied excessively on a credit risk model that did not adequately account for both the sharp decline in the mortgage market or a downgrade of AIG's credit rating.

This points up a fact that gets too little attention in the discussion of CDSs: that the best analogy for these instruments is an ordinary commercial loan. A seller of protection is taking on virtually the same risk exposure as a lender. It is no more mysterious than that. Successful lending requires expertise in assessing credit--the same skill required for writing CDS protection. AIG, like many banks, misjudged the riskiness of a portfolio of MBS and CDOs. That does not mean that CDSs are any riskier than loans; if AIG, instead of selling protection on various portfolios of MBS and CDOs, had bought the portfolios themselves, there would have been very little commentary other than clucking about the company's poor credit judgment. For some reason, the fact that it did substantially the same thing by selling protection on these instruments through CDSs has caused commentators to see the issue as a problem created by the swaps rather than as a simple example of poor credit assessment.

Recently, in order to eliminate the constant calls for more collateral, the Fed purchased the portfolios of MBS and CDOs on which AIG had written protection. An article in the Wall Street Journal then noted that this was a "blessing" for the banks that had bought protection from AIG. Indeed it was; that is why the banks bought the protection. If AIG had not covered this liability, the banks would have taken these losses. This illustrates another central point about CDSs: one institution's loss is another's gain. The risk was already in the market. It was created when some bank or investment bank borrowed the funds necessary for assembling a portfolio of MBS or CDOs. The fact that AIG was the final counterparty and suffered the loss means that someone else did not. Ultimately, there is only one real risk, represented by the original loan or purchase transaction (in the case of an asset like an MBS portfolio). CDSs, to the extent that they are initiated by parties that are actually exposed to a risk, merely transfer that risk, for a price, to someone else.

A recent article in the Wall Street Journal focused on an instrument called a synthetic CDO and noted that many buyers of these instruments suffered losses because of the meltdown in the U.S. mortgage market.15 Because a CDS is a part of a synthetic CDO, the article once again raised the question of whether protection sellers in the CDS transaction understand the risks they are assuming. However, the writers of the article did not make clear (or failed to

understand) that, despite a fancy name and the presence of a CDS, the buyers of these instruments were taking a risk that was essentially identical to investing in a portfolio of loans. In an ordinary CDO, a number of loans are bundled into a pool, and debt instruments are sold to investors backed by the assets in the pool. A CDO, then, is just a generalized term for the same process in which the more familiar MBS are created. The investor in a CDO takes the risk that the instruments in the pool will not lose value or default. In a synthetic CDO, an investor buys a security issued by a special purpose vehicle (SPV) and becomes the seller of protection in a CDS in which the SPV is the protection buyer. The SPV is usually created by a bank that is seeking CDS protection on a portfolio of loans it intends to continue to hold. The SPV uses the cash investment to buy a portfolio of high-quality debt securities. The low yield on the high-quality debt securities is supplemented by the premium on a CDS, and two yields in effect replicate the yield that the investor would have received--and the risk it would have taken--if it had invested in the same portfolio of loans that the bank is holding. Once again, there is no essential difference between investing in the actual loans or investing in the synthetic CDO. The credit risk and the yield are the same.

The Journal story noted that "towns, charities, school districts, pension funds, insurance companies and regional banks" have taken on the risk of these synthetic CDOs and that some have suffered losses as a result of the weakening credit markets. Of course, many (maybe most) have profited from the premiums they have received over time for taking this risk. Two things should be noted at this point. The first is that while synthetic CDOs replicate the risks associated with a portfolio of loans, they are complex investments; there is a question whether they are suitable investments for towns, school districts, and other investors that may not be able properly to evaluate the risks. To the extent that this happened, it would be a violation of the "investor suitability" rules applicable in the United States and any equivalent rules in the countries where these investments were sold. The second point is that the fault in this process was not with the CDSs that were part of the synthetic CDOs, any more than a corporation would be at fault if a bond dealer sold one of its bonds to an investor who could not understand the risks. The role of the CDS is to replicate the risk of owning a portfolio of loans, and the risk they create is not any greater than that.

Writing CDS protection is much the same as making a loan or buying a bond. In order to participate in this market, an institution must have the capability to evaluate credit risk. It is not a market for individuals or even institutions that do not have credit-evaluation skills or access to them. Even institutions with credit-evaluation skills suffer losses on some risks they acquire--as shown by the AIG case--but it is certainly not true that, in general, those institutions that buy and sell CDSs are not aware of the risks they are assuming.

Claim: Transactions between Parties That Have Nothing to Do with the Reference Entity Are Simply Gambling and Have No Independent Value. Because CDSs are much like loans, they can be used to take on the same risk as a loan or a bond. If an institutional investor believes that an issuer will grow stronger over time, it can buy the company's bonds and profit from the strengthening of the issuer's credit position. Alternatively, the investor can sell protection on the same notional amount as the bond--that is, taking on the same exposure without actually

buying the bond--and profit in the same way. If the issuer's prospects improve, the CDS rises in value because the premium received is now greater than it would need to be for the lower risk involved. The seller of protection is now "in the money" in the sense that it has an asset that has appreciated in value.

The risk management benefits of CDSs exist independently of whether a lender has any financial interest in a particular reference entity. Thus, the bank that bought protection on its loan to an oil service company could achieve the same risk management purposes--reducing its exposure to the oil industry--by buying protection on an equivalent notional amount of an oil company's outstanding obligations, even though it does not have any direct exposure to the oil company. If the risk is highly correlated with the oil service company's risk, the bank can nearly duplicate the same risk management result. Just as an investor can do this for risk management or hedging purposes, it can also do it as speculation, without having any direct financial interest in the issuer that is the reference entity. Indeed, when a dealer is approached by an institution to buy or sell protection, it is impossible to tell whether the purpose is hedging an existing risk or speculating on the change in the risk profile of the reference entity. Is this simply betting, as some suggest, or does it have a value apart from its value to the two parties involved?

In discussing this subject, it would be useful to avoid the pejorative terms "betting" or "gambling" and use the term "speculation," which more closely approximates what is happening when a party buys or sells protection without any connection to the reference entity involved. Speculation is frequently denounced, while "hedging" is considered good and prudent, yet it is very difficult to tell the difference between the two. Commodity futures have for a long time permitted farmers to protect themselves in the event of a decline in prices when their crop is ready for market. Most people would call this prudent hedging, but what are the investors on the other side of the futures trade doing? In effect, they are selling protection, just like the seller in the CDS transaction. Some observers might call this speculation because the seller of protection to the farmer is speculating (others might call it "gambling" or "betting") that the price will be higher than what he has agreed to pay the farmer. Thus, speculation can have an important role in making markets work.

It may be objected, however, that in hedging or speculation transactions, real things like wheat or loan exposure are involved, while buying or selling CDSs without any connection to the reference entity is different. Consider then puts and calls--options to sell or buy stocks--that are traded regularly on the Chicago Board Options Exchange. These are an accepted part of equity markets and are known as equity derivatives. They can be used for hedging a stock position without selling or buying the stock, or they can be used--without owning the stock--simply to speculate that a stock's price will go up or down. The function of puts and calls is exactly the same as the role played by those who buy or sell CDSs without any connection to a reference entity. The transaction adds to the liquidity and the total information in the market. That is in part why the buying and selling of CDSs provides a continuous, market-based assessment of the credit of a large number of commercial or industrial companies and financial institutions. Some people consider speculation in a security or a commodity to be betting, but

economists recognize that this activity provides benefits to a market through added market liquidity and mitigation of bubbles. In the case of CDSs, however, the exogenous benefits of speculation are particularly strong because it provides a market-based credit judgment about the financial position of individual issuers that is not available anywhere else.

Claim: There Is No Way to Know by Looking at a Company's Balance Sheet How Much CDS Exposure It Has Taken On. Exposures to CDS transactions as a protection seller are shown on all balance sheets where that exposure is deemed to be material. The exposure is shown in the aggregate, without listing particular transactions or risks, just as a bank would show its commercial and industrial loans in the aggregate. Normally, parties selling protection have hedged themselves, and it is very unlikely that all, or even most, exposures will result in liability at the same time. So, for the most part, CDS liabilities are carried on balance sheets at somewhere between 1 and 2 percent of their notional amount, reflecting both hedges and the likelihood of losses on a diversified portfolio. Of course, as risks rise or fall, these values are adjusted. The nature of these liabilities is then described in a footnote.

Because CDSs sold or bought by dealers are marked to market every day, it is possible that the risk associated with protecting a counterparty will increase as the financial condition of the reference entity deteriorates. This may require the liability of the protection seller to be written up on its balance sheet, and will almost certainly require more collateral. The opposite is also true. If the reference entity's financial condition markedly improves--perhaps its business prospects are better--the liability on the protection seller's balance sheet will diminish and the collateral requirement could be reduced, eliminated entirely, or moved to the buyer of protection if the seller is now "in the money." This also means that a CDS can move from a liability to an asset on the balance sheet of the buyer or seller, depending on whether the spread on the reference entity has risen (advantage to the buyer) or declined (advantage to the seller) since the CDS was contracted.

Conclusion

Although the Lehman failure demonstrated that the CDS market works well even under severe stress, there are proposals for improvements and reforms. These reforms--including a clearinghouse or an exchange for CDSs and perhaps some additional form of regulation for the CDS market as a whole--are beyond the scope of this Outlook. However, because CDSs and their value are not well understood, there is a serious danger of excessive regulation that will impair the value of CDSs for risk management and credit assessment purposes. As reform proposals take shape, I may revisit this issue in a subsequent Outlook.

Far from creating new or significant risks, CDSs simply move risks that already exist from one place to another. For this reason, they are a major advance in risk management for all financial intermediaries, and restrictions on their use will create more risk in the financial system than it will eliminate. In addition, the vigorous and liquid current market in CDSs provides a market-based reading of the risks of companies that is not available from any other source and that can be of major assistance to regulators, as well as investors and creditors.

Peter J. Wallison is the Arthur F. Burns Fellow in Financial Policy Studies at AEI.Notes1. Robert O'Harrow Jr. and Brady Dennis, "Downgrades and Downfall," Washington Post, December 31, 2008.

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