

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is a darker shade of blue. The hourglass is centered on the page.

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*Credit Default Swaps: Frequently Asked Questions*

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**Abstract.** Credit default swaps are contracts that provide protection against default by third parties, similar to insurance. These financial derivatives are used by banks and other financial institutions to manage risk. The rapid growth of the derivatives market, the potential for widespread credit defaults (such as defaults for subprime mortgages), and operational problems in the over-the-counter (OTC) market where credit default swaps are traded, have led some policymakers to inquire if credit default swaps are a danger to the financial system and the economy. For example, the establishment of a conservatorship for the government sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, in September 2008 potentially triggered credit default swap contracts with notional value exceeding \$1.2 trillion. Processing and covering these commitments may be difficult. This report defines credit default swaps, explains their use by banks for risk management, and discusses the potential for systemic risk.

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## CRS Report for Congress

# Credit Default Swaps: Frequently Asked Questions

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### Summary

Credit default swaps are contracts that provide protection against default by third parties, similar to insurance. These financial derivatives are used by banks and other financial institutions to manage risk. The rapid growth of the derivatives market, the potential for widespread credit defaults (such as defaults for subprime mortgages), and operational problems in the over-the-counter (OTC) market where credit default swaps are traded, have led some policymakers to inquire if credit default swaps are a danger to the financial system and the economy. For example, the establishment of a conservatorship for the government sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, in September 2008 potentially triggered credit default swap contracts with notional value exceeding \$1.2 trillion. Processing and covering these commitments may be difficult. This report defines credit default swaps, explains their use by banks for risk management, and discusses the potential for systemic risk. This report will be updated as conditions warrant.

### What is a credit default swap?

Basically, in a credit default swap contract, one party promises to pay another party if a third party defaults. The more technical definition of a credit default swap is a bilateral derivative contract that transfers from one party to another the risk that a specified reference entity will experience a “credit event.” (Credit events may include default, bankruptcy, restructuring, or credit rating downgrade).<sup>1</sup> Typically, the protection buyer pays a periodic fee to a protection seller in return for compensation if a reference entity experiences a credit event. The reference entity, such as a large firm that has issued a bond or a trust that has issued a mortgage-backed security (MBS), is not a party to the credit default swap contract. The original protection buyer does not need to have ever owned the reference debt being protected; therefore, it is not necessary for the protection buyer to realize an actual loss in order to be eligible for compensation if a credit event

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<sup>1</sup> Moorad Choudhry, “Credit Derivatives,” *Handbook of Financial Instruments*, F. Fabozzi ed., (NJ: Wiley and Sons), 2002, pp. 790-797.

occurs. The maturity of the credit default swap does not have to match the maturity of the reference asset, that is, a 10-year bond may be protected by a credit default swap that provides protection for only one year.

### **How are credit default swaps used?**

Historically, credit derivatives were primarily used by banks to manage their credit exposure to large loan customers. Banks and other institutions transfer some or all of their credit risk to other parties through credit default contracts. Because the buyer is paying for protection against uncertain events, credit default swaps perform a similar economic function as insurance; however, there are differences. First, credit default swap contracts can be traded more easily than insurance policies. Second, the protection buyer need never have had any asset at risk in order to purchase the swap and does not have to experience an actual loss from the credit event in order to collect the payment. Because credit default swaps can be originated, bought, and sold by parties with no direct exposure to the reference asset, credit default swap markets are sometimes compared to gambling. However, a specialized lender that is “overexposed” in one economic sector may wish to participate in credit default swaps for bonds of firms in other economic sectors in order to manage risk; therefore, it can be difficult to distinguish “gambling” from diversification.

### **What is an example of a credit default swap?**

A financial institution buys a \$1 million bond issued by a large manufacturing company. The financial institution wants to protect itself from the credit risk of the bond but wants to retain other features. The financial institution could pay a third party to protect the bond in case of a credit event, such as actual default, or merely a downgrade of the manufacturing company’s bonds by a credit rating agency. For the sake of this example, assume the financial institution pays the protection seller \$1,000 annually in return for a promise from the protection seller to pay the financial institution the cash value of the loss from the credit event (cash payout). The protection contract is a credit default swap and can be traded in derivatives markets.

In this scenario, trouble in the manufacturing industry causes a credit rating agency to lower the rating of the bonds after two years. As a result, the market value of the bonds falls by \$12,000. In this case, the financial institution will have paid two \$1,000 payments and had the value of its bond asset fall by \$12,000. It would receive \$12,000 from the protection seller. The net result for the financial institution is a loss of the value of the \$2,000 in annual fees, rather than the \$12,000 loss from the credit event. Note that the financial institution does not have to sell the bond at the new lower price and experience an actual loss in order to collect the credit default swap payment.

Although it is common practice to create a credit default swap that fully covers the loss due to the credit event, parties can contract for any payment they wish. In the example, the parties could have set the protection payment ahead of time, such as a \$10,000 payment in case of the credit event, rather than the change in the value of the bond, \$12,000. The parties may also contract for physical delivery of the reference asset (the bond) at a pre-specified price that has the same effect as protecting the protection buyer from loss in value.

### **What is notional principal or notional amount?**

In general, the notional principal, or notional amount, of a derivative contract is a hypothetical underlying quantity upon which interest rate or other payment obligations are computed. For a credit default swap, the notional principal is the reference amount set in the contract. Note that the notional amount is significantly different from the dollar value the credit default swap puts at risk. In the above example, the notional amount was \$1 million but the promised payment amounted only to \$12,000. The market value of a credit default swap is more closely linked to the relative values of the annual fee and the protection payment than to the notional amount. The aggregate notional amount of credit default swaps has grown significantly. According to the Bank of International Settlements (BIS), the total notional amount of credit default swaps was \$57.9 trillion in December 2007. The gross market value of those swaps was \$2.0 trillion, which was 3.5% of the notional amount.

### **What is a reference entity?**

The reference entity in a credit default swap contract is the entity that is the subject of a credit event. In the above example, the reference entity is the manufacturing company because the trigger for the credit default swap is a change in the credit status of bonds it issued. Note that the manufacturing company is not a party to the credit default swap contract.

### **Who participates in the credit default swap market?**

Historically, banks have had the largest market share in credit default swaps, both as buyers of protection and as sellers of protection.<sup>2</sup> Other significant participants, both as buyers and sellers of protection, include securities firms, monoline insurance firms, and hedge funds. On a much smaller scale, pension funds, corporations, and mutual funds also participate.

### **What is the ISDA and what does it do?**

The ISDA is the International Swaps and Derivatives Association. Created in 1985, ISDA is an industry organization that seeks to identify and reduce the sources of risk in the derivatives and risk management business. The organization provides information on best practices (such as standardized contract forms and documentation), industry surveys and statistics, amicus briefs in court cases, and similar information. The ISDA master agreement provides market participants one avenue to standardize contracts, agree on settlement procedures and terms, and limit the risk that counterparties will not be able to fulfill their obligations.

### **Do credit default swaps create systemic risk?**

Although there is no single, agreed-upon definition of systemic risk, it generally refers to the risk that the financial system will multiply the problems of one institution to many other institutions, including those that are otherwise solvent and liquid. Systemic

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<sup>2</sup> “Credit Default Swaps - Into the Mainstream,” *GE Asset Management*, spring 2005.

concerns of credit default swaps, like many financial derivatives, often refer to five attributes. First, derivatives could be used to increase the risk that banks and other financial intermediaries face, rather than transfer risk to parties in a better position to sustain risk. Second, the sellers of protection may not be adequately capitalized to honor their commitments if many defaults occur at the same time. Third, derivatives contracts are very complex and may be misused by inexperienced, though sophisticated, market participants. Fourth, the notional value of derivatives greatly exceeds bank capital, so a change in the value of credit default swaps could greatly weaken the capital of the banking system, triggering a significant contraction in lending for investment and consumer spending. Fifth, tracking counter party obligations in the market can create challenges for processing the trades and may overwhelm the system if defaults occur simultaneously on a wide scale.<sup>3</sup>

The five factors discussed above are not mutually exclusive. Leverage refers to the ratio of a firm's assets to its capital. Banking regulators impose regulatory and risk-based capital standards that limit leverage in the banking system. One use of a credit default swap is for banks, as protection buyers, to reduce the credit risk that they face. This could allow the banks to more easily meet their capital standards and increase their overall leverage. If protection sellers have not adequately prepared for losses, then a wave of credit events could overwhelm protection sellers, put in question their ability to honor their commitments, and lower the value of the credit default swaps held by the banks. Because the credit default swap market is so large relative to bank capital, the reduction in the value of the swaps could significantly damage the banking system. Similarly, if credit default swaps became difficult to trade, then their value according to mark-to-market accounting rules would have to be discounted, which could erode financial institution capital even if the institutions had no intention of selling them.

It may be the case that market participants and regulators have adequately prepared for the risks associated with credit default swaps. Those who take this position might argue that participants in the credit default swap market are overwhelmingly banks, hedge funds, and similar organizations that have access to highly sophisticated expertise. Similarly, these institutions are most aware of the potential risks in the credit default swap market. Others might respond that individual financial institutions might not have the incentive to fully prepare for the risks if they believe they will be aided in time of crisis.

### **How have credit default swaps been used in securitization?**

In securitization, debt instruments such as mortgages or auto loans are pooled into a trust and the resultant cash flow is sliced into tranches and sold to investors as securities. Credit default swaps have been used to (1) enhance the credit rating of individual tranches and (2) provide protection to originators who backstop the entire structure. In this case, backstop refers to originators who retain an equity position (first loss) in the structure, promise to repurchase or swap non-performing loans, or provide other credit enhancement for the securitization. In some cases, a first loss position might itself be securitized as a collateralized debt obligation (CDO) with its own set of tranches enhanced by credit

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<sup>3</sup> For a discussion of operational issues in managing complex payment exchanges, see CRS Report RL33639, *Sources of Systemic Risk in Large Value Interbank Payment Systems*, by Edward Vincent Murphy.

default swaps. Problems in the housing markets have caused many credit events for mortgage-backed securities and providers of related credit default swaps, such as Ambac, have experienced some financial difficulties.<sup>4</sup>

### **Who regulates credit default swaps?**

The over-the-counter market, where credit default swaps are traded, is not directly overseen by federal financial regulators. On the other hand, the use of credit default swaps by the institutions with the largest market share, banks, is regulated. More specifically, the risk management practices of banks are subject to direct supervision by the federal regulators who coordinate through the Federal Financial Institutions Examinations Council (FFIEC).<sup>5</sup> Use of credit default swaps and other complex derivatives is concentrated in the largest commercial banks, most of which are federally chartered institutions regulated by the Office of the Comptroller of the Currency (OCC), which is a member of FFIEC. Because the efficiency of the over-the-counter derivatives market affects the safety and soundness of federally chartered banks, the OCC "... spends a considerable amount of time and resources evaluating the risk control systems these banks use to manage risk in derivatives markets."<sup>6</sup>

The OCC is not the only institution with an interest in monitoring and proposing changes to credit default swaps and related markets. The Securities and Exchange Commission (SEC), for example, has conducted notice and comment rulemaking for credit default swap options on the Chicago Board Options Exchange.<sup>7</sup> Also, the Federal Reserve Bank of New York has been working with the ISDA to facilitate the tracking of counterparty obligations.<sup>8</sup> In addition, private market participants have issued reports and made recommendations for the standardization and resolution of counterparty risk.<sup>9</sup>

### **How did the establishment of a conservatorship for Fannie Mae and Freddie Mac affect credit default swaps?**

The government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, had combined debt exceeding \$1.2 trillion when they were placed in a conservatorship by the Federal Housing Finance Agency. The ISDA has announced that it will publish a protocol to process credit default swaps that included a conservatorship for the GSEs as

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<sup>4</sup> CRS Report RL34364, *Bond Insurers: Issues for the 110th Congress*, by Baird Webel and Darryl E. Getter.

<sup>5</sup> CRS Report RL33235, *Banking and Securities Regulation and Agency Enforcement Authorities*, by Mark Jickling, Gary Shorter, M. Maureen Murphy, and Michael V. Seitzinger.

<sup>6</sup> Testimony of Kathryn Dick, Deputy Comptroller for Credit and Market Risk, Before the Subcommittee on Securities, Insurance, and Market Risk of the Senate Committee on Banking, Housing, and Urban Affairs, July 9, 2008.

<sup>7</sup> Securities Exchange Act Release No. 34-55871 (June 6, 2007).

<sup>8</sup> "Statement Regarding June 9 Meeting on Over-the-Counter Derivatives," Press Release, Federal Reserve Bank of New York, June 9, 2008.

<sup>9</sup> One example is a study group formed by major investment banks and market makers, including Goldman Sachs & Co. and Citigroup, which issued *The Report of the Counterparty Risk Management Policy Group II*, July 27, 2005, available at [<http://www.crmpolicygroup.org/>].

a triggering credit event.<sup>10</sup> The protocol will be open to members and non-members of ISDA. Credit default swaps related to the GSEs commonly included bankruptcy and restructuring (both of which could include conservatorship) as credit events, according to a working paper for the Office of Federal Housing Enterprise Oversight (now a part of the Federal Housing Finance Agency).<sup>11</sup>

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<sup>10</sup> “ISDA to Publish Protocol for Fannie and Freddie,” News Release, ISDA, September 8, 2008, available at [<http://www.isda.org/>].

<sup>11</sup> Robert Collender, “Enterprise Credit Default Swaps and Market Discipline: Preliminary Analysis,” OFHEO Working Paper 08-2, July 2008, p. 3.