

We have seen in earlier modules on Liquidity (Chapter 3), Systemic Risk (Chapter 5), and Credit Default Swaps (Chapter 9) that lack of liquidity and transparency are important sources of systemic risk. Lack of liquidity can make trading infeasible, while lack of transparency can make potential trading partners unwilling to trust one another. Both can cause markets to seize up and threaten a cascade of failures. Transparent, liquid financial markets are less prone to such systemic threats.

Is there a way to make markets more transparent and counterparty trust less vulnerable? One possibility is to shift trading from over-the-counter (OTC) markets for customized products to standardized products that trade only with a *centralized counterparty* (CCP). OTC markets involve bilateral trading between individuals that may overlap, but generally are not the same.

By contrast, a CCP is an entity that interposes itself between the two sides of a transaction, becoming the buyer to every seller and the seller to every buyer. Most stock, futures and options exchanges involve CCPs where trades are conducted with the exchange as a counterparty or a guarantor. As a result, when you sell a stock, such as Microsoft, you neither know nor care who the ultimate buyer is, because you sell to the CCP of the exchange.

A CCP has a number of advantages. First, it has the *ability to monitor* the riskiness of its counterparties that is not possible in OTC trading. Because all trades occur with the CCP as one party, the CCP can see whether a particular trading partner is building up risk by taking a large position on one side of a trade. Concentration of risk is transparent. In contrast, the concentration of risk may be opaque in OTC trading, because the risky firm can conceal its vulnerability by trading with many partners. Customization of many OTC arrangements also hinders monitoring, in contrast to the standardization of products traded through a CCP.

Second, a CCP has the *incentive to monitor* and price the riskiness of its counterparties. As core principle 2 highlights, a CCP will seek compensation for the risks that it takes. To protect itself, a CCP will insist on a risk premium for trading with a risky counterparty. It can even refuse to trade with someone who may not be able to pay. And it can insist on frequent *marking to market*¹ in order to measure and control risks effectively.

Third, a CCP may have large economies of scale compared to an OTC market. Most of the trades that a CCP conducts can be offset against one another. As a result, the volume of net payments that must occur on any given day are only a fraction of the gross value of the trades. One estimate suggests that such “netting” would slash

¹ *Marking to market* is defined in Chapter 9 as the process in which a CCP posts daily gains and losses on a contract to the accounts of the parties involved.

payments on CDS by about 90%, sharply reducing the potential for failures in a financial system.

Exchanges provide a useful illustration of such CCP behavior. An exchange combines a CCP with a common trading platform. An exchange licenses *members* to trade on the platform and seeks to impose on each member the costs of the risks that the member creates for other members. For example, exchanges typically require their members to meet standards of financial soundness on a continuous basis. Members must disclose their financial status and furnish information about the risks they undertake. They may be required to furnish collateral to protect other members of the exchange, should they fail. Such margin requirements can vary with the riskiness of their positions and their balance sheets, making it costly to take on risk. A member that does not satisfy these requirements can lose its exchange privileges.

The history of CCPs reveals their practical benefits. For example, all U.S. futures contracts have traded through a CCP since 1925. Despite the Great Depression and many subsequent financial disruptions, no contract failure has occurred in that period. CCPs have helped markets function well even when traders cannot pay. For example, when one large energy futures trader (Amaranth) failed in 2006, the futures market adjusted smoothly because the CCP could use the collateral to protect itself and to satisfy its contracts with other firms. In contrast, systemic risks arose in 1998 when the possible demise of another intermediary (LTCM) threatened numerous counterparties for its OTC interest-rate swaps.

In the aftermath of the 2007-09 financial crisis, U.S. regulators are trying to shift trading of credit derivatives from customized OTC markets to standardized CCP platforms (see the Chapter 9 module: Credit Default Swaps and the Financial Crisis). In addition to reducing systemic risks, CCP markets allow government officials to focus their scarce resources for supervision on the practices and the well-being of the CCP itself. They can encourage CCPs to set high standards for monitoring the riskiness of their counterparties, and can require a sizable cushion of financial net worth to keep the CCP healthy if a counterparty unexpectedly fails.

Governments also can aid CCPs by: (1) promoting greater disclosure on the part of financial institutions, and; (2) by discouraging bilateral trading away from CCPs. Better disclosure will help all firms assess the risk of their counterparties. In this way, risk concentrations can be exposed early, before they become systemic. Penalties on non-CCP trade activity also help to place the costs of such systemic risks directly on the institutions that create them.

What is the downside of a CCP? The answer is that its failure would be potentially catastrophic for the financial system. Consequently, a CCP may come to be viewed as

a kind of public utility that cannot be allowed to fail.² If so, the same problems that sometimes arise with public utilities – lack of innovation and insensitivity to client needs – can arise with CCPs, too. These problems are likely to be greater where a CCP enjoys a natural monopoly and lacks any competition.

² For example, the Bank of France was compelled to lend to the French stock exchange to prevent its failure in a nineteenth-century crisis. See Eugene White, “The Crash of 1882, Counterparty Risk and the Bailout of the Paris Bourse,” *NBER Working Paper 12933*, February 2007.