

Agenda

Advancing economics in business

Out of the (banking) frying pan and into the (CCP) fire?

How to deal with financial institutions that are ‘too big to fail’ has been at the heart of the debate on financial services regulation since the most recent crisis. But could the growing importance of central counterparties (CCPs) in financial transactions be creating a new set of such institutions? Understanding the economics of these institutions is vital for exploring whether regulation is actually making the financial system safer

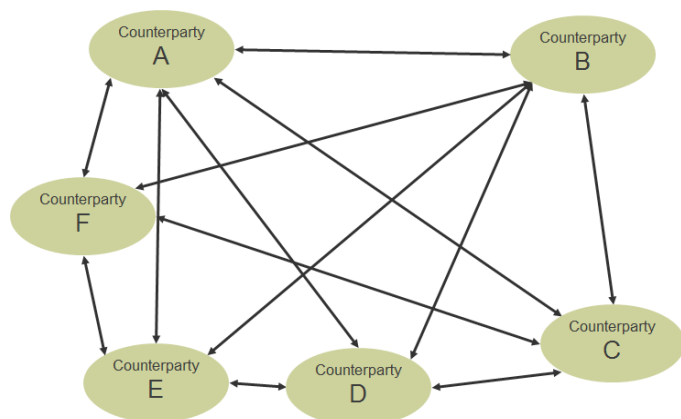
On 10 November 2014 the Financial Stability Board (FSB), an international body that monitors and makes recommendations about the global financial system, set out proposals that it hopes will end the problem of banks being ‘too big to fail’.¹ This has been a prime target of the reforms of the regulation of the finance sector, with the aim that the taxpayer will never again be asked to contribute when a bank is about to fail. Although there is no universal agreement that the FSB proposals will actually end taxpayer bailouts, policies are being implemented and changes have already been made that are designed to reduce the likelihood of any major bank failing and, if it did, to at least reduce (if not eliminate) the taxpayers’ bill for cleaning up the mess.

Soon after the beginning of the financial crisis in 2007, the G20 initiated a process whereby financial regulators around the world would seek to bring in regulatory rules requiring the large quantities of over-the-counter (OTC) financial transactions in derivative contracts between financial services firms and their clients to move from purely bilateral arrangements to ones where a common

third party—a CCP—took over the transactions once they had been agreed (see Figure 1). The move was designed to more effectively manage the risk of default inherent in these bilateral transactions and to enable regulators to more easily monitor the pattern of liabilities (and assets) held by the financial institutions (which include some of the big banks).² The objective was to ensure that the pattern of liability risks was not threatening the stability of the national and international financial system.

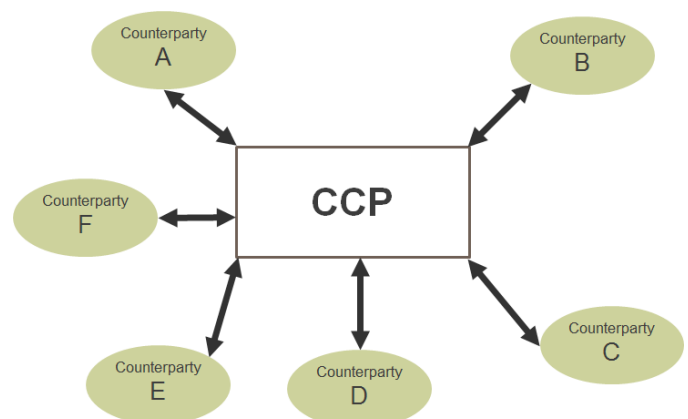
This initiative has been shown to work, and increasing numbers of financial transactions are now becoming ‘centrally cleared’. The amounts of money involved are very large—the latest figures from the FSB indicate that CCPs are currently, at any one point in time, guaranteeing approximately \$170 trillion of transactions in the interest rate and credit derivatives markets alone.³ As these securities represent only part of the CCPs’ activities, the notional value of the transactions being guaranteed by CCPs dwarfs even the world GDP (estimated at only \$75 trillion).⁴ In one year, a single CCP may thus be handling transactions with notional values greater than the world GDP.⁵

Figure 1a Bilateral transactions



Source: Oxera.

Figure 1b Insertion of a CCP



Source: Oxera.

While the regulators are busy making sure that banks cannot hold taxpayers to ransom, are they also helping to create other institutions which, if they were about to fail, would have to be bailed out? Fears have been expressed that CCPs could become the next 'too big to fail' institutions, creating a similar, or even worse headache for taxpayers (and governments).⁶ Understanding the economics of what CCPs do may help to distinguish between just moving the problem around and actually making the financial system safer.

What CCPs do

Once a bilateral deal has been done, CCPs are placed in the middle of the transaction. They become the buyer to the original seller, and the seller to the original buyer. Until the transaction completes, they take on the liability of fulfilling both halves of the original transaction. So if both parties to the original transaction do what they say they will do, the CCP really acts only as a conduit for the transaction. Only when things go wrong with either party to the original transaction (i.e. the clients of the CCP) do things get interesting. The CCP itself could also fail through the failure of its clients.

CCPs are not 'normal' businesses and, therefore, their failure mode is also not 'normal'. Although they take over their clients' contracts, and become buyer to every seller and seller to every buyer, they do not take over their economic interests. Clients hope to make money by being on one side of a transaction, while the CCP is on both sides, so has to make its money from service provision (fees), rather than position-taking.

If all that the CCP did was put itself in the middle of the transactions, it would face only the aggregation of the default risks of its clients. This would be the pure version of just moving the risk around. But CCPs do more than simply put themselves between every buyer and seller. Compared with the original bilateral transaction, putting the CCP in the middle will also tend to change how the outstanding transactions are handled in the event of the failure of one side of the original transaction.⁷ The typical changes that occur when a CCP is present are set out in more detail below. These changes are what alter the overall risk in the system, and result in the CCP having a special position when it is a creditor of a client that has failed to honour its side of the original contract.

In the event of the failure of a buyer or seller, the CCP will generally settle the outstanding transactions of that counterparty by:

- netting all the transactions that the failing party has with the CCP (see the box). This will generally result in significantly increasing the probability that the failing party will, in effect, continue to honour all the original bilateral transactions that have been taken over by the CCP even if, across all its liabilities, the failing party cannot meet its obligations to creditors;

- (if necessary) paying the balance out of the margin that the failing party was required to lodge with the CCP as a condition of using the CCP;
- (if necessary) calling on the default fund provided by other CCP clients.⁸

The first of these effects can significantly change the way the assets and liabilities of the failing counterparty are distributed, and effectively creates a set of preferential creditors to the failing party. As the CCP itself becomes liable (and, therefore, at risk of failure) only if these 'preferred' transactions do not settle, the creation of these preferential creditors also reduces the risk to the CCP itself.

Netting: the creation of preferential creditors

Take a failing party which had entered into 100 contracts with 100 different partners, each of which requires the payment of €100. Of these partners, 50 require the failing party to pay the partner, and 50 require the partner to pay the failing party. With a CCP present in these 100 transactions, they will be settled quickly as they 'net' out to zero. Without the CCP, in the 50 contracts in which the failing party is a creditor the other side will hand over the €100 to the administrators. However, where the failing party is the debtor, the administrators will simply instruct the counterparties to line up with other creditors and, at some point (possibly way into the future), they may receive a proportion of what they are owed.

Where the failing party owes more than it is owed (say, 49 contracts to 51 contracts), the CCP will assume liability for the missing €200. However, before the CCP has to dip into its own pockets (which could lead to its own failure), it will be able to access additional funds to meet that €200. This is because, as part of being a client of the CCP, the failing party will have been required to post a certain margin with the CCP. In addition, the CCP is likely to have been monitoring the 100 contracts held by the failing party and set the required margin at more than €200. This margin is ring-fenced, and any balance will not be paid to the administrators until all the contracts with the CCP have been completed.

The overall impact of the CCP here is, in effect, to create a set of preferential creditors (those parties to the failing party's original transactions conducted through the CCP) that are paid ahead of all other creditors of the failing party from a ring-fenced set of assets (i.e. the margin posted to the CCP and the contracts where the failing party is the creditor).

The impact of inserting a CCP into the bilateral transactions is, therefore, to materially change who would get what in the event of a failure of a transacting party, in a way that, all else being equal, reduces the eventual payout to other creditors.⁹

From the perspective of the CCP, the total risk to its own finances due to a failing party is the net exposure (at the full value of debts and credits), which in nearly all cases will be (very much) lower than the aggregation of the relevant liabilities discounted by the (eventual) payout.¹⁰

In other words, the assignment of these preferred creditors protects the counterparties to the original transactions, as well as the CCP. In addition, by requiring its clients to post margins with the CCP which are designed to be equivalent to at least the net position of that client, the CCP is further protected from putting its own funds at risk.¹¹ Finally, the default fund provides further protection for the CCP.

Could a CCP fail?

CCPs are careful to limit the total amount of risk they take on at any particular time. Notwithstanding the large amounts at stake, the netting principle and the margin requirements are designed to ensure that the failure of a transacting party will, in nearly all cases, be covered such that the CCP itself is not at risk.¹² The default fund also plays a role here. However, notwithstanding these protections, a CCP could still find itself owing more than it is owed, and unable to meet its obligations.

However, the CCPs' business model is not based on taking risks, but on collecting fees for standing between buyer and seller, and part of its operation is to ensure that it minimises its exposure to risk. Because the CCP takes both sides of a transaction, it is acting more like the money transmission system, unlike its clients, which are taking risk positions.

As a result, if a CCP did fail, the gap between its total liabilities and its total assets, expressed as a percentage of its total liabilities, is likely to be small. This would imply that, eventually, the application of bankruptcy law would result in a reasonably high percentage payout.

However, the disruption and delay to the network of payments as a result of bankruptcy could have a detrimental (and potentially contagious) effect on the rest of the economy, through its impact on the CCP's clients, which are likely to include systemically important banks and other financial institutions. Faced with this type of outcome, it is clear that the regulatory authorities or governments might be tempted to bail out the CCP, but that it is also not likely to cost them very much.

Policy implications

Although CCPs are concentrating transactions and the counterparty risk into a few institutions, importantly their operation also changes the risk profile of the network of transactions that are passing through the CCP. Given the objectives of making transactions via CCPs, and the transformation of the risk profile of those transactions that do, it may be that, rather than worrying that CCPs are becoming too big to fail, the policy should be to concentrate on making sure that they do not fail. CCPs are therefore treated more like a money transmission system than a bank.

However, it might also be useful to recognise that reducing the failure risks for the network of transactions using the CCP is (all else being equal) counterbalanced by an increase in the risks facing the other counterparties of CCP clients. The counterparty risks for these other creditors increase, as the assets available to them in the event of a failure are reduced.

¹ Financial Stability Board (2014), 'Adequacy of loss-absorbing capacity of global systemically important banks in resolution', consultative document, 10 November. Mark Carney, Chair of the FSB, stated: 'Agreement on proposals for a common international standard on total loss-absorbing capacity for G-SIBs is a watershed in ending "too big to fail" for banks.' See Financial Stability Board (2014), 'FSB consults on proposal for a common international standard on Total Loss-Absorbing Capacity (TLAC) for global systemic banks', press release, 10 November.

² As shown in Figure 1, the CCP has easy access to information on both the detailed and aggregated position of each of its clients, in respect of the full set of transactions passing through the CCP.

³ The amounts are calculated on the basis of gross notional outstanding value. See Financial Stability Board (2014), 'OTC Derivatives Market Reforms: eighth progress report on implementation', 7 November.

⁴ World Bank statistics.

⁵ For example, LCH.Clearnet's SwapClear cleared \$170 trillion (by gross notional outstanding) of interest rate swaps in 2012. See LCH.Clearnet Group Limited annual report and accounts 2012.

⁶ See, for example, Pollack, L. (2011), 'Central counterparties are too big to fail', *FTAlphaville*, 2 December.

⁷ This depends on the (often idiosyncratic) bankruptcy rules under which the failing counterparty would be wound up.

⁸ In a few cases it is the CCP itself that provides the default fund. Where this happens, the CCP will tend to have more shareholder equity available to provide the necessary funds.

⁹ Some jurisdictions (e.g. the USA) attempt to achieve some of these outcomes even within bilateral financial transactions through normal bankruptcy rules, and in many jurisdictions bilateral netting may be available where one counterparty fails.

¹⁰ If all the transactions of a counterparty that go through a CCP were in the same direction (payment to the CCP), there would be no impact from netting, but the margin and default fund would still be available.

¹¹ In theory, it might be possible to replicate the margin protection in each bilateral contract, but the absence of netting would mean that the totality of margin required to achieve the same risk reduction would tend to be much higher.

¹² CCPs that adhere to the International Organization of Securities Commission (IOSCO) principles require participants to transfer collateral (margin) that is sufficient, 99% of the time, to cover the costs of closing out the participant's outstanding portfolio at the CCP.