Central counterparties: recent trends and regulatory responses

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Central counterparties lie at the heart of the financial system. This article explains their main functions and discusses recent trends and regulatory initiatives in central clearing invoked by the mandatory clearing of standardised over-the-counter derivatives.

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2 *Netting refers to multilateral offsetting of trades executed via a CCP. The process reduces the exposures of counterparties and thus the size of the underlying network.*

The economics and the role of CCPs

A central counterparty (CCP) changes the topology of financial markets in the post-trade environment. It interposes itself between buyers and sellers in a legal process called the contract novation. The original contracts cease to exist and the CCP assumes the rights and obligations of the counterparties. The CCP takes the counterparty risk, while the market risk remains with the original party to each trade. With two contracts in opposite directions and a "matched book", the CCP bears a conditional market risk only, which would materialise in the event of a default of a clearing member.

A well-functioning CCP can improve the safety, transparency and efficiency of the financial system. Moreover, it performs a number of functions, such as netting,[2] margining, or loss mutualisation, reducing thus the systemic risk for financial counterparties. A CCP could also facilitate an orderly close out by auctioning off the defaulter´s contractual obligations as well as an orderly transfer of client positions from financially troubled intermediaries.

With the counterparty risk centralised in a CCP, a single systemic point in the system, it is critical that the CCP has adequate financial resources for risk mitigation. A CCP requires variation margins and initial margins, with the former covering fluctuations (net changes) in the market value of the underlying portfolios and the latter covering the potential costs of replacing the underlying contracts in case the original counterparty defaults. The variation margin tracks the value prior to the default and the initial margin provides a cushion against potential losses after default. In line with the "defaulter pays" approach, the initial margin is paid upfront and it is taken by the CCP to provide the first defence against potential losses.

A CCP also allows for loss mutualisation, where losses are dispersed throughout all surviving members rather than being transmitted directly to a small number of counterparties. All clearing members contribute into a default fund, which is used to absorb default losses after the defaulter´s initial margin has been depleted. Loss mutualisation is a form of insurance.

Moreover, a CCP absorbs the "domino effect" of a counterparty´s failure by acting as a central shock absorber. In the event of a default, a CCP tries to terminate all financial relations with that defaulted party with minimum losses, while guaranteeing the performance of the trades to the surviving members. It usually auctions the defaulted member´s positions amongst other clearing members rather than closing out trades at their market value. There are strong incentives to participate in these auctions in order to collectively achieve a favourable workout of a default without adverse consequences, such as using the default fund to cover the losses.

The functioning of a CCP is also associated with certain risks. Despite a general belief, a CCP does not reduce risks, but it transforms them into different forms. For example, it reduces the interconnectedness of counterparties within financial markets. Thereby it centralises the counterparty risk in a single place. This turns the CCP into a key node in the financial market, magnifying the systemic risk linked to its own potential failure. Moreover, a CCP reduces systemic risk by mitigating the impact of clearing member´s failure. At the same time, this process could also work as a catalyst of the financial distress via a liquidity drain and fire sales (see ESRB 2017). Moreover, CCP policies could impact incentives of market players for excessive risk taking by clearing members (assuming the mutualisation of their potential losses among other members). Lastly, a CCP could also take excessive risk, e.g. in a race to the bottom with respect to certain practices, in order to attract new clearing members and thus to maximise profit.

Moreover, central clearing involves high costs. A CCP requires that a significant amount of margin is posted by clearing participants. Moreover, it must be provided in very liquid assets (often in cash) on a short notice (in particular variation margins, which dynamically react to mark-to-market values and are to be transferred on a daily or intra-daily basis) and it cannot be rehypothecated or reused. This may lead to a decline in liquidity. This might be in particular acute for those counterparties who might not – due to their business models – have enough liquid assets to post, such as insurers and pension funds.

Box 1

Derivatives in a nutshell

Derivatives are contracts that derive their value from the performance of an underlying asset. They could be differentiated by the relationship between the underlying asset and the derivative (such as forward, option or swap), the type of underlying asset (such as interest rate, foreign exchange, equity, commodity or credit derivatives) as well as by the market in which they are traded. They are used for both hedging and speculative purposes. Moreover, derivatives share a characteristics that their exposure is relatively small and that there is a discrepancy between the market value and the total notional amount outstanding (Chart 2).

Exchange-traded derivatives (ETD) are financial instruments traded on a regulated exchange, while over-the-counter (OTC) derivatives are negotiated bilaterally, without going through an exchange or another intermediary. ETD differ from OTC derivatives in terms of their standardized nature, higher liquidity, transparent prices, and accessibility to a wide range of market participants as well as the ability to be traded on the secondary market. On contrary, the popularity of OTC derivatives could be associated with their flexibility to tailor contracts and to address idiosyncratic hedging needs of counterparties.

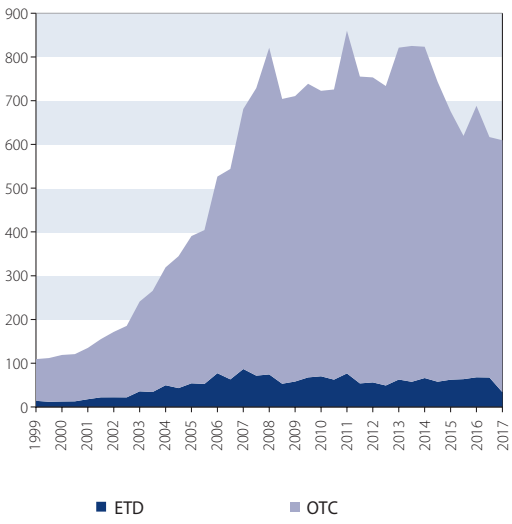
CCPs have traditionally dominated ETD, while the majority of OTC products were traded bilaterally. However as of late 1990s, several major CCPs started providing clearing and settlement services for some asset classes of OTC derivatives, such interest rate swaps. The primary role of CCPs in the ETD markets is to standardise and to simplify operational process. In OTC derivatives markets, instead, they focus more on the mitigation of counterparty risk, due to longer maturities and relative illiquidity of the market.

THE POST-CRISIS PUSH TOWARDS CENTRAL CLEARING

The global financial crisis has contributed to rethinking and significant changes in the functioning of the financial markets and the regulation of financial institutions. One of the targeted elements were over-the-counter (OTC) derivatives, which contributed to the amplification of the crisis by providing channels for propagation of the systemic risk. They have experienced a strong expansion prior to the crisis, as compared to ETD (Chart 1). In this respect, the pre-crisis growth of credit default swaps (CDS) is of particular notice (Chart 2). These developments created a dangerous mix of complexity, leverage, opacity and interconnectedness among market participants.

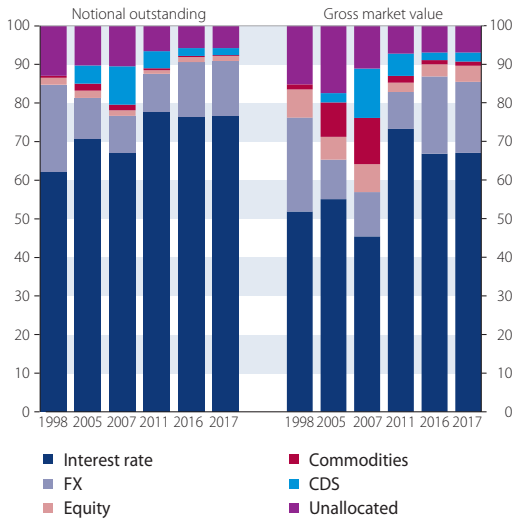
It is undisputable that centrally cleared OTC derivatives market functioned better than the bilateral one during the crisis. However, this is also due to the type and quantity of OTC products cleared. CCPs were able to absorb shocks stemming from defaults of market participants, by transferring or closing out defaulted positions without major disturbances (e.g. when Lehman defaulted). The CCPs also swiftly facilitated the transfer of solvent client accounts to other clearing members. This

Chart 1 Size of derivatives transactions (USD trillions)



Source: BIS derivatives statistics.
Note: Notional amounts for OTC derivatives and open interest for ETD. The two measurements are not directly comparable.

Chart 2 OTC derivatives (%), based on notional outstanding (left) and gross market value (right)



Source: BIS derivatives statistics.
Note: Data for end-June 2017, otherwise end of period.

contributed to a belief that a CCP can reduce systemic risk, operational risks, market manipulation and fraud, and increase the overall market stability.

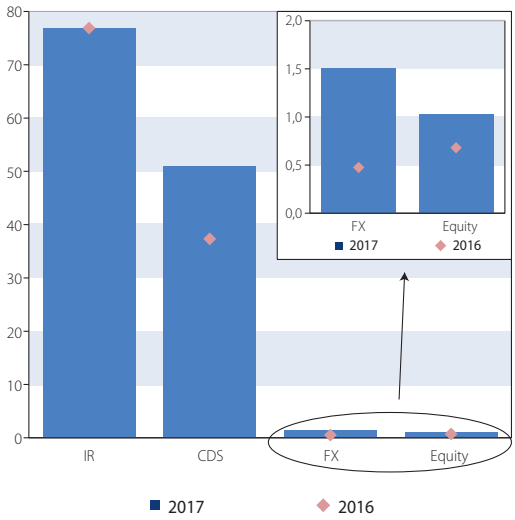
After the crisis G20 leaders embarked on regulatory changes, moving risk away from bilateral OTC derivatives market. Their agreement from September 2009 in Pittsburgh included a commitment to increase standardisation of OTC derivatives contractual terms, to trade all standardised products on exchanges or electronic trading platforms, to report all OTC contracts to trade repositories as well as the central clearing obligation for standardised OTC contracts and higher capital requirements for non-centrally cleared contracts (see FSB 2010).

The mandatory clearing of OTC derivatives has induced significant structural and behavioural effects on the management and allocation of risk in financial markets, causing a profound change to the market structure and trading practices. The expanded use of clearing for OTC derivatives represents a massive challenge for CCPs and they are slowly developing this capacity. With OTC instruments, they take longer-dated and more illiquid credit exposures to their members and require sophisticated risk models. For example, they need to take into consideration that in stressed conditions, closing out a large OTC derivatives portfolio could take a long time and it could suffer from poor market conditions and illiquidity.

Recent trends in central clearing

The central clearing obligation has been introduced by around half of G20 members. Japan and the USA implemented the first clearing mandate already in 2013. The first central clearing obligation in the EU came into effect on 21 June 2016, however it will be introduced for different counterparties only gradually (see Alfranseder et al 2018). Most countries have opted for mandatory clearing of interest rate (IR) derivatives, which make a large portion of the total outstanding notional (Chart 2) and for which there is a widespread availability of CCPs. The clearing obligation covers mostly fixed-floating swaps denominated in local currency and G-4 currencies, but also basis swaps in those currencies. Moreover, the EU, together with the USA and Japan, introduced mandatory clearing for certain credit derivatives (FSB 2017). There is also a considerable variation in the scope of entities, which are subject to mandatory clearing, with the EU having rather a broad scope.

Chart 3 Central clearing (% of notional outstanding)



Source: BIS derivatives statistics.

The regulatory push has catalysed substantial growth of centrally cleared OTC derivatives. Before the clearing obligation, it is estimated that around 35% of IR derivatives and 12% of credit derivatives were centrally cleared (FSB 2013). By mid-2017, these figures increased to 77% and 51% of notional amounts respectively (Chart 3). Still, there seems to be room for further expansion of central clearing, given the low clearing volumes in other asset classes.

Despite a trend of larger horizontal integration of CCPs, both in terms of product offerings and geographical region, the market continues to be highly concentrated (Domanski et al 2015). The high fixed costs and netting efficiency favour the use of large global CCPs, however such CCPs are also associated with a too-big-to-fail problem. Moreover, the majority of CCPs are part of vertical structures, mostly owned or managed by a company operating a stock exchange, which creates an additional layer of concentration and interconnectedness across financial market infrastructures.

Another important aspect of centrally cleared OTC derivatives is their concentration to a small number of clearing members, referred to as dealers. While the number of direct participants has remained rather stable, indirect clearing is emerging as a predominant form of access to a CCP (Cœuré 2014). It follows that large financial institutions are likely to be clearing members whereas certain sectors, in particular insurers, pension funds and non-financials, connect to CCPs only indirectly. Such a structure implies that dealers might be equally important for the stability of the network as CCPs (Fiedor et al 2017). This opens many questions regarding the risks clients face in such a network.

Regulatory response to CCP-related risks

CCPs have turned into fundamental market infrastructures and systemic nodes in the financial system. With an increase in their size and relevance, regulators embarked on strengthening supervision, oversight and regulation related to central clearing. Regulatory efforts to address risks related to central clearing have followed two paths, namely strengthening the resilience of CCPs and strengthening banks´ capital requirements in relation to their exposures to CCPs.

Box 2

Moving towards a pan-European supervision of CCPs?

The EMIR has contributed to the convergence of national approaches towards CCPs by providing a single set of rules, however CCPs have remained regulated at the national level, relying on supervision by the home EU Member States, in coordination with EU-colleges. In June 2017, the European Commission has made a proposal for targeted changes in the EMIR with the aim to enhance the current supervisory arrangement and creating a more pan-European approach to the supervision of CCPs.[3]

The proposal is motivated by two factors. First, by the increased importance of CCPs for the financial stability and market functioning of individual EU Member States, beyond the home EU Member State. Second, by the foreseen withdrawal of the UK from the EU, which would have significant impact on the European clearing landscape. Due to strong concentration of the clearing services, a substantial volume of transactions denominated in EUR and other national currencies are cleared in the UK.[4] With the withdrawal from the EU, the UK-based CCPs would no longer be subject to EMIR and the EU supervisory architecture. This motivates a more rigorous approach to a supervision of third-country CCPs, which provide services in the EU.

The COM proposal is based on a differentiated approach for authorised (EU-based) and recognised (non-EU) CCPs. For the EU-based CCPs, it foresees a closer involvement of the European Securities and Markets Authority (ESMA) and of the central bank of issue in order to increase supervisory convergence. For non-EU CCPs, a 2-Tier system has been proposed, where the existing equivalence rules would continue to be applicable for non-systemically important CCPs, while a more rigorous process of recognition and supervision is foreseen for Tier 2 CCPs, which would be declared as systemically important. In the latter case, a targeted location policy is also envisaged.

On the banking side, an attention has been given to CCP-related risks of credit institutions. As part of Basel III framework, minimum capital requirements have been introduced. They cover bank exposures to CCPs, including both trade exposures and default fund contributions. The same items are also included in the denominator of the Basel III leverage ratio. Liquidity commitments provided by banks to CCPs are included among the obligations, which are to be covered by liquid assets in the liquidity coverage ratio. Moreover, margin requirements for bilateral OTC derivatives and minimum haircuts on securities financing transactions (such as repos) also try to introduce positive margins for non-centrally cleared transactions, providing thus incentives for banks to shift to central clearing.

The regulatory approach to CCPs aims at strengthening CCP resilience via globally agreed standards. The Principles for financial market infrastructures (CPSS-IOSCO 2012) have introduced minimum requirements for sound CCP risk management practices. To mitigate credit risk, CCPs are required to follow the so-called Cover 2 principle, where CCPs need to model financial resources to withstand losses from a simultaneous default of the two largest clearing members. CCPs are also required to meet minimum standards in relation to liquidity risk, by holding liquid resources about certain thresholds in order to withstand extreme but plausible stress. They must also have rules for allocating any liquidity shortfalls among their participants, if the resources turned out to be insufficient. In the EU, the global standard has been translated into EMIR,[5] which forms a keystone for national supervisory approach towards CCPs.

One of the recent priorities is the development of a robust recovery and resolution regimes for CCPs. Given their interconnectedness, it is important to ensure the continuity of their critical functions and if needed to have the capacity to resolve the CCP in a way that prevents or limits systemic risks and avoid the use of pubic funds. The global standards require explicit rules and procedures on loss allocation beyond their financial resources without creating or exasperating systemic market disturbances.[6]

3 Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 1095/2010 establishing a European Supervisory Authority (European Securities and Markets Authority) and amending Regulation (EU) No 648/2012 as regards the procedures and authorities involved for the authorisation of CCPs and requirements for the recognition of third-country CCPs, COM(2017) 331 final, June 2017.

4 For example, around 75% of EUR-denominated IR derivatives are cleared in the UK.

5 Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories, OJ L 201, 27.7.2012, p. 1-59.

6 In the EU, the first legislative proposal has been made in November 2016. For details, please refer to the Proposal for a Regulation of the European Parliament and of the Council on a framework for the recovery and resolution of central counterparties and amending Regulations (EU) No 1095/2010, (EU) 648/2012, and (EU) 2015/2365, COM(2016) 856 final, November 2016.

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