

Central clearing counterparties¹ (CCPs) are financial entities that interpose themselves, in their own name, in financial instrument trades; they become a seller to each buyer and a buyer to each seller. Once a transaction is registered in the CCP, it simultaneously gives rise to a purchase operation and a sale operation, with both having the CCP as a counterparty. The CCP therefore assumes all the rights and obligations derived from both transactions, exposing itself to the counterparty risk both with the purchaser and with the original seller. Market risk, however, is zero.

The CCP shields itself from counterparty risk through a set of lines of defence. These include strict controls to gain access to clearing member status (and to be able to operate as such with the CCP), and a series of financial resources available to cover the losses caused by potential default by a member. These resources are, in the main, provided by the members in the form of guarantees backing positions (initial and variation margins) and of contributions to a fund for defaults (through which the CCP mutualises the losses among all the members). The CCP set aside a buffer of its own capital (known as “skin in the game”), whose volume is relatively insignificant compared with the members’ contributions.

Set against bilateral clearing, centralised clearing offers a series of potential benefits, both for participants and for the system as a whole. The main benefit is the enhanced capacity to reduce the aggregate exposure of members (and, therefore, the market and counterparty risk to which they are exposed) by means of the netting of the positions of the opposite sign that are registered in their name (as the CCP is counterparty to all the transactions).

If a member defaults, netting also allows the position that is to be closed or transferred to be smaller, thereby lessening its potential impact on prices and market volatility. It also reduces the cost of providing collateral and capital allocation (if the member were a bank).

Centralised clearing also simplifies processes and adds transparency, by replacing the complex network of market

relationships with bilateral clearing in a system that turns on a single entity (see Diagram A). This makes it easier for members to evaluate their positions and it strengthens prudent risk management, given that members are mainly exposed to an entity that is highly supervised and regulated.

From the standpoint of the authorities, centralised clearing simplifies the evaluation of market participants’ exposure and, therefore, provides for swift decision-making in the face of a bout of tension. The CCP has specific processes for managing defaults, and these can contribute to reducing contagion risk and domino effects should, for example, a large member fail.

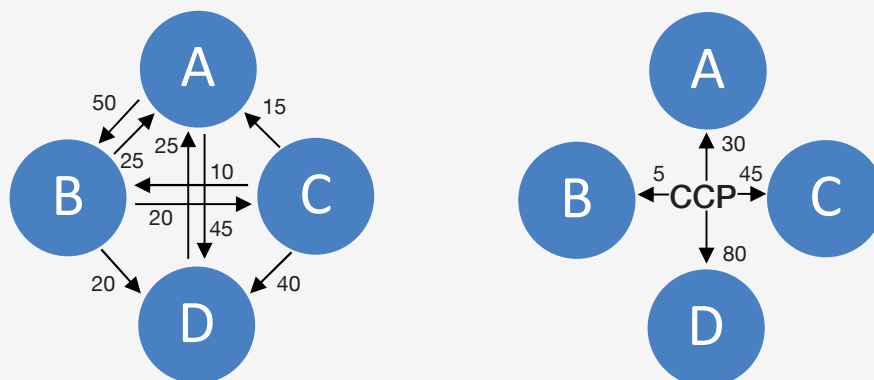
These advantages became manifest during the global financial crisis, in which centrally cleared markets proved relatively stable.² As a result, the G 20 leaders undertook in 2009 to require, among other measures, the centralised clearing of standardised OTC derivatives. This agreement has entailed a significant increase in centralised clearing activity. In 2018, for example, 76% of interest-rate derivatives (under the swaps and FRAs categories) were centrally cleared, compared with 17% in 2007 (see Chart A).³

¹ This box is based on the article “Central Clearing Counterparties: benefits, costs and risks”, Nuñez S. and E. Valdeolivas, forthcoming in the Financial Stability Review, Banco de España (May 2019).

² At the time of its collapse, the US bank Lehman Brothers had an outstanding position of \$9 trillion, corresponding to 66,390 transactions, in LCH.Clearnet Ltd (United Kingdom). This CCP concentrated approximately 50% of the total interest rate swaps market, and it had 20 members (all banks) in the swaps segment. The collapse was resolved through the auctioning of its positions and the use of the collateral provided by Lehman Brothers, without any other member posting losses [see Monnet, C. (2010). Let’s make it clear: How Central Counterparties save(d) the day, Federal Reserve Bank of Philadelphia, Business Review Q1 2010; and Gregory, J. (2014). Central Counterparties: mandatory central clearing and initial margin requirements for OTC derivatives. John Wiley & Sons, June 2014].

³ Total interest rate derivatives account for approximately 81% of total traded OTC derivatives.

Diagram A
BILATERAL AND CENTRALISED CLEARING (a)



SOURCE: Banco de España.

a The left panel shows a bilateral clearing network, with each arrow pointing from borrower to lender. The right panel shows a CCP network that groups for each member all its bilateral positions in the left panel into a single net position with the CCP. For instance, member A holds lending (borrowing) bilateral positions for a total of 65 (95), resulting in a net position of (30).

This high volume of activity, combined with the fact that CCPs concentrate that risk in a single entity (which can potentially be redistributed through the fund for defaults, for example), explains their systemic nature. This systematicity can, in turn, be reinforced by the following characteristics observed in centralised clearing: the concentration of activity at the level of the CCP and of members; and the high interconnections, owing to the presence of common members. The failure of a CCP may, therefore, expose the system to high losses if the risks are not appropriately managed.

Chart B shows the market share of the main CCPs in the swaps segment, on the basis of currencies and geographical areas.

Operations are essentially concentrated in LCH.Clearnet Ltd, with the exception of activity in Latin America (CME Clearing (US)) and in yen (JSCC (JP)). This tendency is also observed in the CDSs segment, where ICE Clear US is predominant.

From the members' standpoint, 75% of activity is concentrated in around 20 entities (most of them banks). Chart C shows, for the swaps segment, the percentage of the aggregate initial margin (a proxy of activity) deposited by the five biggest members of the three CCPs most active in this segment. This percentage ranges from 24% to 69%. Chart E shows the high presence of banks in relation to the other clearing members.

The risk entailed for a CCP of being highly exposed to certain members is mitigated by the internationally recommended requirement. This stipulates that the guarantee fund should be of a size equivalent, at least, to the losses that might be generated by the member with the highest exposure in extreme but plausible market conditions.⁴

4 In the globally systemic CCPs, the size of the fund should be big enough to cover the losses of the two biggest members.

Chart A
OTC DERIVATIVES CLEARED THROUGH CCPs
Percentage of notional amount outstanding (a)

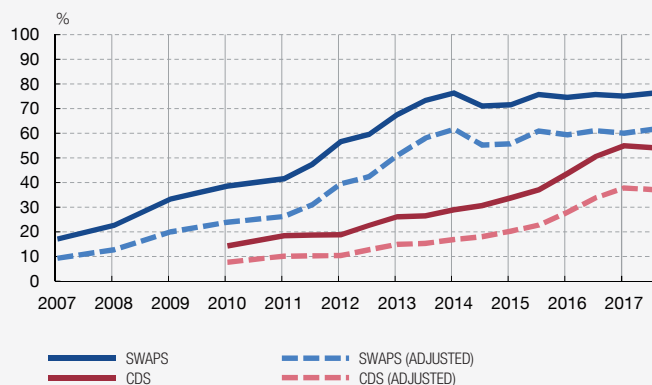


Chart B
VOLUMES CLEARED BY CCPs IN THE SWAP SEGMENT, BY CURRENCY AND GEOGRAPHICAL AREA. Percentage of market share (2018) (b)

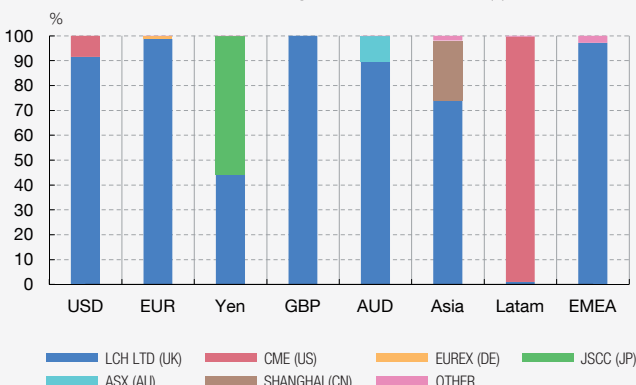


Chart C
INITIAL NET INTEREST INCOME DEPOSITED BY THE FIVE LARGEST MEMBERS. SWAP SEGMENT. 2018 Q3 (b)

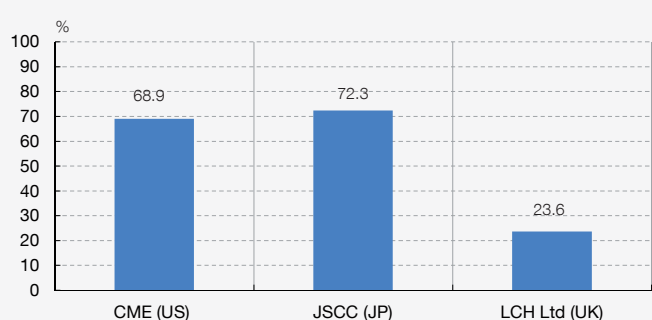
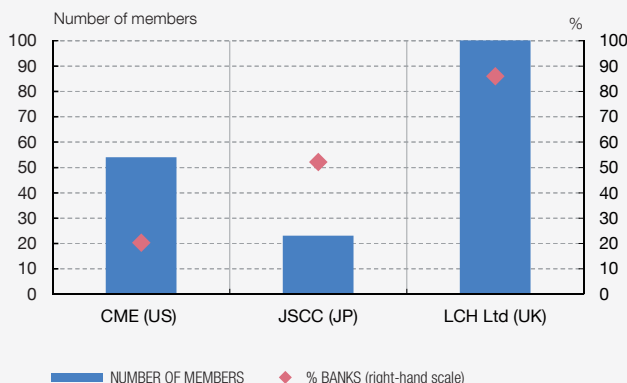


Chart D
BANKS AS CLEARING MEMBERS. SWAP SEGMENT. 2018 Q3 (b)



SOURCES: BIS (Semiannual Derivative Statistics), Clarus FT, CPMI-IOSCO (Quantitative disclosure 2018 Q3), ISDA.

a Swap data also include FRAs. The data for 2016-2018 were extracted from the BIS. Data prior to 2016 were estimated by indexing the rate of change of the percentages reported by ISDA to the data reported by the BIS. The series were adjusted by the possible double counting of BIS data.
b Swap data also include FRAs.

CCPs are, by their nature, entities that are highly interconnected to the rest of the financial system. True, CCPs can link up with one another through interoperability agreements; but these are scarce in practice. That said, there is a notably high presence of common members and services providers, some of which globally systemic banks (G-SIBs). In particular, the 26 main CCPs (domiciled in 15 jurisdictions) are, generally, exposed to at least 10 G-SIBs.

Centralised clearing has the potential to strengthen financial stability. However, it poses elements of systemic risk that must be addressed. Given this concern, regulators have expended considerable effort in reinforcing the soundness and resilience of CCPs. Recently, the focus has been on developing robust recovery and resolution arrangements to mitigate the impact that the potential failure of a CCP would have on financial stability.
