

2. Securities clearing, settlement and custody

FMI and financial institutions that provide securities clearing, settlement and custody services are considered part of the post-trade securities landscape. Systems that clear trades conducted on a stock exchange or are concluded between counterparties on the OTC market, as well as the systems that settle the obligations of the buyer and seller of a trade are subject to oversight. The institutions that operate these systems are subject to supervision. Chart 2 depicts the scope of the Bank's oversight and supervision role in this area. Section 2.1 covers CCPs which systemic relevance has grown after new regulation made central clearing for standardised OTC derivatives mandatory. While there is no CCP established in Belgium, the Bank takes part in seven EMIR CCP regulatory colleges as supervisor of (I)CSDs to which the CCP is linked or as supervisor of Belgian Clearing Members providing large contributions to the CCP's default fund. (I)CSDs, responsible for the last stage in the post-trade chain, are dealt with in Section 2.2. Among the (I)CSDs hosted by the country, Euroclear Bank and Euroclear Belgium are subject to both prudential supervision and oversight, while NBB-SSS is subject to oversight only. The only (I)CSD with banking status is Euroclear Bank. It falls under the prudential authority of the European Central Bank (ECB). However, as Euroclear Bank has been qualified as a less significant institution (LSI) under the SSM, it remains under the direct prudential supervision of the Bank as national competent authority. Finally, Section 2.3 covers institutions whose single business line is the provision of custody services (i.e. providing securities safekeeping, settlement and investor services to their clients) with a focus on BNYM SA/NV which is a global custodian established in Belgium with links to multiple (I)CSDs allowing its clients to hold securities issued in markets worldwide. BNYM SA/NV is supervised by the ECB under the framework of the SSM as a significant credit institution (SI).

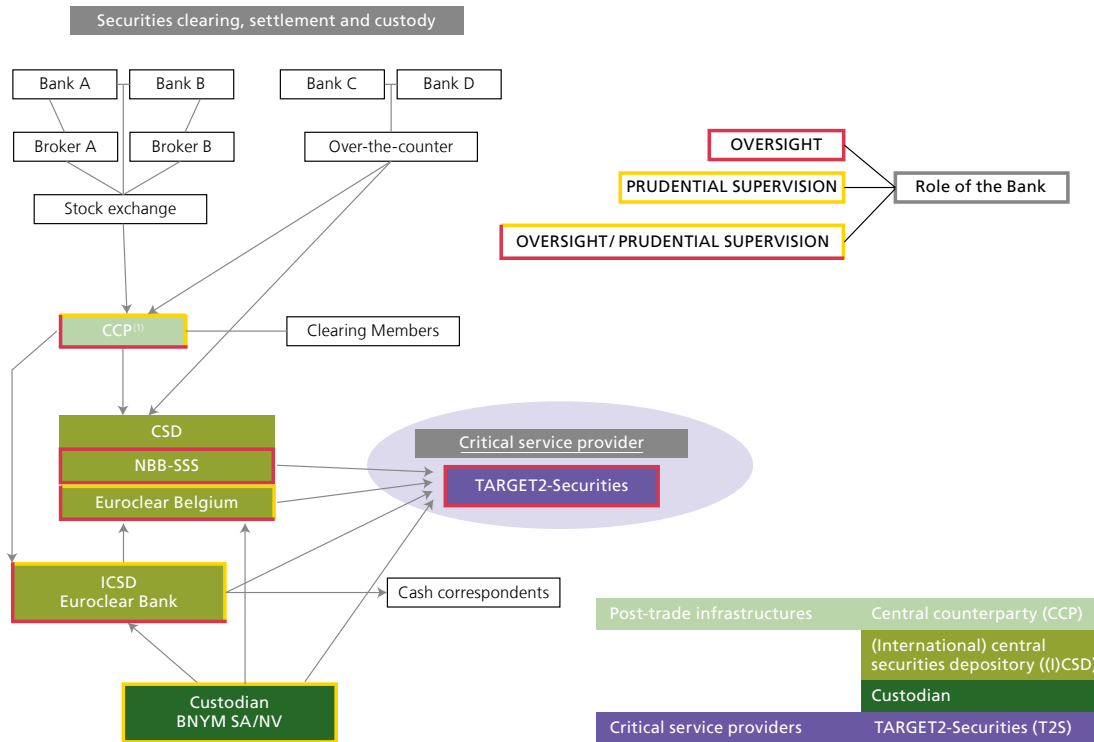
2.1 CCPs

CHANGES IN REGULATORY FRAMEWORK

In 2009, the G20 leaders took the initiative to make the over-the-counter (OTC)⁽¹⁾ derivatives markets safer and more transparent. They decided that all standardised OTC derivatives contracts should be cleared through a CCP with the aim to enhance financial stability. As a result, CCPs have become increasingly critical components of the financial system in recent years. A CCP interposes itself between the counterparties, becoming the seller to the buyer and the buyer to the seller, and manages the outstanding risk on the contracts, mainly via collateralisation. The original counterparties to the trade now have a risk on the CCP, and no longer on each other. In order to fully reap the benefits of CCPs, they should be subject to strong regulation and supervision. In April 2015, under the guidance of the Financial Stability Board (FSB), the Basle Committee on Banking Supervision (BCBS), CPMI and IOSCO agreed a work plan to coordinate their policy work to enhance the resilience, recovery planning and resolvability of CCPs. The work plan focuses on CCPs that are systemic across multiple jurisdictions.

(1) An over-the-counter trade is a trade concluded via a dealer network, as opposed to on a centralised exchange.

CHART 2 SCOPE OF THE BANK'S OVERSIGHT AND PRUDENTIAL SUPERVISION ROLE IN POST-TRADE SECURITIES LANDSCAPE



(1) LCH.Clearnet Ltd (UK), ICE Clear Europe (UK), LCH.Clearnet SA (FR), Eurex Clearing AG (DE), EuroCCP (NL), Keler CCP (HU), CC&G (IT).

At international level, two reports were issued subsequently. Firstly, in August 2016, an FSB update report on the work undertaken to address risks posed by CCPs was published. The report refers to the work of a dedicated working group on the interdependencies between CCPs and their clearing members, users and other stakeholders such as liquidity providers, and on the (dis)incentives of other regulations to promote central clearing. The main focus was nonetheless on aspects of CCP resilience (i.e. the safeguards that make a CCP sound and prevent its failure), CCP recovery (i.e. the pre-agreed measures to refund or recapitalize a CCP in case it would encounter major financial and/or operational difficulties, to keep it operating) and CCP resolution (whereby the authorities step in, either to save the CCP although not with public money, or to orderly wind it down)⁽¹⁾.

Secondly, the FSB published in early February 2017 a consultative report with draft Guidance on Central Counterparty Resolution and Resolution Planning, setting out proposals for effective resolution strategies. The report seeks to complement the FSB's Key Attributes of Effective Resolution Regimes for Financial Institutions (Key Attributes) and implementation guidance on FMI resolution. The Key Attributes state the objectives of FMI resolution and a range of powers and tools that should be made available to resolution authorities to resolve a failing FMI. The guidance sets out the tools to be used for the effective resolution of CCPs, aiming to assist resolution authorities with developing credible resolution strategies and plans. It covers timing of entry into resolution, adequacy of financial resources, tools for returning to a matched book and allocating default and non-default losses, application of the "no creditor worse off" safeguard⁽¹⁾, treatment of the CCP's equity in resolution, and cross-border cooperation and effectiveness of resolution actions.

(1) Swerts, Q., and Van Cauwenberge, S. (2016), *CCP resilience and recovery, Impact for the CCP users*, NBB Financial Stability Report, 187-202 (https://www.nbb.be/doc/ts/publications/fsr/fsr_2016.pdf).

The CPMI and IOSCO intend to publish in Q2 2017 a report with additional guidance on the resilience of central counterparties (CCPs). The guidance aims to provide more granularity to the standards set out in the PFMI. The proposed guidance focuses on CCP governance, credit and liquidity stress testing, margin, a CCP's contribution of its financial resources to losses, and its coverage of credit and liquidity resource requirements. The report also recalls the relevance of having a credible recovery plan in place.

In the EU, the 2012 EMIR Regulation and its implementing Regulations set out the clearing obligation and the requirements for CCPs established in the EU Member States. In 2016, the clearing obligation entered into force in the EU for standardised Interest Rate Swap (IRS) contracts in the most relevant currencies, and for indexed Credit Default Swaps (CDS)⁽²⁾. The obligation will be phased in based on a dedicated calendar, whereby the bigger counterparties have to cope with the obligation first. As scheduled, the European Commission started its consultation on the review of EMIR mid-2015, and published its EMIR review report in November 2016⁽³⁾. A legislative proposal is expected Q2 2017. Overall, no big change to the EMIR framework is expected, with the main focus on fine-tuning some requirements or increasing the efficiency. Furthermore, in November 2016, a more detailed proposal from the Commission set out the CCP recovery and resolution frameworks, based on the international work.

BUSINESS ACTIVITY

Chart 3 shows the value of amounts cleared over 2015 in the main EU CCPs, broken down into four broad product categories cleared, i.e. cash market instruments, non-OTC and OTC derivatives, and repo transactions. Most CCPs are multi-product CCPs, although not to a comparable extent. A CCP is by definition systemically important: it concentrates credit, liquidity and operational risks as it becomes a counterparty to every buyer and seller. Nonetheless, four EU CCPs – Eurex Clearing AG (DE), the sister CCPs LCH.Clearnet SA (FR) and LCH.Clearnet Ltd (UK), and ICE Clear Europe (UK) – can be said to be very important from a financial stability perspective, on the basis of both their sheer activity level (shown in chart 3) and the risks they manage (as shown hereafter, Table 5).

There is currently no CCP established in Belgium. However, CCPs are relevant for Belgian financial markets, clearing members and CSDs. The four most important CCPs from an EU perspective are also the most relevant CCPs for Belgium given their role in clearing the Belgian cash and derivatives on exchange markets⁽⁴⁾, OTC derivatives products and repos. Other relevant aspects include the number of Belgian clearing members and the Belgian CSDs the CCP settles in⁽⁵⁾.

The Euronext Brussels exchange markets are cleared by the French central counterparty LCH.Clearnet SA. Over 2016, the Euronext Brussels cash market trade volumes cleared by LCH.Clearnet SA amounted to € 120 billion. The notional values of futures traded comprised € 2.5 trillion over the year and € 617 billion for option products.

A number of EU CCPs clear OTC derivatives products that are, as opposed to listed derivatives, not standardly cleared by a CCP. Nowadays, the main OTC derivative product categories cleared by CCPs are interest rate and credit default products. In its mid-2016 progress report the FSB indicates that 60% of the OTC interest rate derivatives products can be CCP cleared, compared to less than 30% for credit derivatives⁽⁶⁾. As can be seen from the outstanding amounts at end-2016 – see table 2 – clearing is quite concentrated. The London-based CCP LCH.Clearnet Ltd estimates that its SwapClear service cleared 50% of all OTC IRSs worldwide, and even 95% of the contracts cleared by a CCP. Around 40% of the IRSs cleared by LCH.Clearnet Ltd are denominated in euro. At the end of 2016, the notional amount outstanding of cleared IRSs amounted to € 240 trillion. The main EU CCP clearing CDSs is ICE Clear Europe, also

(1) The "no-creditor-worse-off" principle implies that no creditor will receive less in economic terms than what it would have received under regular insolvency proceedings of the CCP, without the resolution authority intervening.

(2) An IRS is a financial derivative instrument in which two parties agree to exchange interest rate cash flows, thereby hedging or taking a position in an interest rate. With a CDS, counterparty credit risk is hedged or taken. Only the most liquid IRSs or CDSs are subject to a clearing obligation. ESMA holds a "Public register for the clearing obligation under EMIR" on its website, available via <https://www.esma.europa.eu/regulation/post-trading/otc-derivatives-and-clearing-obligation>.

(3) The Commission's EMIR review report is available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0857&from=EN>.

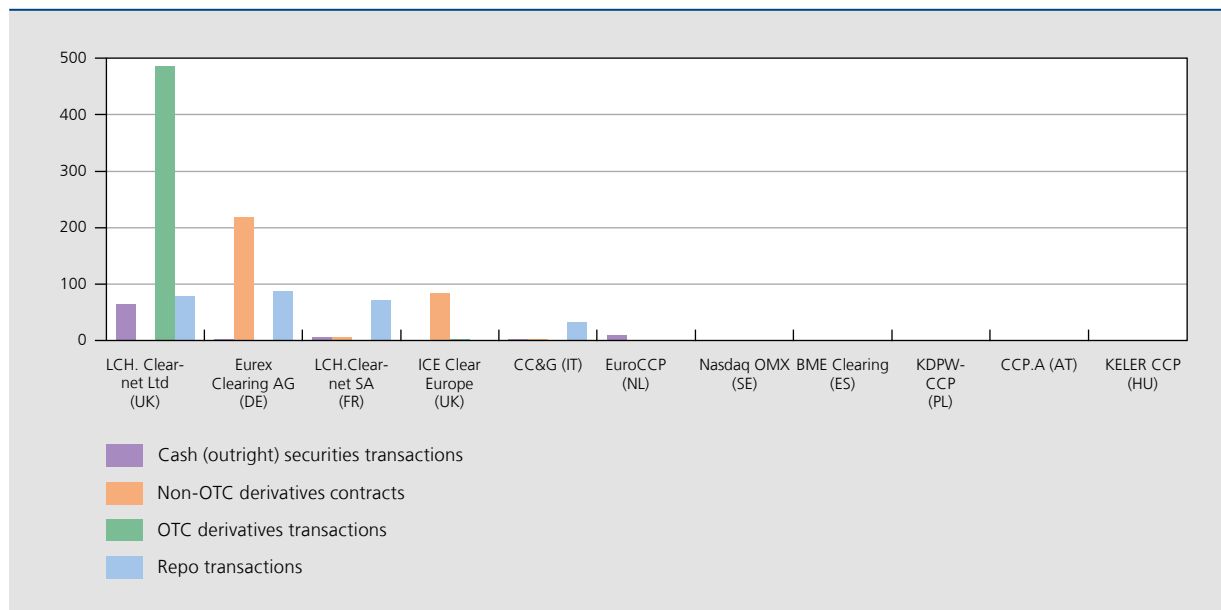
(4) On exchange is a term to indicate that a trade is taking place directly on an order book.

(5) For these aspects, see hereafter, this chapter, prudential and oversight approach and table 4.

(6) OTC Derivatives Market Reforms: Eleventh FSB Progress Report on Implementation (26 August 2016).

CHART 3 VALUE OF AMOUNTS CLEARED IN THE MAIN EU CCPs

(2015 yearly total, in € trillion)⁽¹⁾



Source: ECB Blue Book, 2015 data.

(1) For derivative trades, the notional amounts cleared are represented.

established in London. Its notional outstanding value of CDSs amounted to about € 1.5 trillion at end-2016, compared with € 56 billion for the Paris-based LCH.Clearnet SA.

As regards secured euro lending, mainly repo trades, according to the ECB's 2015 Euro Money Market Survey⁽¹⁾, around 70 % of the overall EU market turnover was CCP-cleared. The CCP clearing of repo trades is also heavily concentrated, with nearly equal parts cleared by the main EU CCP, as can be seen from table 3. According to the semi-annual International Capital Markets Association (ICMA) European Repo Market Survey, the total value of repo contracts (over all currencies) outstanding in the EU was almost € 5.7 trillion by mid-December 2016.

TABLE 2 OVER-THE-COUNTER DERIVATIVES CLEARING VALUES IN MAIN EU OTC DERIVATIVES CCPs

(notional amounts outstanding end 2016, in € billion)

EU derivatives CCP	Interest Rate Swaps (IRS) and Forward Rate Agreements (FRA)	Credit Default Swaps (CDS)
LCH.Clearnet Ltd (UK)	240 193	n.
ICE Clear Europe (UK)	n.	1 467
Eurex Clearing AG (DE)	945	n.
LCH.Clearnet SA (FR)	n.	56

Sources: CCP websites.

(1) https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/money_market/html/index.en.html.

TABLE 3 REPO CLEARING VALUES IN MAIN EU CCPs
(2016 yearly total, in € billion)

CCP	Values ⁽¹⁾
LCH.Clearnet Ltd (UK)	74 275
LCH.Clearnet SA (FR)	67 534
Eurex Clearing AG (DE)	65 293
ICE Clear Europe (UK)	n.

Sources: CCP websites.

(1) Trade (gross) values are double counted due to the CCP interposition.

In mid-2016, the Deutsche Börse Group and the London Stock Exchange (LSE) Group announced their intention to merge. This proposed consolidation was to a considerable extent driven by the CCP activities of the groups. The sister CCPs LCH.Clearnet SA and LCH.Clearnet Ltd, and the Italian CCP CC&G are LSE Group companies, while Eurex Clearing is the CCP of the Deutsche Börse Group. The merger was expected to allow CCP customers to clear more trades and hold bigger positions while providing a smaller amount of collateral, which would also further concentrate or interconnect the risks to be managed by the (combined) CCPs, potentially impacting financial stability (this aspect is set out in the article on “Concentration risks in financial market infrastructures – the specific case of CCPs”). At the end of March 2017, however, the European Commission’s Directorate-General for Competition blocked the merger.

PRUDENTIAL & OVERSIGHT APPROACH

From a microprudential perspective, the most relevant financial risks faced by a CCP are counterparty credit risk and liquidity risk. Counterparty credit risk refers to the risk that a counterparty will be unable to fully meet its obligations, mainly following a clearing member (CM) default occurring in extreme markets. Liquidity risk will chiefly arise when the CCP seeks to re-establish a balanced book under these conditions. To cope with these risks, a CCP must at all times be able to withstand the simultaneous default of its two biggest clearing members in extreme but plausible markets, and to have adequate resources to cover the loss or to raise the liquidity needed in time. In other words, the CCP has to comply at all times with the so-called CPMI-IOSCO “cover 2” principle.

In April 2016, the European Securities and Markets Authority (ESMA) published the results of its first supervisory stress test for EU CCPs. The test focused solely on the counterparty credit risk which CCPs would face as a result of multiple CM defaults and simultaneous market price shocks. The results show CCPs’ resilience in extreme but plausible markets, as their resources were sufficient to cover losses resulting from the default of the top-2 EU-wide CM groups under both historical and hypothetical market stress scenarios. Under more severe stress scenarios – and especially the case assuming the default of the top-2 CMs of each EU CCP leading to more than 25 CM defaulting EU-wide – CCPs faced only small total (i.e. across all CCPs) residual uncovered losses. Wherever it appeared that a CCP did not always use a severe enough scenario, this was notified to its national competent authority for supervisory follow-up⁽¹⁾. The second ESMA EU-wide CCP stress test, scheduled for 2017, will also include a liquidity stress-testing part. This is not a mere add-on feature, but testing of an important CCP risk management challenge. It should not be forgotten that the 2008 crisis appeared as a liquidity crisis.

As of end-2016, the Bank was participating in seven CCP supervisory colleges, as listed in table 4. Its participation is based either on its capacity as supervisor of a CSD that the CCP settles in, or as supervisor of CMs of the CCP that contribute the most to the default fund per country.

(1) The report on the EU-wide ESMA 2015 CCP stress test 2015 is available at: https://www.esma.europa.eu/sites/default/files/library/2016-658_ccp_stress_test_report_2015.pdf. Details of the announced ESMA 2017 CCP stress test are available at <https://www.esma.europa.eu/press-news/esma-news/esma-announces-details-2017-ccp-stress-test>.

TABLE 4 EU CCP SUPERVISORY COLLEGES WITH THE BANK'S PARTICIPATION

CCP ⁽¹⁾	Main clearing services and relevance for Belgium	Direct Belgian clearing members ⁽²⁾	EMIR criterium for the Bank's participation in the CCP's supervisory college	
			Contribution of Belgian clearing members to the CCP default fund	CCP settles in a Belgian (I)CSD ⁽³⁾
LCH Clearnet Ltd (UK) . . .	Interest Rate Swaps/Repos	4 AXA Bank Europe; Belfius Bank; BNP Paribas Fortis; KBC Bank		X (EB, NBB-SSS)
Eurex Clearing AG (DE) . .	Listed interest derivatives / Repos	2 Belfius Bank; BNP Paribas Fortis		X (EB)
LCH Clearnet SA (FR)	Euronext cash and derivatives trades (including Euronext Brussels)	7 Banque Degroof Petercam; Belfius Bank; BNP Paribas Fortis; Delen Private Bank; Dierickx Leys & Cie Effectenbank; Leleux Associated Brokers; Van De Put & Co Private Banks		X (EB, EBE, NBB-SSS)
ICE Clear Europe (UK) . . .	Credit default swaps	none		X (EB)
CC&G (IT)	National CCP of Italy	none		X (EB)
Euro CCP (NL)	Main European stocks	none		X (EB)
Keler CCP (HU)	National CCP of Hungary	1 KBC Securities Hungarian branch	X	

Source : NBB.

- (1) The Bank participated until November 2016 in the college of the national Polish KDPW_CCP, but no longer does so. Under European rules, the CCP college participation is yearly reassessed based on the EMIR Art. 18 criteria.
- (2) A Belgian bank not mentioned in the table may clear in a CCP but as an indirect clearing member, this is, as the client of a clearing member that is eventually a foreign entity of the group it belongs to.
- (3) EB: Euroclear Bank ICSD, EBE: Euroclear Belgium CSD, NBB-SSS: securities settlement system operated by the Bank.

A rough indication of how big a CCP is, or how much “risk” it manages, consists in looking at the overall initial margin⁽¹⁾ amounts it receives – across all of its CMs – and at its default fund⁽²⁾ resources. Although the products cleared and the specific risk management methods used by the CCPs do differ, the overall structure and requirements for initial margin and default fund calculations are prescribed by the EMIR Regulation. The data in table 5 are thus to a certain extent comparable across CCPs. They relate to the initial margins and default fund of the main EU CCPs or CCPs where the NBB participates in the supervisory college.

- (1) Initial margin is the collateral that the clearing member provides to the CCP to open or maintain a position, and that covers the potential future price movements of a contract or portfolio over the so-called liquidation period in normal markets. The liquidation period is the time needed to sell or hedge a contract or position, e.g. standardly two days for on-exchange contracts.
- (2) Clearing members mutualise each other via the CCP's default fund. This pre-funded resource can be used only by the CCP after the initial margin amount of the defaulting clearing member is used to cover the CCP's counterparty credit risk exposure. The size of the default fund should allow a CCP to withstand the simultaneous default of its two biggest clearing members, under extreme but plausible market conditions

TABLE 5 PRE-FUNDED RESOURCES AVAILABLE TO SELECTED EU CCPs

(in € billion)

CCP	Initial margins collected ⁽²⁾	Default fund resources ⁽³⁾
LCH.Clearnet Ltd ⁽¹⁾ (UK)	77	5.4
Eurex Clearing AG ⁽¹⁾ (DE)	47	3.6
ICE Clear Europe ⁽¹⁾ (UK)	42	2.5
LCH.Clearnet SA ⁽¹⁾ (FR)	23	3.2
CC&G ⁽¹⁾ (IT)	12	4.9
Nasdaq OMX (SE)	5	0.4
BME Clearing (ES)	4	0.2
EuroCCP ⁽¹⁾ (NL)	2	0.2
KDPW_CCP (PL)	0.3	0.1
Keler CCP ⁽¹⁾ (HU)	0.05	0.02
CCP.A (AT)	0.03	0.02

Sources: CPMI-IOSCO quantitative disclosure framework (tables 4.1 and 6.1), Q3 2016, as disclosed by the CCP.

- (1) The Bank participates in the supervisory college of the CCP.
- (2) Initial margins are summed over all clearing members of the CCP. In case of a clearing member default the CCP will only use the initial margin of the defaulter, not the initial margin of the surviving clearing members.
- (3) Where a CCP has more than one default fund, the sum of the sizes of all default funds is taken. In case of a clearing member default, the CCP can use the whole default fund if needed.

SUPERVISORY PRIORITIES IN 2017

Priorities for the ongoing supervision of EU CCPs are set by the national competent authority, taking into account the college members' demands. The most relevant priorities for the EU CCPs in general are set out below.

Pending EU legislation on CCP resolution, and given the FSB initiatives, national competent authorities are starting to establish cross-border crisis management groups for CCP resolution and looking on how to implement the CCP resolution plan. As a corollary, and based on the CPMI-IOSCO guidance on FMI recovery – CCPs are enhancing their recovery rules and the way stakeholders, including the CMs, share in the losses. Furthermore, a continuing priority remains the CCP's operational (and specifically its cyber) risk management. Also, ESMA – in its role of responsible authority for harmonising the supervisory practices across the EU CCPs – has issued a report containing recommendations for best practices regarding margin and collateral requirements, including recommendations on portfolio margining⁽¹⁾. National competent authorities are expected to follow this up. Finally, an ongoing supervisory activity is the authorisation of new services or risk models proposed by the CCP. New services or products or significant risk model changes implemented by an EU CCP have to be authorised by its national competent authority that has to take into account the opinion of the CCP's supervisory college. For instance, at the end of 2016, the London CCP LCH.Clearnet Ltd announced its plan to offer a clearing service for OTC FX options, for which an authorisation and thus a college opinion is required.

(1) With portfolio margining, the margin requirements are calculated on the basis of the overall risk of the portfolio of a given product class. Portfolio margining results in lower margin requirements on hedged positions. See also ESMA (2016), Peer Review under EMIR Art. 21 – Supervisory activities on CCPs' Margin and Collateral requirements (<https://www.esma.europa.eu/press-news/esma-news/esma-identifies-areas-improvement-in-eu-ccp-supervision>).