

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 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. Box 1 provides more insight into the different roles institutions play at each stage of the securities trading, clearing, settlement and custody process while 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 legislation made central clearing for standardised OTC derivatives mandatory. CCPs are subject to both prudential supervision and oversight. While there is no CCP established in Belgium, under the EMIR Regulation, the Bank takes part as a competent authority in seven CCP colleges as the CCP is settling in a Belgian CSD or due to the size of Belgian clearing members' contribution to the mutual CCP default fund which is available to the CCP to cover the default of a clearing member.

(I)CSDs, responsible for the last stage in the post-trade chain, are dealt with in section 2.2. Of the three (I)CSDs that Belgium hosts, only Euroclear Bank has banking status (rated AA+ by Fitch Ratings and AA by Standard & Poor's) and falls under the prudential authority of the ECB. However, as it has been qualified as an LSI under the SSM (i.e. total assets < € 30 billion), it remains under the direct prudential supervision of the Bank.

As the risk profile of an FMI is fundamentally different from a universal deposit-taking bank, prudential requirements for banks (Basel III, Capital Requirements Directive, etc.) do not always adequately cover the specific operational and financial risks involved. Other internationally agreed standards for CCPs and (I)CSDs are more adequate for covering such risks (i.e. PFMI). In the EU framework, these principles have been transposed into EU legislation (EMIR and CSDR).

(I)CSDs established in Belgium have a different scope in terms of activities. While Euroclear Bank provides services in a wide range of securities, securities eligible in Euroclear Belgium are primarily Belgian equities. Euroclear Bank and Euroclear Belgium are subject to both prudential supervision and oversight. Under the CSDR, the Bank has been assigned as the sole competent supervisory authority for Belgian CSDs, and is, as overseer, also considered as relevant authority in the CSDR.

NBB-SSS holds and settles public sector debt including securities issued by the Belgian federal government and by regional or local governments as well as private sector debt issued by corporates, credit institutions or other entities. NBB-SSS is subject to oversight only.

Euroclear Belgium and NBB-SSS's daily settlement operations are outsourced to TARGET2-Securities (T2S), as in the case of other CSDs in Europe⁽¹⁾. T2S is not a CSD, but as it provides critical settlement services to many euro area and non-euro area CSDs, it is essential that it enables member CSDs to comply with the regulations applicable to them. In line with PFMI Responsibility E (Cooperation with other authorities), the Eurosystem has set up the T2S Cooperative Arrangement to ensure that all authorities with a legitimate interest in the smooth functioning of T2S are involved, including the overseers and market authorities of CSDs that have signed the T2S Framework Agreement, in coordination with the ECB and ESMA. The authorities assess both the general organisation of T2S as a critical infrastructure (i.e. technical platform, legal basis, governance structure and comprehensive risk management framework), as well as the services it provides against an applicable subset of the PFMIs. The Bank is involved in the cooperative oversight of T2S⁽²⁾.

(1) In December 2017, T2S settled on average 571 879 transactions per day for an average daily value of € 884.4 billion (source: ECB).

(2) Oversight activities of the Eurosystem on T2S are covered in the Eurosystem's Oversight Report. The last report was published in November 2017 covering reporting year 2016. See also <https://www.ecb.europa.eu/pub/pdf/other/eurosystemoversightreport2016.en.pdf?2ae0c243b5cab226b6d21c0115dbf609>.

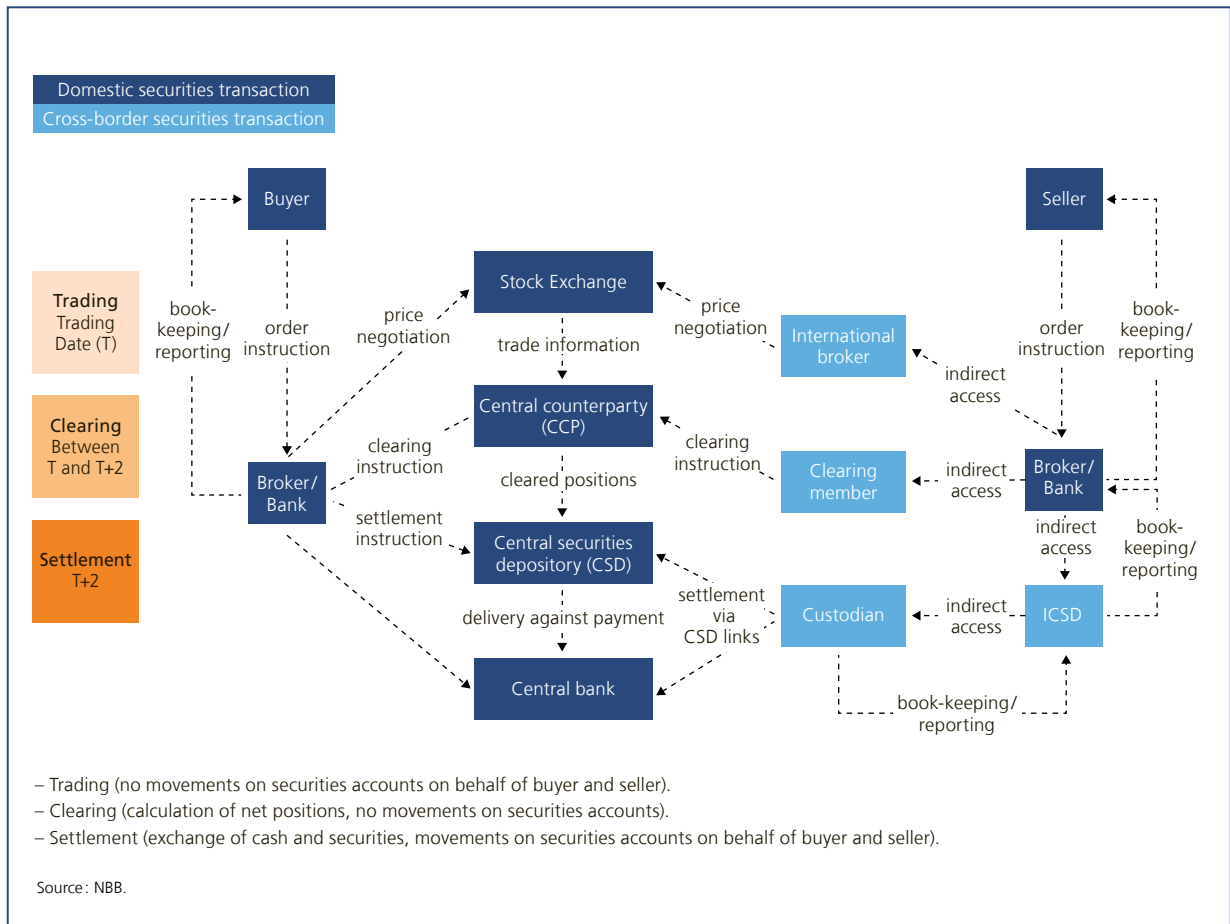
Box 1 – Institutions' role at each stage of the securities trading, clearing, settlement and custody process

The lifecycle of a securities trade until its settlement typically involves various stages and intermediaries. The chart below provides an example for a domestic and a cross-border transaction. For the domestic transaction, it is assumed that institutions have direct access to securities trading, clearing and settlement infrastructures, while for the cross-border trade, it is assumed institutions have to rely on intermediaries to connect to those infrastructures.

The domestic transaction is concluded on a stock exchange on behalf of the buyer and seller of securities. The buyer and seller will instruct their respective brokers (or banks) to process a buy or sell order on the stock exchange based on their price indication. At this stage (on trade day T), the order is executed in the market by the respective brokers but the buyer does not own the securities yet (i.e. no movement between buyer and seller securities accounts). The brokers have direct access to the CCP that will step in and net trade positions by becoming the seller to the buyer and vice versa. After clearing, instructions to settle the net positions are sent to the CSD. To settle securities against cash on the settlement date (e.g. on T+2), a CSD is typically connected with the payment system of the central bank. The seller's broker will deliver the securities (i.e. net amount after clearing by the CCP) and receive the cash on behalf of its client. The broker of the buyer will process the other way around. This stage marks the transfer of ownership from the seller to the buyer as it implies an effective movement between securities accounts.

For the cross-border transaction, the seller's broker (or bank) can rely on an international broker to conclude the transactions on the stock exchange. Because of the cross-border nature of the transaction, counterparties may not be directly connected to the CCP and may therefore opt to use a clearing member of the CCP. Clearing members have to provide collateral (margin) to cover the risks for the CCP. Brokers may also use an ICSD for holding foreign securities. In turn, an ICSD may use a custodian to connect to the local CSD and central bank. The local custodian (or ICSD) will ensure book-keeping and reporting services on the holding of securities, as well as other custody services such as the processing of dividend payments.

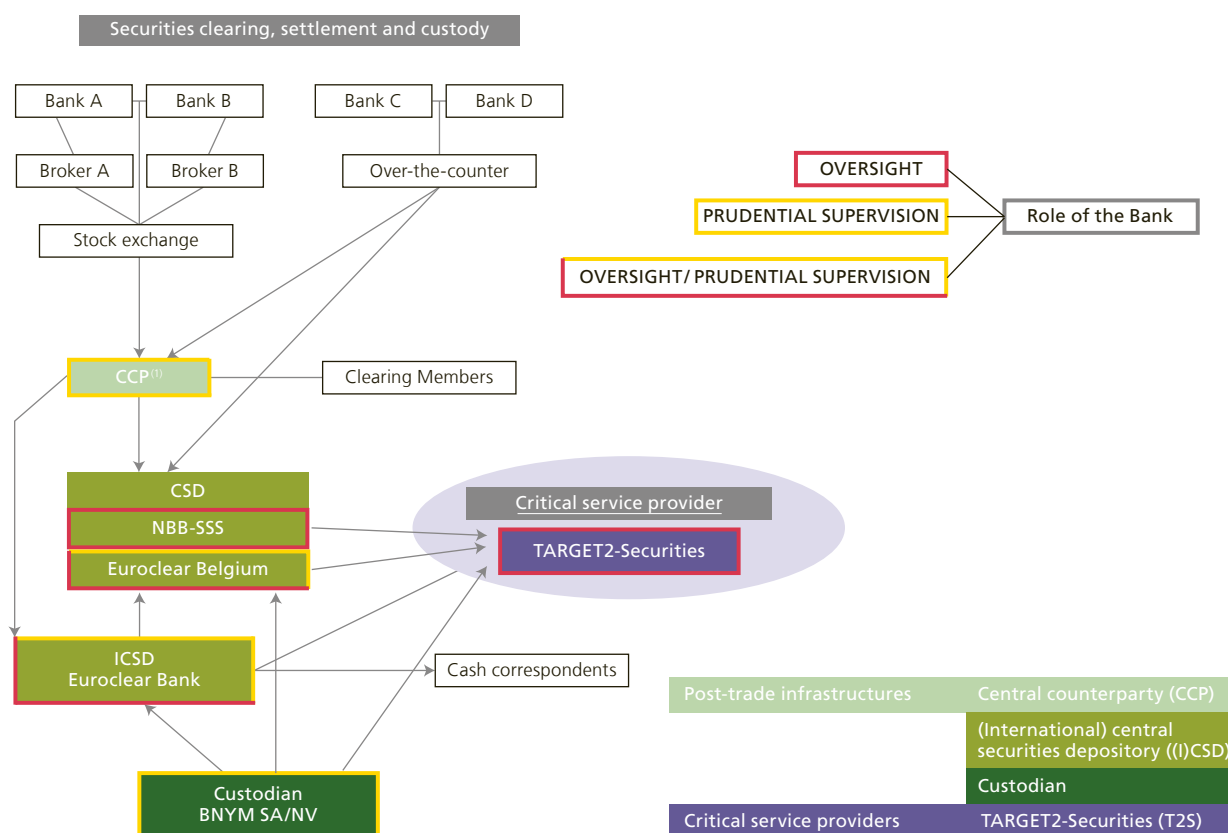




Finally, section 2.3 covers institutions whose single business line is the provision of custody services (i.e. providing securities safekeeping, settlement and investor services to their clients) with a focus on BNYM SA/NV which is a global custodian established in Belgium with links to multiple (I)CSDs allowing its clients to hold securities issued in markets worldwide.

CHART 2

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



Source: NBB.

(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).

2.1 CCPs

Changes in regulatory framework

With the introduction of the clearing obligation – this is, the mandatory use of a CCP – for standardised OTC derivatives contracts, CCPs have become increasingly critical components of the financial system. Back in 2015, the Financial Stability Board (FSB) had set out a workplan to strengthen CCP resilience, and ultimately, its resolvability if need be⁽¹⁾.

In mid-2017, the FSB published its guidance on CCP Resolution and Resolution Planning⁽²⁾. The guidance complements the FSB Key Attributes of Effective Resolution Regimes in the case of CCPs. It sets out powers for resolution authorities to maintain the continuity of critical CCP functions; discusses the use of loss allocation tools; and describes steps authorities should take to establish crisis management groups for relevant CCPs and to develop resolution plans. Items covered include the timing of entry into resolution; the adequacy of financial resources; the tools for returning to a matched book and for allocating default and non-default losses, the application of the no-creditor-worse-off safeguard in the event of resolution⁽³⁾, and the cross-border cooperation and effectiveness of resolution actions.

(1) Available at: <http://www.fsb.org/2015/09/2015-ccp-workplan/>.

(2) Available at <http://www.fsb.org/2017/07/guidance-on-central-counterparty-resolution-and-resolution-planning-2/>

(3) CCP participants, equity holders and creditors should have a right to compensation if they do not receive in resolution a minimum of what they would have received, had the CCP or relevant clearing service been liquidated or terminated under the applicable insolvency law instead.

Under the FSB's guidance, the BCBS, CPMI and IOSCO completed their main policy work to enhance the resilience, recovery planning and resolvability of CCPs, focusing on CCPs that are systemic across multiple jurisdictions.

In early July 2017, the BCBS, CPMI, FSB and IOSCO also published their first joint Analysis of Central Clearing Interdependencies⁽¹⁾, covering 26 CCPs from 15 jurisdictions and analysing the interdependencies between CCPs and their clearing members and other financial services providers, such as liquidity providers. The analysis shows a core of highly connected CCPs and financial institutions.

In July 2017, CPMI-IOSCO issued a final report on the Resilience of CCPs⁽²⁾ that contains guidance to the PFMI, in an effort to further improve the CCPs' resilience. It covers aspects of the CCP's governance, credit and liquidity stress-testing, margining, a CCP's contribution of its financial resources to losses, and what constitutes adequate coverage of the CCP's credit and liquidity resource requirements.

At the same time, the CPMI and IOSCO updated their report on the recovery of FMIs⁽³⁾ with proposed additional guidance providing more granularity to the PFMI standards. The changes are limited in scope and relate to the following four areas: i) the effective organisation of the recovery plan; ii) the arrangements (timing) for replenishing the CCP default fund after a clearing member default; iii) the recovery by the CCP of losses not related to the default of a clearing member, such as custody and investment risks; and iv) transparency with respect to the recovery tools and their implementation.

In April 2018, CPMI and IOSCO published a framework for supervisory stress testing of CCPs⁽⁴⁾ with a view to analysing the broad, macro-level impact of a common stress event affecting a set of CCPs. The sources of stress can be credit or liquidity occurrences, or both. The stress-testing framework is broadly designed and flexible and its addressees are the authorities, and not the CCPs, and its use is voluntary. In Europe, ESMA already stress tests EU CCPs on such a basis (see hereafter, item "Prudential & oversight approach").

In the EU, EMIR and its implementing Regulations set out the clearing and reporting obligation for standardised derivatives⁽⁵⁾, the requirements for CCPs established in the EU and their supervision. In May 2017, the European Commission tabled a proposal to amend EMIR, the so-called EMIR Refit proposal. It aims to eliminate disproportionate costs and burdens to small companies – especially non-financial counterparties notably by simplifying some requirements relating to the reporting and the clearing obligation. Overall, the main focus is on fine-tuning requirements or increasing the efficiency.

In mid-2017, the Commission also proposed to improve consistency of supervisory arrangements for CCPs established in the EU, and to enhance the EU's ability to monitor, identify and mitigate third-country CCP risks⁽⁶⁾. ESMA governance would effectively be enhanced, while central banks responsible for EU currencies would be given a bigger role. Issuing central banks would be in charge of the CCP's payment and settlement arrangements, and liquidity risk management. This aspect is complemented by an ECB proposal to obtain regulatory powers vis-à-vis CCPs in the context of its monetary policy⁽⁷⁾. Furthermore, the Commission's proposal sets out a direct supervision regime for systemic third-country CCPs, and even makes it possible to require – via a delegated act – the relocation to the EU of so-called "substantially systemically important CCPs". In this respect, it prepares for a March 2019 Brexit, by strengthening the third-country CCP authorisation and supervisory regime. Discussions in the EU Council of Ministers and European Parliament are still ongoing.

A more detailed proposal from the Commission that sets out the CCP recovery and resolution frameworks, based on international work, is still being discussed by the EU Council and European Parliament. It will create a framework to ensure the continuity of a CCP's critical functions while avoiding the use of taxpayers' money to restructure and resolve the CCP. The national resolution authority would be able to sell parts of the CCP business to a third party,

(1) Available at <http://www.fsb.org/2017/07/analysis-of-central-clearing-interdependencies/>

(2) Available at <https://www.bis.org/cpmi/publ/d163.htm>

(3) Available at <https://www.bis.org/cpmi/publ/d162.htm>.

(4) Available at <https://www.bis.org/cpmi/publ/d176.htm>.

(5) The clearing obligation has been in force since mid-2016, for standardised interest rate swap contracts in the most relevant currencies, and for index-linked credit default swaps. ESMA holds a "Public register for the clearing obligation under EMIR" available on its website at <https://www.esma.europa.eu/regulation/post-trading/otc-derivatives-and-clearing-obligation>.

(6) The Commission's legislative proposal is available at http://europa.eu/rapid/press-release_IP-17-1568_en.htm.

(7) The ECB proposal of June 2017 to adapt the Art. 22 of the ECB Statutes to that end is available at http://europa.eu/rapid/press-release_IP-17-1568_en.htm.

eventually a bridge CCP and to terminate contracts and allocate losses via haircutting variation margins and/or applying a resolution cash call. The Bank's point of view is that there must be a harmonious division of responsibilities and tasks; i.e. the allocation to EU and national authorities of fiscal responsibility for CCP resolution should mirror the division of tasks of CCP supervision.

Prudential and oversight approach

From a microprudential perspective, the most relevant financial risks faced by a CCP are counterparty risk and liquidity risk. Counterparty credit risk refers to the risk that a counterparty will be unable to fully meet its obligations, mainly if a clearing member defaults 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 (according to EMIR), 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 have adequate resources to cover the losses or raise in time the liquidity needed.

In February 2018, ESMA published the results of its second supervisory stress test for EU CCPs. The test focused on both the counterparty credit risks and the liquidity risks which CCPs would face as a result of multiple clearing member 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 two clearing member groups under both historical and hypothetical market stress scenarios. Nor did ESMA detect any major systemic risk concerns for the liquidity stress test part. The report highlights some individual CCP-specific results for the credit stress test; a possible follow-up is one by the competent national authority. Also, more severe stress scenarios than the top two clearing member defaults were applied, and the report contains info on the degree of the interconnectedness of the clearing activities⁽¹⁾.

There is currently no CCP established in Belgium. However, CCPs are relevant for Belgian markets, clearing members and CSDs. These include Eurex Clearing AG in Frankfurt, LCH.Clearnet Ltd in London – which clears interest rate swaps including in euro – and LCH.Clearnet SA in Paris which clears the Euronext Brussels markets. All three CCPs clear repos. For volume and risk data on these CCPs, see Annex 3. Further, the London-based CCP ICEClear Europe is the main EU CCP clearing credit default swaps. As of end 2017, the Bank participated in seven EU CCP supervisory colleges, as listed in table 2, based either on its capacity of supervisor of a CSD that the CCP settles in, or as supervisor of clearing members of the CCP that contribute – on a country-by-country basis – most to the default fund. Box 2 provides an indication how much risk these CCP manage, based on the overall initial margin amounts they receive and their default fund resources.

Supervisory priorities in 2018

Priorities for the ongoing supervision of EU CCPs are set by the national competent authority, taking into account the college members' demands.

In anticipation of EU legislation on CCP resolution, and given the new FSB and CPMI-IOSCO guidance, national competent authorities continue to establish cross-border crisis management groups for CCP resolution and consider how to plan CCP resolution. In turn, CCPs are enhancing their own recovery rules and the way stakeholders, including clearing members, would share in the losses. Another continuing priority remains the CCP's operational – and specifically its cyber risk – management.

In early February 2018, ESMA issued guidance reports on a CCP's conflicts of interest management⁽²⁾ and started a consultation in January on guidance for anti-procyclicality margin measures for CCPs⁽³⁾. National competent authorities are – or will be – expected to follow up their implementation.

(1) The ESMA report on the second EU wide CCP stress test (2017) can be found at <https://www.esma.europa.eu/press-news/esma-news/esma-publishes-results-second-eu-wide-ccp-stress-test>.

(2) Available at <https://www.esma.europa.eu/press-news/esma-news/esma-issues-conflict-interest-guidelines-ccpsand>.

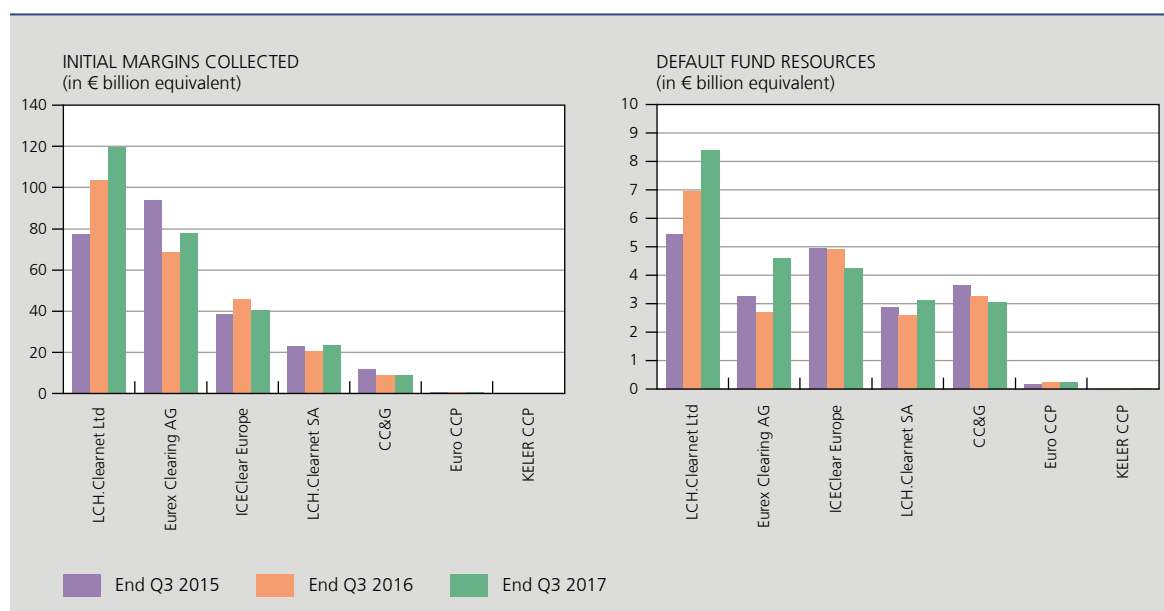
(3) Available at <https://www.esma.europa.eu/press-news/esma-news/esma-consults-ccp-anti-procyclicality-margin-measures>.

Finally, work is continuing on 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 approved by its national competent authority, which in turn has to take into account the CCP's supervisory college's opinion.

Box 2 – Measuring how much risk a CCP manages

Different indicators can be used to measure the size of CCPs. According to the ESRB⁽¹⁾, applying indicators such as the number of clearing members (including underlying clients), the volumes of transactions processed by a CCP and the value of pre-funded financial resources (i.e. initial margins⁽²⁾ and the default fund⁽³⁾) should not be considered separately. Even if applied in combination, the type of products cleared (and their risk profile), as well as the specific risk management methods used by the CCPs, are relevant to rank a CCP in accordance with its importance.

INITIAL MARGINS COLLECTED AND DEFAULT FUND RESOURCES AVAILABLE TO SELECTED EU CCPs



Sources: CCP websites, NBB calculations.

In addition, evolutions in both the amounts of initial margins and the default fund resources have several drivers. Relevant parameters include the market or product cleared, the activity of the CCP (increase or reduction in cleared volumes affecting the initial margins collected), the volatility of the market or product the CCP (mainly) clears (volatility in derivatives versus repo market segments), the duration of the contracts cleared by the CCP (more initial margins for long-term contracts) or potential diverging implementation of the regulatory requirements of EMIR. However, as the overall structure and requirements for initial margin and default fund calculations are prescribed by the EMIR Regulation, and assuming such rules are consistently applied to CCPs in the EU, initial margin amounts

(1) ESRB, Indicators for the monitoring of central counterparties in the EU, Occasional Paper Series N° 14, March 2018.

(2) Initial margin is collateral that clearing members provide to CCPs to open or maintain a position, covering potential future price movements of a contract or portfolio over the 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.

(3) 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.



received by a CCP across all its clearing members could provide a measure of how much *risk* a CCP manages. The charts below show for those CCPs where the Bank participates in a supervisory college the initial margins collected by the CCPs (left-hand side) and the default fund resources (right-hand side). Based on the above assumption, such data are to a certain extent comparable across CCPs. The data show as well that the ranking of CCPs is not the same from both perspectives. Besides these factors, the level of concentration among clearing members in a particular CCP also has an impact on the size of the default fund to cover the scenario of a simultaneous default of the two largest clearing members.

TABLE 2 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	3 – Belfius Bank; – BNP Paribas Fortis; – KBC Bank		X (EB)
LCH Clearnet SA (FR)	Euronext cash and derivatives trades (including Euronext Brussels)	6 – Banque Degroof Petercam; – Belfius Bank; – BNP Paribas Fortis; – Delen Private Bank; – 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) Until November 2016, the Bank was part of the national Polish KDPW_CCP college, but is no longer. Under European rules, CCP college participation is reassessed annually on the basis of EMIR Article 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 could be a foreign entity of the group it belongs to.

(3) EB: Euroclear Bank ICSD, EBE: Euroclear Belgium CSD, NBB-SSS.

2.2 (I)CSDs

Changes in regulatory framework

Relevant policy-setting bodies are providing additional guidance to the 2012 PFMI and the 2014 CSDR which regulatory technical standards have become effective as from end-March 2017⁽¹⁾. They aim for a consistent and uniform implementation for these sets of principles and rules across jurisdictions.

CPMI-IOSCO published in July 2017 a revised version of its 2014 Recovery Report by providing further guidance on recovery arrangements for FMIs, in particular with regard to (i) operationalisation of the recovery plan; (ii) replenishment of the FMI's financial resources; (iii) non-default related losses; and (iv) transparency with respect to recovery tools and how they would be applied⁽²⁾.

For CSDR, ESMA published a set of guidelines in March 2017 on CSDs' access to CCPs or trading venues' transaction feeds, specifying the criteria for the comprehensive risk assessment to be conducted by a CCP or trading venue to whom a CSD requested access for their trading feeds⁽³⁾, as well as guidelines for participant default rules and procedures dealing with how a participant's default should be acknowledged, which actions a CSD may take in such a case, how the CSD should communicate and how it should test and review its default rules and procedures⁽⁴⁾.

ESMA has also provided guidance on how cooperation arrangements should be implemented for CSDs providing cross-border services, as this is of growing relevance for the functioning of the securities markets and the protection of investors in the host Member State. Given the need to use consistent data aggregated at EU level for the calculation of the respective indicators, ESMA has decided to issue guidelines on the process for the collection, processing and aggregation of the data and information necessary for the calculation of the indicators to determine (i) the most relevant currencies in which settlement takes place⁽⁵⁾ and (2) the substantial importance of a CSD for a host Member State⁽⁶⁾. The guidelines clarify the scope of the data to be reported by CSDs for the purpose of the calculation of different indicators. These indicators are important to identify the relevant authorities under the CSDR framework, in particular for Euroclear Bank given the international dimension of its activities'.

ESMA continues to update its Questions and Answers section regarding the implementation of the CSDR promoting common supervisory approaches and practices in the application of the CSDR⁽⁷⁾.

Rules targeting (I)CSDs' participants should be mentioned as well. In March 2017, ESMA published the final draft technical standards on the 2015 Securities Financing Transaction Regulation⁽⁸⁾ which aims to increase the transparency of securities financing transactions and requires both financial and non-financial market participants to report details of such transactions to a trade repository.

Prudential and oversight approach

The three (I)CSDs established in Belgium have distinct status, scope and risk profile. The Bank's prudential and oversight approach takes these different dimensions into account. The owner of Euroclear Bank, Euroclear SA/NV, provides core services to its group (I)CSDs, including Euroclear Bank and Euroclear Belgium (see also the Euroclear Group structure in Annex 2). In order to bring Euroclear SA/NV within the Bank's supervisory scope, it has been designated as an "assimilated settlement institution"⁽⁹⁾. The specific international and multicurrency dimension of Euroclear Bank is covered in box 3.

(1) Except for the regulatory technical standards relating to settlement discipline.

(2) Available at: <https://www.bis.org/cpmi/publ/d162.pdf>.

(3) Available at: https://www.esma.europa.eu/sites/default/files/library/esma70-708036281-7_final_report_on_csd_guidelines_on_access_0.pdf

(4) Available at: https://www.esma.europa.eu/sites/default/files/library/esma70-708036281-8_final_report_on_csd_guidelines_on_participant_default_rules.pdf.

(5) Available at: https://www.esma.europa.eu/sites/default/files/library/esma70-708036281-66_csd_guidelines_on_relevant_currencies_0.pdf.

(6) Available at: https://www.esma.europa.eu/sites/default/files/library/esma70-708036281-67_csd_guidelines_on_substantial_importance_of_a_csd_0.pdf.

(7) Available at: <https://www.esma.europa.eu/press-news/esma-news/esma-updates-its-csdr-qas-0>.

(8) Regulation (EU) 2015/2365 of the European Parliament and of the Council of 25 November 2015 on transparency of securities financing transactions and of reuse and amending Regulation (EU) No. 648/2012.

(9) Article 23 of the Law of 2 August 2002 on the supervision of the financial sector and financial services and Art. 10, § 7, of the Royal Decree of 26 September 2005 on the legal status of settlement institutions and assimilated institutions.

CSDR covers prudential requirements for the operation of (I)CSDs, as well as specific prudential requirements for them and designated credit institutions offering banking-type ancillary services. Depending on the scope of services provided, (I)CSDs will have to obtain an authorisation to provide (I)CSD services or both (I)CSD and banking-type ancillary services. For the latter, an (I)CSD will be authorised to offer such services by itself⁽¹⁾ or to designate one or more credit institutions for that purpose. If two (I)CSDs are linked to each other through mutual operational procedures, any such interoperable link needs to be licensed as well. Under the CSDR, the Bank is the competent (as supervisor) and relevant (as overseer) authority for the CSDs established in Belgium. The Bank seeks the FSMA's advice for aspects that fall under the latter's perimeter of competence for CSDs as part of its tasks of ensuring compliance with rules guaranteeing the sound operation, integrity and transparency of financial instruments markets, as well as its work on ensuring compliance with the rules for protecting the interests of investors in financial instrument transactions⁽²⁾. A protocol setting out the cooperation arrangements has been concluded.

Euroclear Belgium and Euroclear Bank need to be "re-authorised" as a CSD. Euroclear Bank has to file not only for a CSD licence but also for a banking licence and for the interoperable link with Clearstream Banking Luxembourg. For NBB-SSS, which is operated by the Bank, the rules for authorisation and supervision of (I)CSDs under the CSDR are not applicable; i.e. members of the ESCB, Member States' national bodies performing similar functions or other public bodies do not need to be authorised under the CSDR⁽³⁾. However, from a legal perspective, NBB-SSS needs to be compliant with the CSDR no later than one year after the March 2017 entry into force of the CSDR regulatory technical standards. NBB-SSS was assessed to comply with the CSDR requirements at the end of March 2018.

For Euroclear Belgium and Euroclear Bank, the Bank received the CSDR application files at the end of September 2017. The application was considered incomplete due to the absence of information required under CSDR, ongoing IT developments which needed to be completed for CSDR compliance and the pending implementation of new policies and procedures in line with CSDR. The Bank has set deadlines for Euroclear Belgium and Euroclear Bank to provide additional information (see section on supervisory priorities in 2018). This conclusion was based on the pre-assessment conducted by the Bank in the course of 2017. For Euroclear Belgium, this pre-assessment was coordinated with the Dutch and French authorities as Euroclear Belgium shares a common rule book with Euroclear France and Euroclear Nederland (Euroclear Settlement of Euronext-zone Securities or ESES for short).

Still in the case of Euroclear Bank, and in addition to the CSDR pre-assessment, the Bank did further work on the update of the PFMI assessment, and in particular on the Principles related to banking-type ancillary services (i.e. Principle 4, 5 and 7 on respectively credit risk, collateral and liquidity risk). Credit use by participants in the system, which is secured and, as a rule, intraday, is the main source of Euroclear Bank's liquidity needs. As Euroclear Bank provides settlement services in multiple currencies, liquidity risks should be considered per currency. Euroclear Bank has enhanced its risk management framework by implementing a multicurrency *ex-ante* control framework (i.e. limits are set by currency depending on its qualifying liquid resources in that currency), as opposed to an *ex-post* control framework (i.e. whereby measures are taken by the (I)CSD afterwards based on the outcome of back-test liquidity stress scenarios). In that context, Euroclear Bank has strengthened its access to liquidity in multiple currencies, including by extending its committed facilities. At the same time, the type of qualifying liquid resources it relies on has been reviewed. For the PFMI assessment, the Bank consults and considers the views of the other authorities of the Multilateral Oversight Group (i.e. Federal Reserve, Bank of England, Bank of Japan, ECB as observer – see table 3 below).

The Bank also monitored the review of risk governance in Euroclear Bank⁽⁴⁾ and in particular the roles of the three lines of defense (i.e. operations department as 1st line managing risks on a day-to-day basis, risk management as 2nd line assisting in determining risk capacity and risk appetite and monitoring/reporting material risks and internal audit as 3rd line providing an independent review on the overall effectiveness of the risk governance framework). Specific attention is given to the capability of the 1st line to define potential risk events and their corresponding risk

(1) In the EU, only five (I)CSDs are currently licensed as a bank, namely Euroclear Bank (BE), Clearstream Banking Luxembourg (LU), Clearstream Banking Frankfurt (DE), Keler (HU) and OeKB (AT).

(2) The rules on conflicts of interest, record-keeping, the requirements concerning participation, transparency, procedures for communicating with participants and other market infrastructures, the protection of the assets of participants and their clients, freedom to issue securities via any CSD authorised in the EU, and access between a CSD and another market infrastructure.

(3) Article 1.4., Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No. 236/2012, OJ. 28 August 2014, L. 257, 1-72.

(4) Workstream based on a self-assessment of Euroclear Bank against a set of international and European principles and guidelines on strengthening risk management practices which should be implemented by financial institutions as part of the ICAAP.

responses. Risk management as 2nd line is in charge of challenging these risk responses within the boundaries set by the risk appetite framework. As a prudential supervisor, the Bank reviews adherence of existing practices of Euroclear risk management to these principles and guidelines as part of the SREP⁽¹⁾ which may trigger additional capital requirements if deemed necessary by the Bank. Essential components, such as Euroclear's risk appetite framework and internal control system, are being updated under the CSDR. This review on risk governance is ongoing and will be continued in 2018.

Further work was also done on the recovery plans for Euroclear Group entities subject to the Bank's supervision and oversight; i.e. Euroclear SA/NV, ESES/Euroclear Belgium and Euroclear Bank. The Bank makes use of the specific guidelines on recovery plans that are applicable to Belgian credit institutions and Belgian parent undertakings of credit institutions which have the regulatory status of CSD or assimilated settlement institution, as well as for Belgian CSDs which do not have the regulatory status of credit institution⁽²⁾. In this process, the Bank considers views and comments from other regulators, i.e. relevant Euroclear Group authorities for the recovery plans for Euroclear SA/NV and ESES/Euroclear Belgium and the Multilateral Oversight Group for the Euroclear Bank recovery plan. Further work will be conducted on scenarios of unexpected credit losses and liquidity shortfalls that could be encountered in extreme, but plausible scenarios.

In accordance with applicable supervisory rules⁽³⁾, the Bank assessed several institutional developments with regard to the Euroclear Group. At the end of November 2017, Euroclear Bank established a branch in Japan after approval by the Bank and Japan's Financial Services Agency. At group level, some changes occurred in the shareholdership. Intercontinental Exchange (ICE), owner of several exchanges for financial and commodity markets including NYSE, acquired 10 % of the shares of the Euroclear plc, the ultimate holding company of the Euroclear group. This acquisition was done in two stages, the first at the end of October 2017 with 4.7 % of total shares, while the second stage was subject to the Bank's approval⁽⁴⁾ as ICE's stake in Euroclear plc increased from 4.7 % to 10 %.

Within the broader framework of a strategic review of NBB-SSS activities and after successful integration into T2S (March 2016), the Bank assessed in the course of 2017 the potential (dis)continuation of NBB-SSS. Its user committee and other stakeholders such as Febelfin, the Belgian Federal Public Service Finance and the ECB were all consulted. In October 2017, the Bank decided to keep NBB-SSS going in the future⁽⁵⁾. The Bank's oversight team followed up on the measures taken by NBB-SSS to allow settlement against payment in GBP (via the Bank's cash account with the Bank of England) and DKK (via participants' cash accounts with the Danish central bank).

Another priority for Belgian (I)CSDs continues to be cyber resilience. The Bank has reviewed the respective self-assessments against the June 2016 CPMI-IOSCO guidance on cyber resilience for FMIs that provide additional guidance to the PFMIIs on how FMIs can enhance their cyber resilience capabilities to limit the growing risks that cyber threats pose for them, and thus for financial stability in general. In the same domain, further work is being conducted with regard to end-points of payment and securities settlement systems in the framework of cyber heists targeting the high-value transaction chain (see chapter 4 on SWIFT and the article on endpoint security strategies). As Euroclear SA/NV provides IT services to the Euroclear Group (I)CSDs, this workstream is coordinated through a Cyber Security Task Force encompassing regulators of all group entities which is chaired by the Bank.

(1) Supervisory Review and Evaluation Process.

(2) Recognised by Article 12, Royal Decree of 26 September 2005 concerning the status of settlement institutions and assimilated settlement institutions, *Belgian Official Gazette* 11 October 2005, 43.507. This circular covers the requirements of both BRRD and CPMI-IOSCO in that respect.

(3) For purposes of prudential supervision, Euroclear Bank and Euroclear SA/NV have been designated as a "Systemically important financial institution" (SIFI) and are therefore subject to supervisory rules under the law of 22 February 1998. This means in particular that the Bank has a right of non-objection to strategic decisions should they create a material risk for the stability of the financial sector and may impose specific measures in that regard.

(4) Based on the Banking law and Royal Decree of 26 September 2005.

(5) Available at: https://www.nbb.be/doc/ti/nbbsss_strategic_reflection_decision.pdf.

Box 3 – International dimension of Euroclear Bank

By the very nature of its business model, Euroclear Bank is internationally oriented. This international dimension of Euroclear Bank is reflected in several areas like participants, currencies and linked securities markets. At the end of 2017, Euroclear Bank counted about 1 600 participants located in more than 90 countries. Its participant base consists mainly of non-domestic participants, including more than 100 central banks, about 15 CCPs and CSDs, as well as credit institutions, broker-dealers and investment banks.

Apart from its notary function for international bonds, notably Eurobonds, which it mainly shares with Clearstream Banking Luxembourg, Euroclear Bank aims to provide its participants with a single gateway to access many foreign securities markets (i.e. Euroclear Bank has a link with foreign CSDs which act as notary for securities issued in the local market). When (I)CSDs offer their participants access to foreign securities markets, they are considered as “investor (I)CSDs”, whereas the foreign (I)CSDs are referred to as “issuer (I)CSDs”. As of 2018, Euroclear Bank is connected to more than 50 foreign CSDs as “investor ICSD” in domestic markets.

To provide services in international bonds and a wide range of foreign securities, about 100 different currencies are eligible in the system operated by Euroclear Bank; i.e. 51 settlement currencies⁽¹⁾ and 49 denomination currencies⁽²⁾. Securities can be settled against payment in a Euroclear settlement currency which can be different from the denomination currency. Denomination currencies are used as units of account for securities balances but not for payment transactions.

At the end of 2017, the value of securities deposits held on Euroclear Bank’s books on behalf of its participants amounted to € 12.8 trillion equivalent (up from € 12.7 trillion in 2016). After EUR (49 %), USD is the main denomination currency (28 %), followed by GBP (11 %). 53 % of securities deposits are in international bonds, such as Eurobonds, for which issuers can choose the currency or country of issue.

Regarding settlement turnover, the number of transactions settled in 2017 in Euroclear Bank amounted to 95.4 million (up from 84.1 million in 2016). In value terms, this represents € 498.1 trillion (up from € 451.7 trillion in 2016). On average, Euroclear Bank processes more than 360 000 transactions daily with a total value of € 1.9 trillion. 66 % of settlement turnover, free of payment and against payment transactions, was denominated in EUR, after USD (18 %) and GBP (8 %). In terms of settlement turnover per security type, compared to securities deposits, international debt accounts for 26 % while the bulk is composed of other types of securities such as domestic debt and, to a lesser extent, equities or exchange-traded funds.

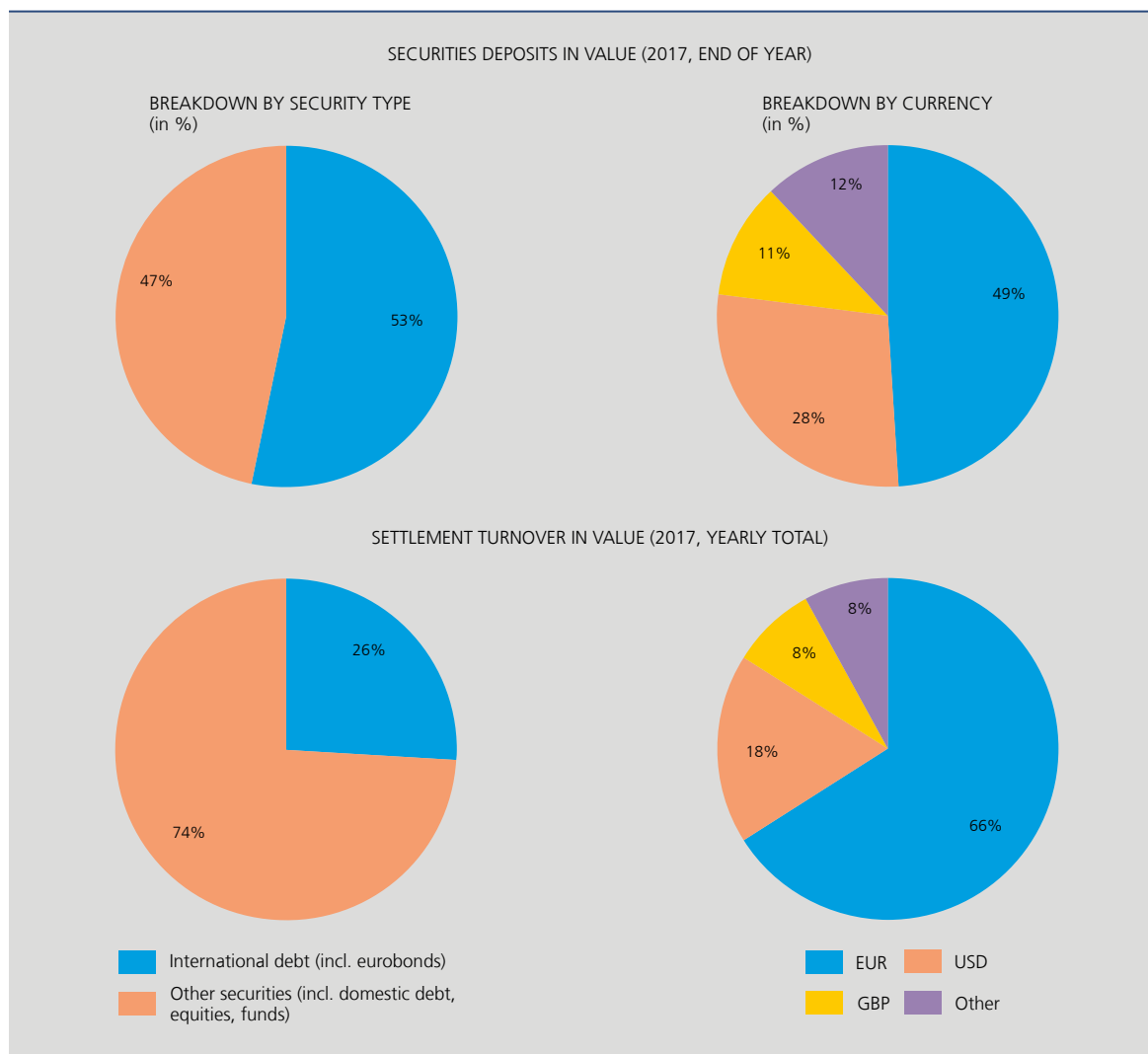
The interconnectivity of Euroclear Bank with other FMIs is a critical component in the Euroclear Group strategy to establish a common pool of collateral assets in which Euroclear Group entities provide collateral management services as a triparty agent taking over the collateral management tasks (including collateral selection, valuation and substitution) from its participants during the lifecycle of the transaction concluded between two participants. At the end of 2017, at group level, the average daily value of triparty collateral managed by the Euroclear (I)CSDs reached € equivalent 1.150 trillion (up from € 1.072 trillion in 2016).

(1) Settlement currencies (February 2018): AED, ARS, AUD, BGN, BHD, BWP, BRL, CAD, CHF, CLP, CZK, CNY, DKK, EUR, GBP, GHS, HKD, HRK, HUF, ISK, IDR, ILS, JOD, JPY, KES, KWD, KZT, LBP, MAD, MUR, MXN, MYR, NAD, NGN, NOK, NZD, OMR, PEN, PHP, PLN, QAR, RON, RUB, SAR, SEK, SGD, THB, TND, TRY, USD, ZAR.

(2) Denomination currencies (February 2018): DZD, AOA, AMD, AZN, BDT, BYR, BMD, BOB, KHR, XOF, XAF, CLF, COP, CRC, DOP, EGP, GEL, XAU, GTQ, INR, JMD, KGS, MKD, MNT, MXV, MZN, MMK, NPR, TWD, NIO, PKR, PYG, RWF, XDR, RSD, KRW, LKR, TZS, TTD, TMT, UGX, UAH, UYU, UZS, VUV, VEF, VND, YER, ZMW.



SECURITIES DEPOSITS AND SETTLEMENT TURNOVER IN EUROCLEAR BANK



Source: Euroclear.

Supervisory priorities in 2018

One of the main priorities for 2018 is the CSDR authorisation filing of Euroclear Bank and Euroclear Belgium. The Bank has set deadlines for Euroclear Belgium and Euroclear Bank to provide additional information in order to complete their CSDR filing (i.e. September 2018 and December 2018 respectively). Key in the assessment will be the governance of the Euroclear Group and the role of Euroclear SA/NV as both the owner of and critical service provider to the Euroclear Group (I)CSDs. In that regard, the Bank will continue in 2018 its review of risk governance developments, as parts of risk management are outsourced to Euroclear SA/NV. For NBB-SSS, further oversight work will be conducted with regard to the provision of settlement against payment services in other currencies than EUR, GBP and DKK.

The Bank has several cooperation arrangements with other authorities with regard to Euroclear Group entities (see also table 3 below). Taking into account the Bank's accountability as lead authority, cooperation with other authorities for Euroclear Bank will be further developed, in particular with FSMA and with the Luxembourg authorities (Banque Centrale de Luxembourg/Commission de Surveillance du Secteur Financier). At the same time, a structural review of current arrangements will be conducted as far as cooperation with regard to Euroclear SA/NV is concerned. Under the CSDR,

regulators of the Euroclear Group (I)CSDs have the possibility to interact directly with Euroclear SA/NV as critical service provider of their respective local CSDs. The competent and relevant authorities of the outsourcing CSDs can have access to the information directly from the outsourcee (in this case Euroclear SA/NV) to assess the outsourced activities' compliance with CSDR. While cooperation between Euroclear Group regulators remains warranted (e.g. exchange outcome of Euroclear Group regulators' assessments), new working arrangements will focus on the exchange of information among regulators, in particular for areas of common interest at group level (i.e. governance, risk management, cyber resilience, outsourcing). Similarly, in line with the CSDR, cooperation in the framework of ESES has evolved from a joint assessment by ESES authorities to a coordination of national assessments by each ESES authority.

In parallel with the preparation of the CSDR authorisation process, the Bank will update its assessment of Euroclear Bank against the PFMI by consulting and considering the views of the members of the Multilateral Oversight Group. As from 2018, this process will be based on self-assessments conducted by Euroclear Bank.

High priority continues to be set on cyber security in the Euroclear Group entities subject to the Bank's supervision and oversight (i.e. Euroclear SA/NV, Euroclear Bank and Euroclear Belgium). Initiatives to further enhance Euroclear's cyber security posture will continue to be followed up closely, as will its adherence to SWIFT's Customer Security Programme (see chapter 4). Work in this field is done in cooperation with other Euroclear Group regulators in the framework of the Cyber Security Task Force.

The Bank continues to monitor trends in activity that might change the risk profile of the (I)CSDs subject to supervision and oversight (e.g. FinTech initiatives, potential evolution in collateral management services following the implementation of EMIR).

TABLE 3 COOPERATION BETWEEN THE BANK AND OTHER AUTHORITIES WITH REGARD TO EUROCLEAR

	Rationale for cooperation
National cooperation	
FSMA	Market authority responsibilities regarding CSDs in Belgium
International cooperation	
Euroclear SA/NV	
Euroclear Group overseers and market supervisors (BE: NBB, FSMA; FI: Bank of Finland, Finanssivalvonta; FR: Banque de France, Autorité des marchés financiers (AMF); NL: De Nederlandsche Bank (DNB), Autoriteit Financiële Markten (AFM); SE: Riksbank, Finansinspektionen; UK: Bank of England, Financial Conduct Authority)	Multilateral cooperation with regard to the parent holding company of the Euroclear Group (I)CSDs (Euroclear SA/NV), a critical service provider to the Euroclear Group entities
Euroclear Bank	
Central banks of issue of major currencies in Euroclear Bank (Federal Reserve System, Bank of England, Bank of Japan and European Central Bank as observer)	Multilateral cooperation with the relevant central banks of issue of the major currencies settled in Euroclear Bank (i.e. €, \$, £ and ¥)
European Central Bank	Bilateral cooperation in the framework of oversight and financial stability within the euro area
Bank of England	Bilateral cooperation on specific aspects of Euroclear Bank relevant for Bank of England
Bank of Japan	Bilateral cooperation on specific aspects of Euroclear Bank relevant for Bank of Japan
Central Bank of Ireland	Bilateral cooperation with regard to the outsourcing settlement of Irish bonds in Euroclear Bank
Hong Kong Monetary Authority	Bilateral cooperation focusing on the links between Euroclear Bank and Hong Kong market infrastructures
Banque Centrale de Luxembourg / Commission de Surveillance du Secteur Financier (CSSF)	Bilateral cooperation on the oversight and supervision of the ICSDs Euroclear Bank and Clearstream Banking Luxembourg
Securities Exchange Commission	Bilateral cooperation focusing on US-related activities within Euroclear Bank
ESES	
ESES overseers and market supervisors (BE: NBB, FSMA; FR: BdF, AMF; NL: DNB, AFM)	Multilateral cooperation covering the CSDs of Euroclear France, Euroclear Nederland and Euroclear Belgium sharing a common rulebook

Source: NBB.

2.3 Custodians

Changes in regulatory framework

Hosting institutions with significant custody activities worldwide, supervision in Belgium has always taken a specific approach, complementing the banking supervision framework, in order to tackle all relevant risk dimensions of custody activities in an appropriate way. This approach is being further formalised with a new category of “assimilated institution”.

Before, there was only one category; i.e. “institutions assimilated with settlement institutions” providing, in whole or in part, the operational management of services provided by settlement institutions (e.g. Euroclear SA/NV). The new Law of 31 July 2017 introduced as a new category credit institutions with activities exclusively in the following areas: custody, bookkeeping and settlement services in financial instruments, as well as associated non-banking services, in addition to receiving deposits or other repayable funds from the public and granting credit for own account⁽¹⁾ where such activities are ancillary or linked to the above-mentioned services. Both categories of assimilated institutions have a very similar profile.

In addition, the main activity of this new category of assimilated institutions is holding (off-balance) financial instruments on behalf of their clients. As the banking supervision framework does not address prudential supervision aspects of this type of activity (i.e. client asset protection, intraday liquidity, etc.), a specific prudential supervision approach on those areas not covered by the banking regulations (and therefore outside the scope of the SSM⁽²⁾) is warranted. The ECB issued a favourable opinion on the creation of such new category of credit institutions assimilated to settlement institutions to which the Bank may apply supervisory tools akin to those applied to international and domestic CSDs⁽³⁾.

Another set of rules relevant for institutions providing custody services are those of ESMA for the reporting on settlement internalisers within the context of the CSDR published in March 2018. A settlement internaliser refers to an institution that makes transfer orders on behalf of clients or on its own account other than through a securities settlement system. The purpose is to identify institutions not considered as a securities settlement system transferring financial instruments on their own books without instructing the CSD. This is possible when both the seller and the buyer of one trade are clients with the same intermediary institution offering safekeeping services. It is also possible for institutions having both the seller and the buyer of one trade as clients to still instruct the CSD simply because they have not created an infrastructure for internal settlement.

On behalf of ESMA, national competent authorities collect information on settlement internalisers in their jurisdictions. For the Bank, institutions within scope are (i) settlement internalisers established and operating in Belgium; (ii) branches in Belgium of non-EU settlement internalisers; (iii) branches (in other Member States) of settlement internalisers established and operating in Belgium. According to Article 9.1 of the CSDR, settlement internalisers have to report to the competent authorities of their place of establishment on securities transactions they settle outside securities settlement systems. The March 2018 ESMA Guidelines for settlement internalisers clarify the scope of the data to be reported and the types of transactions and operations that should or should not be included.

(1) Activities referred to in Article 1, § 3, first indent of the Banking Law.

(2) Within the meaning of Regulation (EU) No. 1024/2013 of 15 October 2013 conferring specific tasks on the ECB concerning policies relating to the prudential supervision of credit institutions <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:287:0063:0089:EN:PDF>.

(3) https://www.ecb.europa.eu/ecb/legal/pdf/en_con_2017_23_signed.pdf.

Prudential approach

The supervision of custodian institutions followed three classical lines of approach: (1) “baseline supervision” covering SREP but also recovery and resolution, (2) “event-driven supervision” focusing on the analysis of business projects (including follow-up of the new status of assimilated institution), and (3) “risk-based supervision” including client asset protection issues, platforms transformation (i.e. mergers, upgrades and resiliency enhancements) and treasury activities (i.e. treasury management, treasury services and payments).

These approaches are implemented through different (often combined) types of action depending on the subject matter. These include quantitative and qualitative analysis of strategic and financial developments as well as their impact on the institution's risk profile, and deep-dives into various risks and processes whose assessment in terms of contribution to the risk profile may be underestimated by the institution. In addition, the Bank's experts were involved in inspection assignments and their follow-up, as well as in various international colleges, workshops and crisis exercises.

Acting as global custodian of the BNYM Group, BNYM SA/NV has a strong international dimension as illustrated in box 4 (see also its governance structure in Annex 2). It falls under the direct supervision of the SSM. The majority of planned actions by the Bank are therefore carried out within the SSM framework.

Supervisory priorities in 2018

Priorities for prudential supervision in the area of custodians will focus on implementing business projects to enable transition of those institutions' business models to a post-Brexit environment. These projects include in particular the transfer into the EU of activities no longer benefiting from passporting rights as currently enjoyed by the UK, a revision of back-to-back booking models⁽¹⁾ and outsourcing arrangements, the adaptation of the Risk Management and Control Framework, and more broadly operational resilience, organisation and governance in the new context. The robustness of the projects will be assessed not only from the point of view of day-to-day business but also throughout the crisis management continuum (crisis management, recovery and resolution).

The Bank has to identify the institutions to be qualified as settlement internalisers within the meaning of the CSDR. Should institutions be identified as such, a specific reporting needs to be set up.

(1) When a given (set of) market positions of an institution is reversed towards the group in a way that is perfectly matching (couples of transactions have opposite risk positions and all their other features are identical), there is as such no open position for the institution that does not bear the risk linked to those transactions anymore.

Box 4: International dimension of Bank of New York Mellon Group and SA/NV

The Bank of New York Mellon, a banking group incorporated in the US, is the largest custody bank in the world in terms of assets under custody (\$ 33.3 trillion as of March 2018). It is a global systemically important institution (G-SIB), providing asset and investment management services to institutional clients. The Bank of New York Mellon SA/NV (BNYM SA/NV), the Belgian subsidiary, provides asset services only and acts as global custodian for the banking group through its international sub-custodian network with more than 100 securities markets. BNYM SA/NV has a non-bank subsidiary in Germany and branches in the UK, Luxembourg, the Netherlands, Germany, France, Ireland and Italy through which it operates in these local markets. BNYM SA/NV qualifies as a domestic systemically important financial institution (D-SIFI) following the BCBS criteria or, based on the related EBA guidelines as an other systemically important institution (O-SII).

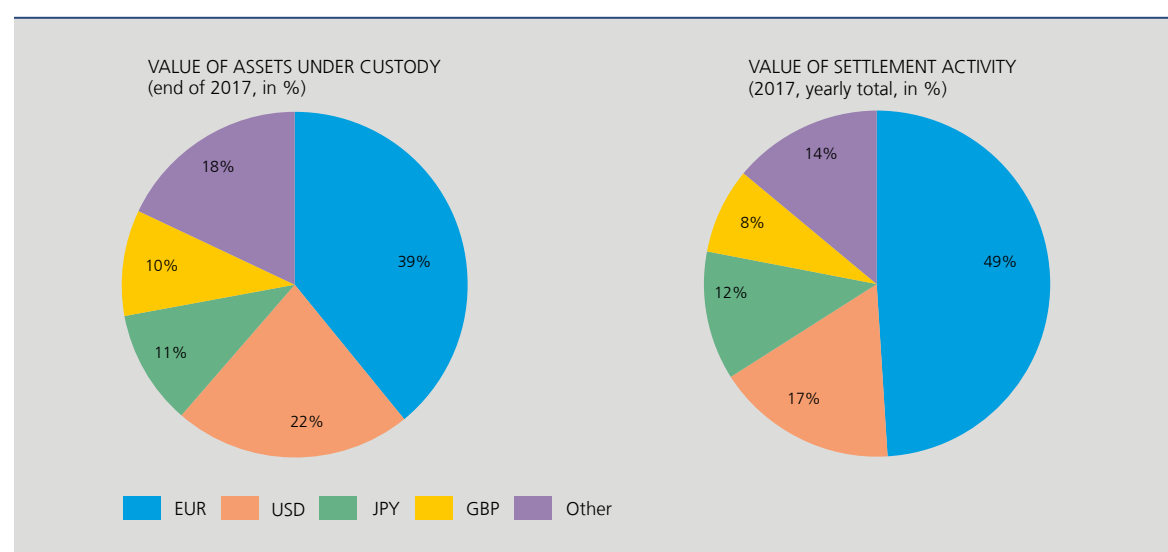


By the end of 2017, BNYM SA/NV served more than 1 800 international, institutional clients on whose behalf it held € 3.6 trillion equivalent assets under custody (from close to € 3.5 trillion last year), denominated in more than 80 different currencies⁽¹⁾. The main part of these assets is in EUR (39%), followed by USD (22%), JPY (11%) and GBP (10%). In terms of settlement activity⁽²⁾, BNYM SA/NV processed about 15.5 million transactions worth € 43.9 trillion equivalent in 2017. The main currencies are EUR (49%), USD (17%), JPY (12%) and GBP (8%).

(1) Eligible currencies include AED, ARS, AUD, AZN, BDT, BGN, BHD, BMD, BRL, BSD, BWP, CAD, CHF, CLP, CNY, COP, CRC, CZK, DKK, EGP, ETB, EUR, FKP, GBP, GHS, GMD, HKD, HRK, HUF, IDR, ILS, INR, ISK, JOD, JPY, KES, KRW, KWD, KYD, KZT, LBP, LKR, MAD, MUR, MXN, MYR, MZN, NAD, NGN, NIO, NOK, NZD, OMR, PEN, PGK, PHP, PKR, PLN, PYG, QAR, RON, RSD, RUB, SAR, SEK, SGD, THB, TND, TRY, TWD, TZS, UAH, UGX, USD, UYU, VEF, VND, XOF, ZAR, ZMW, ZWL.

(2) Volume and value of BNYM SA/NV settlement activity is based on receipt and delivery instructions.

ASSETS UNDER CUSTODY AND SETTLEMENT ACTIVITY IN BNYM SA/NV BY CURRENCY



Source: BNYM SA/NV.