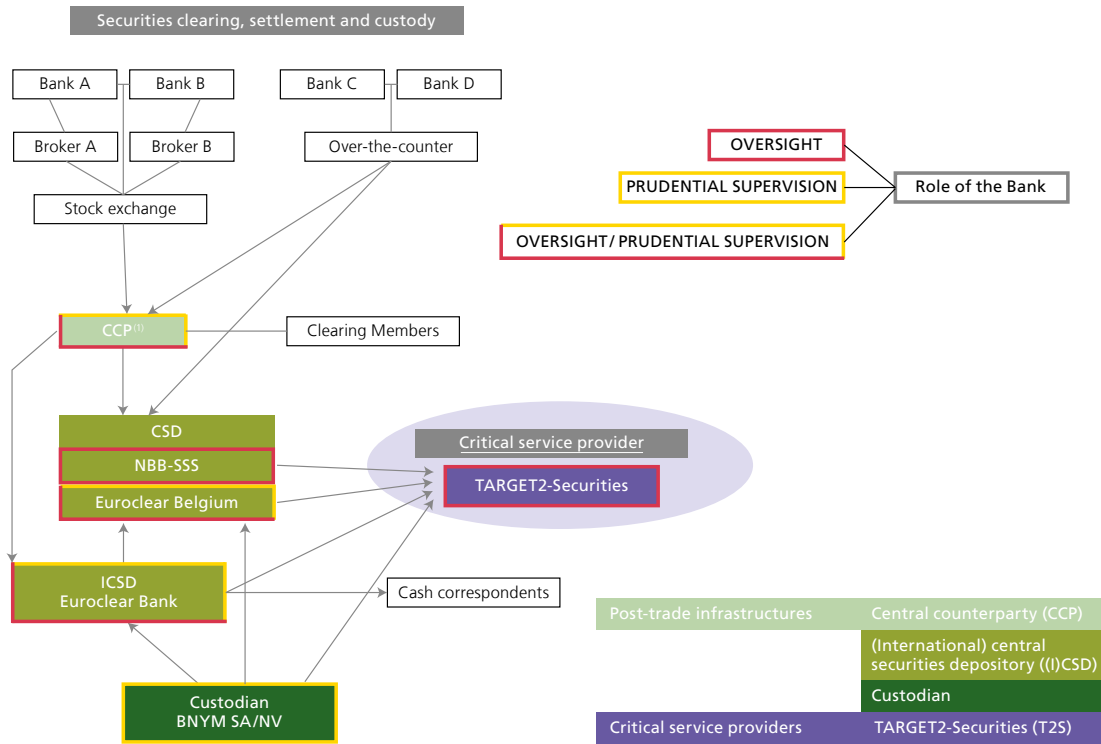


## 2. Securities clearing, settlement and custody

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).

**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).

## 2.2 (I)CSDs

### CHANGES IN REGULATORY FRAMEWORK

The implementation of the CSD Regulation (CSDR)<sup>(1)</sup> will be a regulatory milestone for the (I)CSD sector in the EU. It will usher in a uniform set of rules for the supervision of (I)CSDs. The final draft regulatory technical standards were adopted by the European Commission in November 2016 and have become effective as from end-March 2017<sup>(2)</sup>. These include prudential requirements on the operation of (I)CSDs, as well as specific prudential requirements for (I)CSDs 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<sup>(3)</sup> or to designate for that purpose one or more credit institutions. If two (I)CSDs are linked with each other based on mutual operational procedures, any such interoperable link needs to be licensed as well.

The authorisation of an (I)CSD is the responsibility of its competent authority; i.e. the Bank in the case of Belgian (I)CSDs. Euroclear Belgium only needs a (I)CSD licence. Euroclear Bank needs to obtain an authorisation to provide both (I)CSD and banking-type ancillary services. The interoperable link between Euroclear Bank and Clearstream Luxembourg (the Bridge) needs to be authorised as well. The rules for authorisation and supervision of (I)CSDs under CSDR are not applicable to the members of the ESCB, Member States' national bodies performing similar functions or other public bodies<sup>(4)</sup>. This implies that NBB-SSS, the CSD operated by the Bank, does not need to obtain a CSDR licence and is not subject to supervision. However, from a legal perspective, NBB-SSS also needs to be compliant with the CSDR no later than one year after its related regulatory technical standards entered into force.

The CSDR will have an impact at different levels, either direct or indirect, on market participants using the (I)CSDs or on other stakeholders such as issuers. Most CSDR requirements will be effective as soon as an (I)CSD has obtained its CSDR licence; i.e. their impact will therefore materialise in the short term. Other requirements will only be effective at a later stage. The main areas with impacts on participants and issuers are summarised below.

Participants of (I)CSDs are directly impacted in various domains. A first area relates to reconciliation practices. Under the CSDR and with the aim of limiting potential contagion effects, (I)CSDs are obliged to suspend securities settlement when reconciliation reveals an undue creation or deletion of securities that cannot be solved by the (I)CSDs by the end of the next day. In that framework, participants have to reconcile their records with the information received by the (I)CSDs on a daily basis and will need to provide the (I)CSD with all information deemed necessary to ensure the integrity of the issue and to solve any reconciliation breaks. Another area is about account segregation. The CSDR requires (I)CSDs to allow its participants to segregate the securities they hold on behalf of underlying clients either via omnibus or individual client segregation. A third area with a potential impact on participants relates to internal settlement on (I)CSDs' participants own books, outside of securities settlement systems. Depending on the size of the internalised settlement volumes, specific reporting by the participants of the (I)CSD directly to the relevant competent authorities of the (I)CSD is necessary.

The CSDR requirements also contain some specific obligations for issuers. In the framework of (I)CSDs' record-keeping requirements under the CSDR, the use of a Legal Entity Identifier (LEI) – a unique character code to identify legal entities – is aimed to contribute to a harmonisation of data collection and reporting among the EU. As not all issuers and participants have an LEI today, they will have to apply for one in the future.

There will also be immediate indirect effects as soon as the new Regulation enters into force. As (I)CSDs providing banking ancillary services need to cover any credit use of participants, intraday or end-of-day, with collateral or other equivalent financial resources, participants will have to provide high-quality liquid assets in accordance with the collateral categories as defined under the CSDR.

Two years after the relevant regulatory technical standards for settlement discipline will have entered into force, rules will become applicable introducing cash penalties and mandatory buy-ins for settlement failures. If a settlement instruction fails to settle by the intended settlement date, participants will face a cash penalty that will be collected and redistributed to the impacted counterparts by the (I)CSD. Should the security not be delivered with a certain timeframe following the intended settlement date<sup>(1)</sup>, a mandatory buy-in process is to be triggered.

(1) Regulation (EU) N. 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 (<http://publications.europa.eu/en/publication-detail/-/publication/e58428b4-2e81-11e4-8c3c-01aa75ed71a1/language-en>).

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

(3) 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).

(4) Art. 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.

Apart from the CSDR, other regulatory guidelines have been developed in the area of cyber resilience and recovery plans. In June 2016, CPMI and IOSCO jointly published guidance on cyber resilience for FMIs, providing additional details to the PFMI on how FMIs can enhance their cyber resilience capabilities to limit the increasing risks that cyber threats pose for them, and thus for financial stability in general. In August 2016, the NBB made public<sup>(2)</sup> 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<sup>(3)</sup>. The Communication provides information regarding the Bank's expectations for the recovery plan in accordance with the requirements set by international bodies, including the guidelines offset out in the CPMI-IOSCO report on recovery of FMIs.

## BUSINESS ACTIVITY

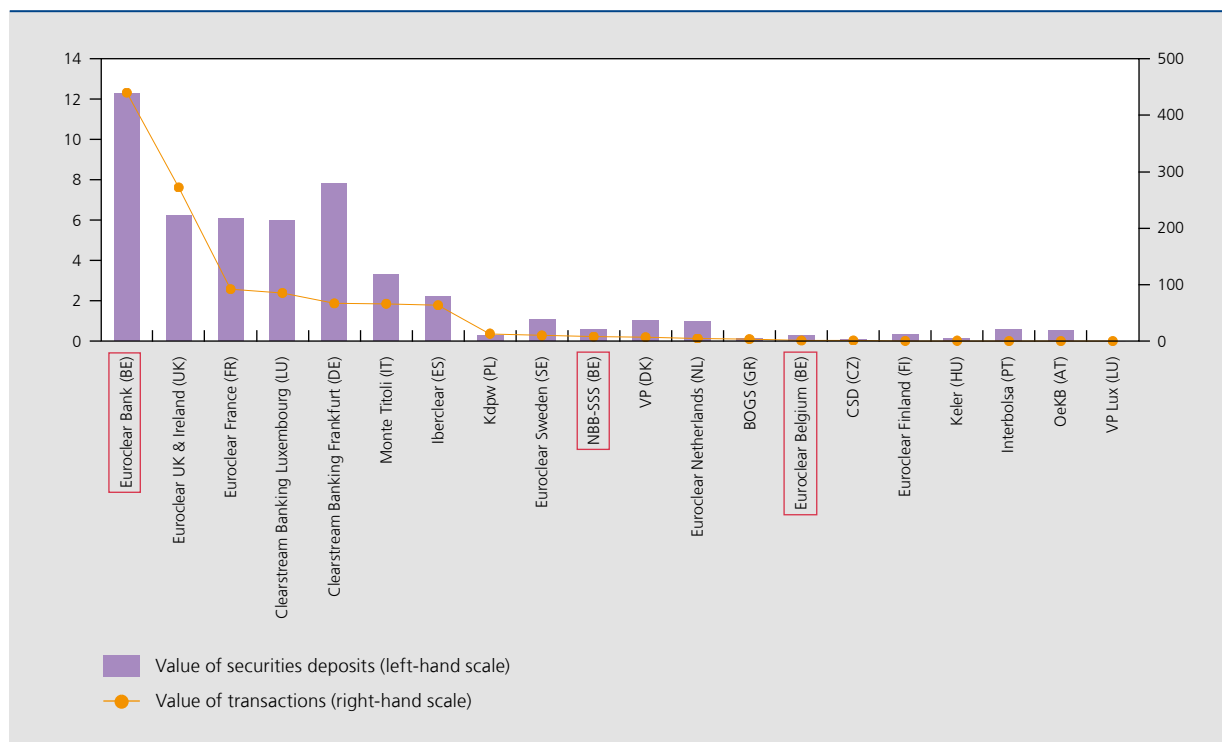
The activities of the (I)CSDs established in Belgium (i.e. NBB-SSS, Euroclear Belgium, Euroclear Bank) in terms of securities deposits and settlement turnover take a prominent position in the European (I)CSD landscape. Chart 4 gives an overview of the top-20 (I)CSDs which are ranked based on 2015 data for total activity in value terms of securities deposits and

(1) This period depends on the asset type and liquidity of the relevant financial instrument.

(2) Communication NBB\_2016\_37/Recovery plans – Specific guidelines for Belgian Central Securities Depositories (CSD) and institutions supporting them, 3 August 2016 (<https://www.nbb.be/en/articles/communication-nbb201637-recovery-plans-specific-guidelines-belgian-central-securities>).

(3) 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.

**CHART 4** SIZE OF (I)CSD SECTOR IN EUROPE IN TERMS OF SECURITIES DEPOSITS AND SETTLEMENT TURNOVER (2015 YEARLY TOTAL, IN € TRILLION)<sup>(1)</sup>



Source: ECB (Blue Book).

(1) Ranking based on total activity in value terms of securities deposits and settlement turnover.

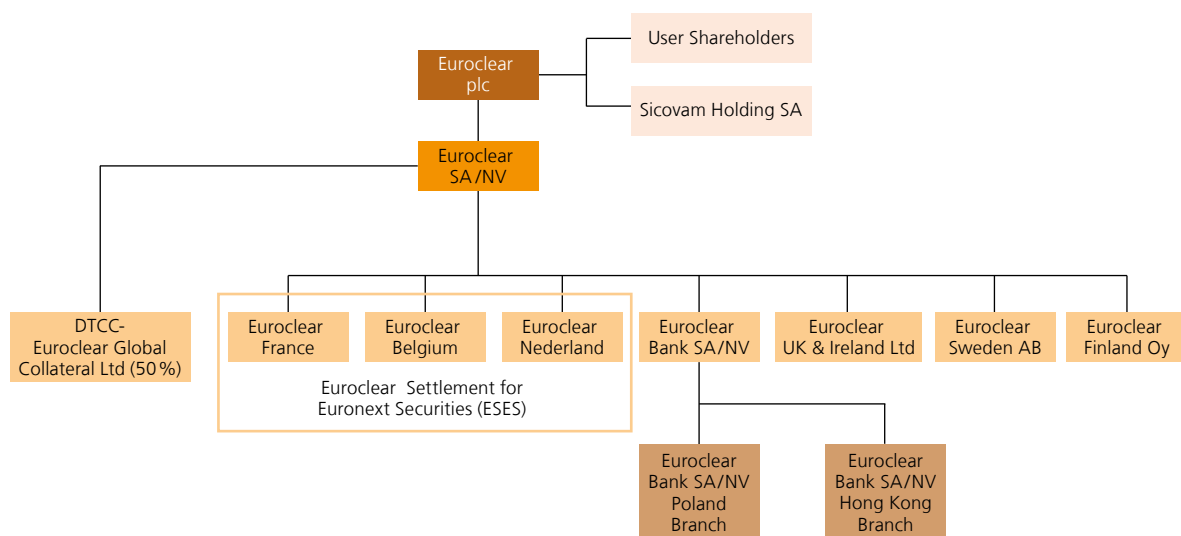
settlement turnover. Belgian (I)CSDs account for about 25 % of total securities deposits in value reported to be held in EU (I)CSDs. In terms of settlement turnover in value, Belgian (I)CSDs represent about 40 % of total aggregate turnover of all EU (I)CSDs. The relevance of the Belgian (I)CSDs for the mobilisation of collateral, including for monetary policy purposes, is also highlighted below.

### **Euroclear Bank**

As shown in chart 5 below, Euroclear Bank is owned by Euroclear SA/NV (ESA). ESA, a Belgian financial holding company, is the parent company of the Euroclear Group (I)CSDs; i.e. the CSDs in Belgium, Finland, France, the Netherlands, Sweden, UK & Ireland, and of the ICSD Euroclear Bank. The latter has branches in Poland and Hong Kong. Euroclear Group (I)CSDs have outsourced the IT production and development to ESA. ESA also delivers common services, such as risk management, internal audit, and legal and human resources services to the Group (I)CSDs. The issued share capital of Euroclear plc, the ultimate holding company of the Euroclear Group, is held mainly by user-shareholders. Sicovam Holding SA, a holding company that brings together the former shareholders of Euroclear France, is the single largest shareholder of Euroclear plc. Several of the shareholders of Sicovam Holding are also users of the Euroclear system. Euroclear Belgium, Euroclear France and Euroclear Nederland are operating a common settlement platform; i.e. the Euroclear Settlement of Euronext zone Securities system (ESES) (see section on Euroclear Belgium). Apart from being owned by the users of its services, the Euroclear Group is also governed by its users via their representation on the (Euroclear plc and Euroclear SA) Boards. Being user-owned and user-governed, the interests of the user community are represented in the decision-making process of the Euroclear Group. Users can also influence the Euroclear Group's decision-making bodies through the Market Advisory Committees established for each market where an entity of the Euroclear Group acts as CSD, as well as the ESES and Cross-Border Market Advisory Committees. They act as a primary source of feedback and interaction between the user community and Euroclear management on significant matters affecting their respective markets. The Euroclear Group believes this governance structure allows to meet the needs of its participants and markets it serves, taking into account the competitive environment in which it operates.

In September 2014, ESA and the US Depository Trust & Clearing Corporation (DTCC) set up the DTCC-Euroclear Global Collateral Ltd. joint venture. The ultimate aim of this entity is to create a joint collateral processing service whereby mutual clients of DTCC and Euroclear Bank manage collateral held at both depositories as a single pool, to meet obligations in both the European and the North American time zone (see below on the role of Belgian (I)CSDs in the mobilisation of collateral).

**CHART 5** EUROCLEAR GROUP CORPORATE STRUCTURE  
(simplified diagram)

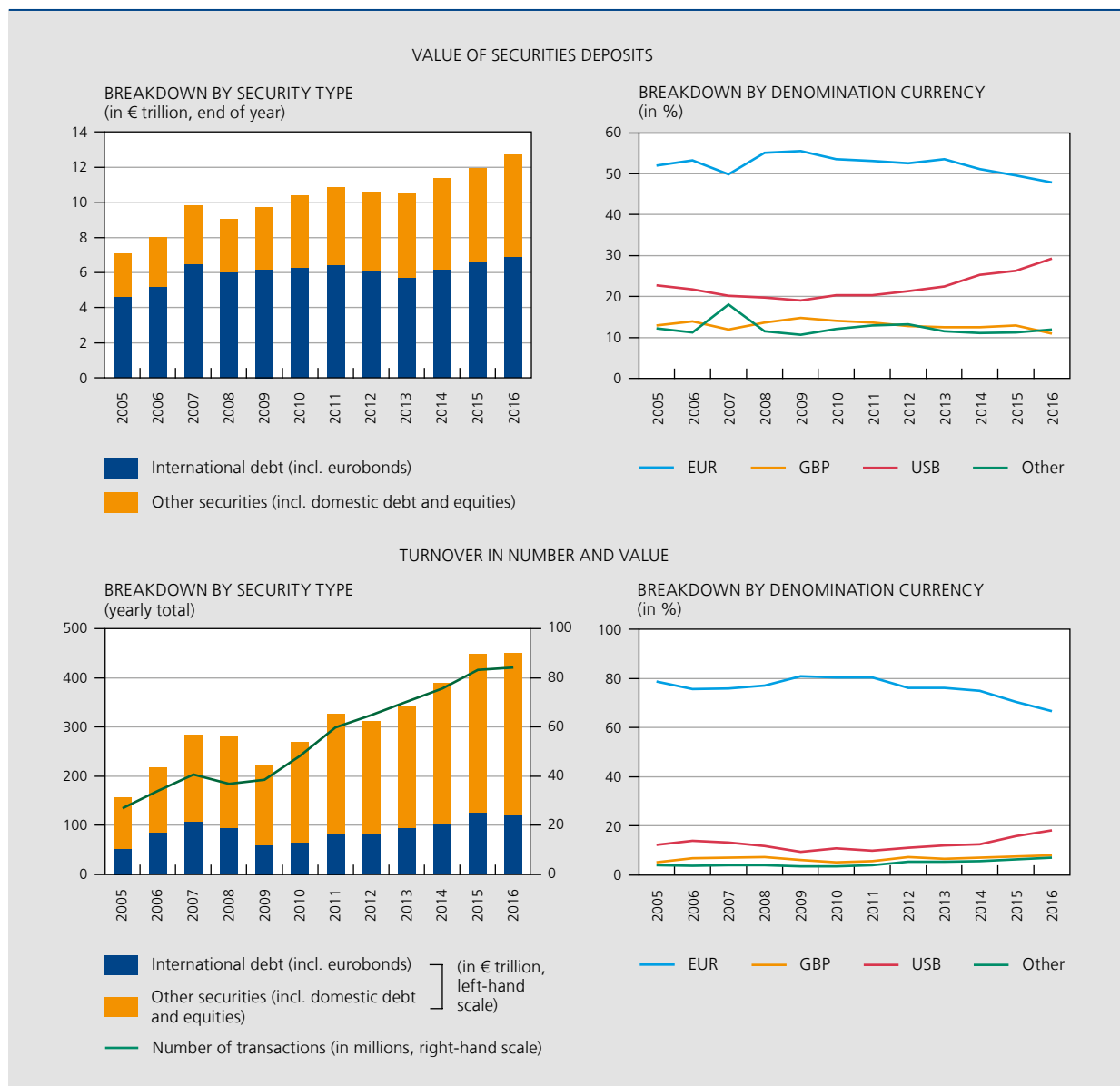


Euroclear Bank is an issuer CSD for international securities, but it also acts as an investor ICSD through its connections with more than 45 securities markets worldwide. Thanks to these links, participants can hold and settle domestic securities issued in all those markets, typically government bonds and other fixed-income securities. Euroclear Bank is rated AA+ by Fitch and AA by S&P<sup>(1)</sup>.

At the end of 2016, the value of securities deposits held on Euroclear Bank's books on behalf of its participants (chart 6, top panel) has grown by 2.5% to nearly € 12.7 trillion equivalent compared to previous year. A small majority of securities deposits are in international bonds, such as Eurobonds, for which issuers can choose the currency or country of issue. Both Euroclear Bank and Clearstream Banking Luxembourg are the "issuer ICSD" or the primary places of

(1) Euroclear Bank has been qualified, based on the related EBA guidelines, as Other Systemically Important Institution (O-SII). Based on relevant authorities' assessment of systemic risk, higher loss absorbency requirements are set on O-SIIs and with the obligation to maintain a CET1 capital buffer of up to 2% of the total risk exposure amount. For Euroclear Bank, the final O-SII buffer has been set at 0.75% by the Bank. The list of O-SII notified to the EBA can be consulted at <http://www.eba.europa.eu/risk-analysis-and-data/other-systemically-important-institutions-o-siis-/2016>.

**CHART 6** SECURITIES DEPOSITS AND SETTLEMENT TURNOVER IN EUROCLEAR BANK



Source: Euroclear.

deposit for this type of securities, unlike for domestic securities where only one CSD acts as the primary place of deposit. More than 60 % of total issuance in Eurobonds is held in Euroclear Bank<sup>(1)</sup>. Securities held by participants on Euroclear Bank's books can be denominated in more than 50 currencies. After EUR (close to 48 %), USD is the main denomination currency (29 %), followed by GBP (11 %).

Regarding settlement turnover (chart 6, bottom panel), the number of transactions settled in Euroclear Bank amounted to 84.1 million in 2016, a slight increase of 1.0 % compared to 83.3 million in 2015. In value terms, this represents € 451.7 trillion for 2016 as a whole (+2.1 % from € 442.6 trillion in 2015). On average, Euroclear Bank processes more than 326 000 transactions daily with a total value of € 1.75 trillion. A historical peak day (in terms of settlement turnover in value) was recorded in June 2016, just before the Brexit referendum, with more than € 2.13 trillion of transaction value settled in Euroclear Bank. In terms of settlement turnover per security type, compared to securities deposits, international debt accounts for about 27 % of settlement turnover while the bulk is composed of other types of securities such as domestic debt and, to a lesser extent, equities or exchange-traded funds (ETFs). The relative share of the USD has been steadily growing throughout the years, at the expense of EUR activity. In 2016, about 66.7 % of settlement turnover, free of payment and against payment transactions, was denominated in EUR, its lowest level since 2005. USD follows with 18.1 % and GBP with 8.1 %.

### **NBB-SSS**

NBB-SSS, the securities settlement system operated by the Bank, acts as the register ("issuer CSD") for both Belgian public and private sector fixed-income debt. Public sector debt includes securities issued by the Belgian federal government and by regional or local governments. Private sector debt registered in NBB-SSS can be issued by corporates, credit institutions or other entities.

At the end of 2016, total outstanding securities deposits in value (chart 7, top panel) amounted to € 612.5 billion, a 6.4 % increase compared to 2015 (€ 575.4 billion). Total public sector debt securities (OLOs, Treasury bills and others) represent about 65 % of total securities deposits, their lowest share so far. OLOs represent the largest category of securities in NBB-SSS; i.e. 52 % of total securities deposits or close to 80 % of total public sector debt.

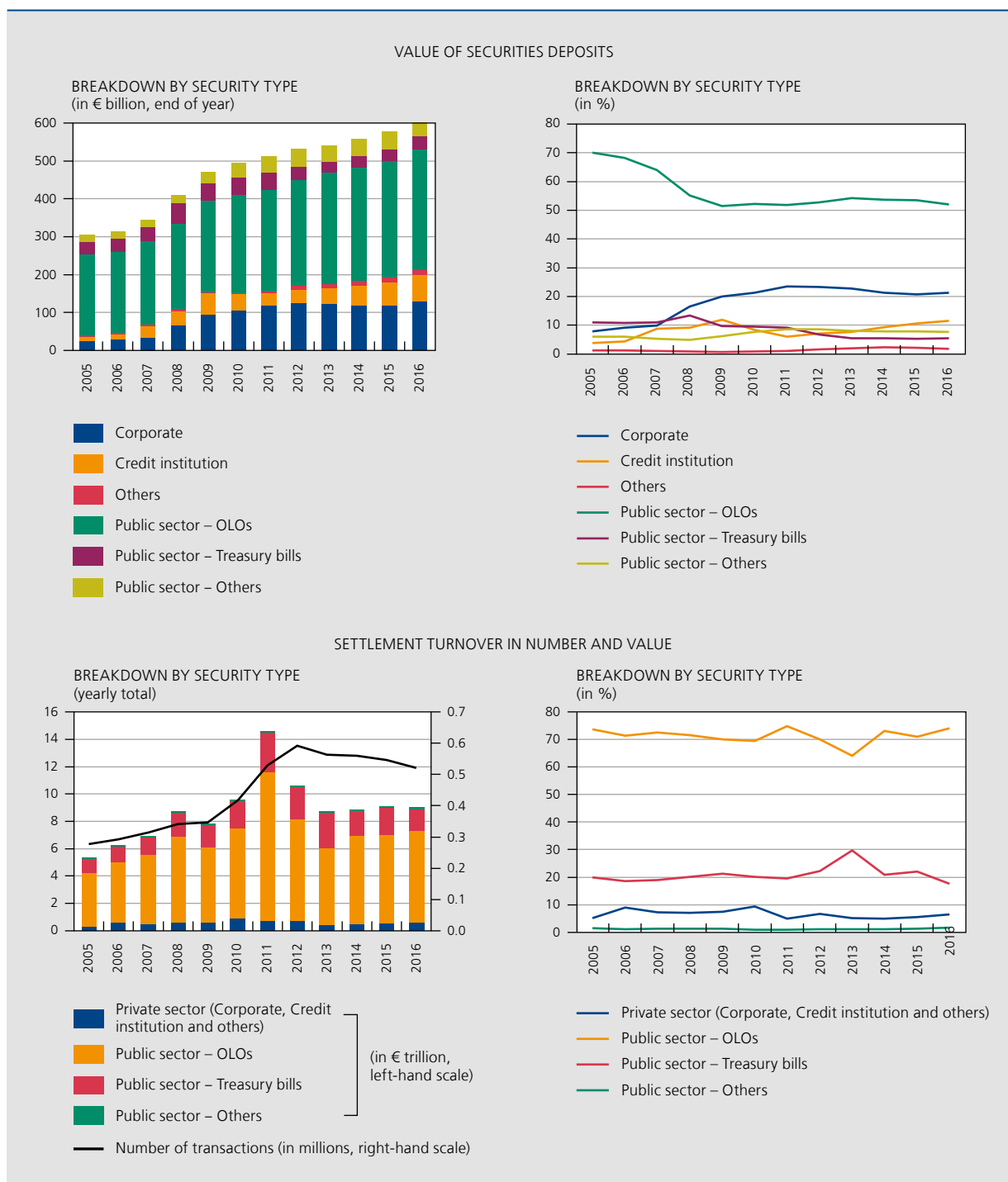
In terms of securities settlement turnover (chart 7, bottom panel), the number of transactions settled in NBB-SSS, both new issues and secondary market transactions, dropped from 546 712 in 2015 to 521 729 in 2016 (-4.6 %); a daily average of 2 045 transactions. Settlement turnover in value terms reached € 8.97 trillion or about € 35.2 billion per day on average. This is a slight decrease from € 9.04 trillion recorded in the previous year. About 75 % of settlement turnover in value in 2016 was in OLOs, followed by Treasury bills (18 %). The share of private debt remains marginal compared to public debt. Settlement turnover of private sector debt in value has increased but still only accounts for 6.5 %.

At the end of March 2016, NBB-SSS migrated to the TARGET2-Securities (T2S) platform as part of the second T2S migration wave (see also box 2 on T2S). NBB-SSS adopted a two-step migration with a first phase of T2S functionalities already being implemented in February 2015. This approach reduced the related operational risks in the overall migration process. User committees are organised on a regular basis where such things as the impact of the migration to T2S is discussed, including settlement fail rates<sup>(2)</sup>.

(1) Source: ECB Blue Book, 2015 data.

(2) Minutes of NBB-SSS User Committees are available at <https://www.nbb.be/en/payment-systems/securities-settlement-system-nbb-sss>.

**CHART 7** SECURITIES DEPOSITS AND SETTLEMENT TURNOVER IN NBB-SSS



Source : NBB.

### *Euroclear Belgium*

More than 99 % of securities deposits held in Euroclear Belgium are Belgian equities. As these are valued at market prices, the value of securities deposits fluctuates with market volatility. At the end of 2016, the total value of securities deposits held in Euroclear Belgium stood at € 235 billion (down 12.8 % from € 269 billion). Since about 80 % of these deposits are BEL-20 equities, the value of securities deposits follows in general trends in the BEL-20 index (chart 8,

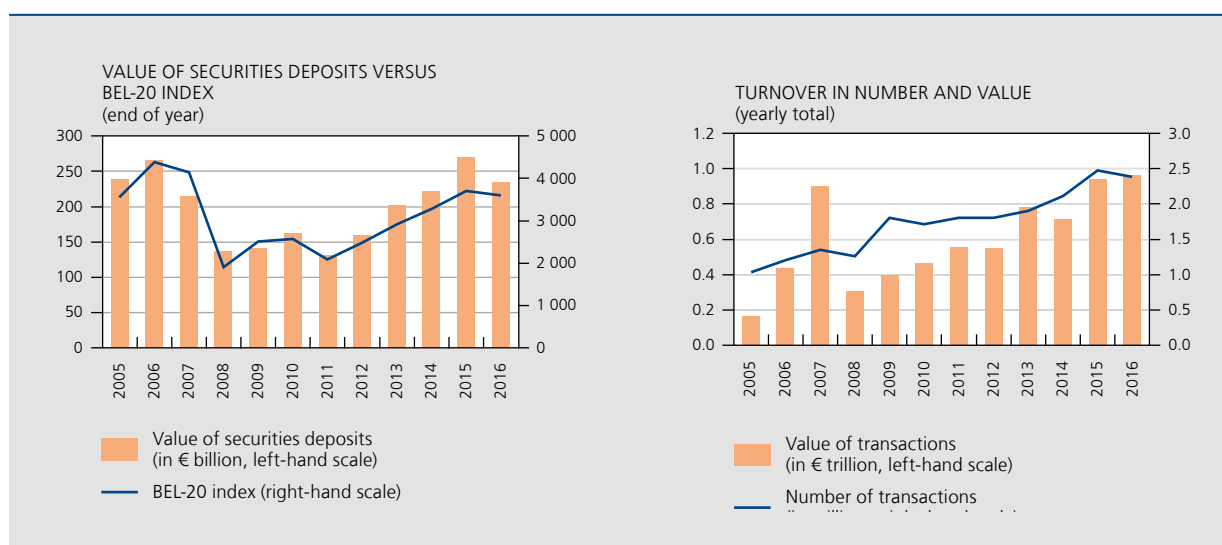


left-hand panel). In terms of turnover, the number of transactions processed decreased by 3.6% (from 2.48 to 2.39 million), whereas the value of transactions settled increased slightly with 2% (from € 945 to € 964 billion) (chart 8, right-hand panel). On average, Euroclear Belgium processes daily about 9,350 transactions with a value of € 3.78 billion.

Euroclear Belgium’s settlement activity is integrated in a joint platform with Euroclear France and Euroclear Nederland; i.e. the Euroclear Settlement of Euronext-zone Securities system (ESES). Besides a common IT platform, these ESES CSDs share harmonised settlement and custody services, and apply a harmonised Euroclear services pricing model. Daily settlement operations of Euroclear Belgium are outsourced to T2S since September 2016. As Euroclear Belgium’s business is primarily in equities, unlike the other ESES CSDs in which also government securities are held, the share of Euroclear Belgium in ESES is rather limited<sup>(1)</sup>.

(1) In terms of securities deposits in value, Euroclear Belgium accounted for 3.1% of the aggregate value held by ESES CSDs at year-end 2016.

**CHART 8** SECURITIES DEPOSITS AND SETTLEMENT TURNOVER IN EUROCLEAR BELGIUM



Source: Euroclear.

## Box 2 – TARGET2-Securities

TARGET2-Securities (T2S) is a pan-European common platform of 20 EU CSDs for securities settlement in central bank money operated by the Eurosystem<sup>(1)</sup>. As shown in the table below, European CSDs have been migrating their settlement activity to the T2S platform in several waves, starting in 2015. There were two migration waves in 2016. During Wave 2 in March, the NBB-SSS and Interbolsa (Portugal) migrated their settlement platform to T2S. Wave 3 in September included the ESES CSDs (i.e. Euroclear France, Euroclear Nederland and Euroclear Belgium) as well as VP Lux (Luxembourg) and VP Securities (Denmark). In February 2017, migration Wave 4, including a.o. the German and Austrian CSDs, was completed successfully. The final wave was scheduled for September 2017. Euroclear Finland announced in January 2017 that its migration to T2S will have to be rescheduled to a later date still to be confirmed.

(1) More information about T2S can be found on the ECB's website: <https://www.ecb.europa.eu/paym/t2s/html/index.en.html>.



## T2S MIGRATION PLAN

Wave 1 22-06-2015 – 31-08-2015	Wave 2 29-03-2016	Wave 3 12-09-2016	Wave 4 06-02-2017	Wave 5 18-09-2017
Bank of Greece Securities Settlement System (BOGS)	Interbolsa (Portugal)	Euroclear Belgium	Centrálny depozitár cenných papierov SR CDCP (Slovakia)	Baltic CSDs (Estonia, Latvia, Lithuania)
Depozitarul Central (Romania)	National Bank of Belgium Securities Settlement System (NBB-SSS)	Euroclear France	Clearstream Banking Frankfurt (Germany)	Iberclear (Spain)
Malta Stock Exchange		Euroclear Nederland	KDD – Centralna klirinško depotna družba (Slovenia)	
Monte Titoli (Italy)		VP Lux (Luxembourg)	KELER (Hungary)	
SIX SIS (Switzerland)		VP Securities (Denmark)	LuxCSD (Luxembourg)	
			OeKB CSD (Austria)	

Source: ECB.

## BUSINESS ACTIVITY

In December 2016, T2S settled about 5.3 million transactions on a monthly basis; a daily average of 254 724 transactions. In March 2017, after CSD migration Wave 4, the number of transactions settled on T2S more than doubled up to 11.5 million transactions or, on average, 498 655 transactions per day. Including Wave 4, T2S is currently processing 90 % of the expected volume for 2017.

## OVERSIGHT APPROACH

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 T2S enables the member CSDs to comply with the regulations applicable to them. In line with PFMI Responsibility E (Cooperation with other authorities) of the CPMI-IOSCO Principles for Financial Market Infrastructures (PFMIs), 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.

## SUPERVISORY PRIORITIES IN 2017

One of the priorities for the T2S overseers and supervisors is the next migration of CSDs joining T2S. The CSD Regulation (CSDR) imposing new requirements on EU CSDs will also take up a considerable amount of regulatory



attention in order to make sure that the current set-up of T2S does not hinder, or even more supports the CSDs in their effort to become CSDR compliant. In that regard, T2S could develop common tools (such as a tool to calculate the penalties for settlement fails), instead of each individual CSD making IT adjustments to be CSDR compliant.

### *Role of Belgian (I)CSDs in the mobilisation of collateral*

Euroclear Group entities, including Euroclear Bank, provide collateral management services as a triparty agent, in which it takes over the collateral management tasks (including collateral selection, valuation and substitution) from its participants during the lifecycle of the transaction concluded between two participants. The Euroclear “Collateral Highway” aims to establish a common pool of collateral assets to serve the needs of their holders. Collateral supply fragmented across various holding locations can be aggregated by sourcing collateral from other (I)CSDs and custodian banks where the assets are held (i.e. highway “entries”). Once collateral is sourced into the Euroclear system, participants can allocate it to their counterparties to support a range of transactions, including central bank operations, repos, securities lending or margins for CCPs (i.e. highway “exits”). As shown in chart 9 (left-hand panel), at group level, the average daily value of triparty collateral managed by the Euroclear (I)CSDs by the end of 2016 had reached more than € 1 trillion, slightly 0.4 % up from 2015.

Euroclear Bank and NBB-SSS play an important role in the mobilisation of collateral for monetary policy purposes<sup>(1)</sup>. Via Euroclear Bank, eligible Eurobonds and domestic assets held on a cross-border basis via eligible links to other (I)CSDs can be mobilised within the Eurosystem. In the case of NBB-SSS, only Belgian eligible securities can be mobilised as it has no links with other (I)CSDs. As shown in table 6 below, based on daily average 2016 data, total collateral held in custody held by the Eurosystem central banks amounts to about € 1.7 trillion. Close to 30 % of this amount is collateral mobilised on a cross-border basis. Whereas the share of cross-border collateral mobilised by Belgian institutions is minor (1.8 %), the share that goes through Belgian (I)CSDs is about 24 % as illustrated in chart 9 (right-hand panel). This means that collateral assets held in NBB-SSS and Euroclear Bank (including Eurobonds) account for a large portion of cross-border collateral assets mobilised for monetary policy purposes by credit institutions in other euro area countries.

Collateral management is considered as a strategic business given regulatory initiatives triggering new collateral obligations for centrally cleared and non-centrally cleared OTC derivatives. In 2016, EMIR introduced mandatory central clearing of interest rate derivatives for a first set of counterparties (i.e. clearing members as from June 2016 and other counterparts with large derivatives volumes as from December 2016). EMIR’s central clearing mandate will be further extended to other counterparties as from June 2017. For non-centrally-cleared OTC derivatives, BCBS-IOSCO’s new initial margin (IM) requirements are being gradually applied, starting in countries such as the United States and Japan since 1 September 2016, while the variation margin (VM) requirements are applicable as from March 2017.

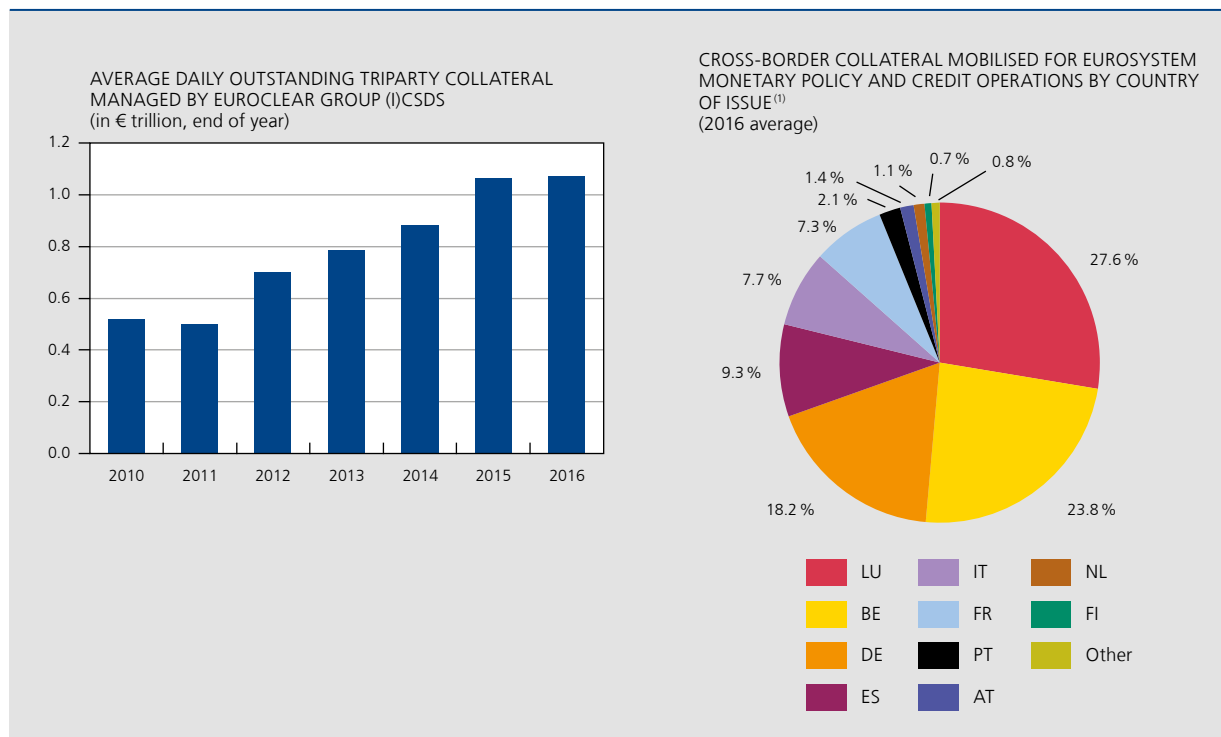
One cornerstone of Euroclear Group’s collateral strategy is the joint venture with the Depository Trust & Clearing Corporation (DTCC), so-called DTCC-Euroclear GlobalCollateral Ltd. The new service offerings are being delivered in subsequent phases. As of March 2017, GlobalCollateral Ltd enables market participants to mobilise securities cross-border from the US to Europe for use as collateral. In practice, participants can use their Depository Trust Company (DTC) eligible USD assets – including US equities, corporate bonds and asset backed securities – for securities financing transactions within Euroclear Bank. In a next project delivery phase, scheduled for 2017, the scope of assets that can be mobilized through this gateway will be extended with US government bonds and participants will be able to automatically select and optimise their collateral portfolio across multiple counterparties and exposures.

Another deliverable is a solution to provide straight-through processing for the settlement of margin obligations for non-centrally cleared derivatives transactions. It is anticipated that usage of the new service will take-off in the first half of 2017 when rules for non-centrally cleared derivatives will be applicable. Up until now, margin calls have often been a manual process for some counterparties, opening up operational risks which would further increase when regulation

(1) Assets held in Euroclear Belgium are mainly equities and therefore not eligible as collateral for monetary policy purposes.

comes fully into effect. Automated settlement of margin obligations thus aims to improve operational and liquidity risk management. In July 2016, two institutions – State Street and Northern Trust – confirmed their participation in a pilot program to test the new service.

**CHART 9** ROLE OF BELGIAN (I)CSDs IN THE MOBILISATION OF COLLATERAL



Sources: Euroclear, ECB.  
 (1) The country of issue specifies which countries supply the assets that are used cross-border.

**TABLE 6** COLLATERAL HELD IN CUSTODY BY THE EUROSISTEM (average, based on holdings on the last Thursday of each month in 2016)

	Market values after haircuts in € billion	In %
Total collateral held in custody by the Eurosystem	1 664.7	
Total cross-border collateral held in custody by the Eurosystem	483.5	29.0
of which:		
Cross-border collateral mobilised at Belgian (I)CSDs	115.4	23.9
Cross-border collateral mobilised by Belgian financial institutions	8.7	1.8

Source: ECB.

## PRUDENTIAL & OVERSIGHT APPROACH

The Bank closely monitored preparations for and the actual migration of NBB-SSS (March 2016) and Euroclear Belgium (September 2016) to T2S. In the latter case, the ESES CSDs' overseers and market regulators (see box 3 on cooperative

arrangements for Euroclear) interacted intensively with ESES. Post-migration, due attention is being paid to changes in settlement fail rates. For NBB-SSS, they are higher than before migration to T2S (5.3 % in 2015 versus 7.1 % in 2016). In the case of Euroclear Belgium, fail rates were on average 2.0 % in Q4 2016 compared to 1.7 % in Q4 2015. CSDs are interacting with T2S operators on how to further improve settlement efficiency. Lower settlement efficiency rates are partly due to CSD participants' behaviour not yet being fully adapted to the new environment. It should also be added that, for NBB-SSS, a securities lending and borrowing service supporting settlement efficiency was no longer available in the T2S environment.

Cyber resilience remained a focus of the Bank and other Euroclear Group authorities. Further work was conducted on enhancements to Euroclear's overall cyber security posture and its "holistic" approach towards cyber resilience, including Board involvement, crisis communication procedures and human resources' policies and procedures (including the vetting process). NBB-SSS is also conducting a self-assessment against the CPMI-IOSCO guidance on cyber resilience. In the framework of recent cyber heists targeting the high-value transaction chain, the Bank has reviewed cyber security in end points of payment and securities settlement systems established in Belgium, including Euroclear SA, Euroclear Bank and Euroclear Belgium (see Chapter 4 on SWIFT and article on cyber security in financial market infrastructures).

For Euroclear Bank, the Bank has reviewed the PFMI assessment with regard to Principle 4 on credit risk and Principle 7 on liquidity risk. Credit use by participants in the system, which is secured and, as a rule, intraday, is the source of Euroclear Bank's liquidity needs. As it settles in multiple currencies, the link between credit and liquidity risk should be considered per currency. So far, the risk management framework has mainly been based on the available liquidity sources in EUR, supplemented by several liquidity arrangements for USD, GBP and JPY. This framework, which was basically targeting liquidity needs in the four major currencies (representing >95 % of settlement turnover in value terms), is being extended at the Bank's request to all relevant currencies eligible for cash settlement on Euroclear Bank's books, and based on the more specific CSDR requirements. The liquidity stress-testing framework is being upgraded accordingly.

Apart from a specific focus on credit and liquidity risk management, the Bank also carried out an in-depth analysis of risk governance aspects in Euroclear Bank, including the risk management function outsourced by the latter to Euroclear SA. For that purpose, Euroclear Risk Management was requested to provide a self-assessment based on 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<sup>(1)</sup> process<sup>(2)</sup>. 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<sup>(3)</sup> 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 in the framework of the CSDR. In support of the implementation of these frameworks, current available tools will be further enhanced to allow the aggregation of risk data which is considered key to making informed decisions at Euroclear Group level. The risk management principles and guidelines referred to above also stipulate that the scope of risks covered by institutions' policies should not be limited to credit, market, liquidity and operational risks. In that respect, initiatives to build on capabilities and resources within Euroclear Risk Management with regard to systemic risks have been taken recently. The so-called three lines of defence (i.e. operations department as 1<sup>st</sup> line managing risks on a day-to-day basis, risk management as 2<sup>nd</sup> line monitoring material risks and internal audit as 3<sup>rd</sup> line providing an independent review of both 1<sup>st</sup> and 2<sup>nd</sup> line) are within scope of the analysis conducted by the Bank. Specific attention is given to the capability of the 1<sup>st</sup> line to define potential risk events and their corresponding risk responses. Risk management as 2<sup>nd</sup> line ought to challenge these risk responses within the boundaries set by the Risk Appetite Framework. Further follow-up work on risk governance by the Bank is envisaged in 2017.

The Bank has reviewed the recovery plans of Euroclear Bank and Euroclear SA (as assimilated settlement institution) based on the specific guidelines it published in August 2016. The revised versions of the recovery plans that were made available end 2016 will be further assessed by the NBB in the framework of the CSDR authorisation process.

(1) Internal capital adequacy assessment process.

(2) Including relevant principles and guidelines on applicable methodologies, risk management, internal corporate governance, risk data aggregation and reporting, and risk appetite frameworks from BCBS, EBA, ECB and FSB.

(3) Supervisory review and evaluation process.

Preparations made by Euroclear in support of the CSDR licensing process have been one of the central topics of prudential and oversight activities in 2016, both on a bilateral basis as well as on a multilateral basis among Euroclear Group authorities.

### Box 3 – Cooperation between the Bank and other authorities with regard to Euroclear

Owing to the international scope of Euroclear’s activities, the Bank cooperates with other authorities, either on a multilateral or bilateral basis, as summarised in the table below.

#### OVERVIEW COOPERATION WITH REGARD TO EUROCLEAR

	Rationale for cooperation
<b>National cooperation</b>	
Financial Services and Market Authority (FSMA)	Market authority responsibilities regarding CSDs in Belgium
<b>International cooperation</b>	
Euroclear SA/NV	
Euroclear Group overseers and market supervisors (BE: National Bank of Belgium (NBB), FSMA; FI: Bank of Finland, Finanssivalvonta; FR: Banque de France (BdF), 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
Central Bank of Luxembourg/Commission de Surveillance du Secteur Financier	Bilateral cooperation on the link between Euroclear Bank and Clearstream Banking Luxembourg (“the Bridge”)
Securities Exchange Commission	Bilateral cooperation focusing on US-related activities within Euroclear Bank
Euroclear Settlement of Euronext-zone Securities (ESES)	
ESES overseers and market supervisors (BE: NBB, FSMA; FR: BdF, AMF; NL: DNB, AFM)	Multilateral cooperation joint settlement platform of Euroclear France, Euroclear Nederland and Euroclear Belgium.

## SUPERVISORY PRIORITIES IN 2017

One of the main priorities for 2017 is the CSDR authorisation filing of Euroclear Bank and Euroclear Belgium. While Euroclear Belgium has to obtain a CSD licence under the CSDR, Euroclear Bank needs to obtain an authorisation to provide both (I)CSD and banking-type ancillary services. The interoperable link between Euroclear Bank and Clearstream Banking Luxembourg needs to be authorised as well. As competent authority under CSDR, the Bank is responsible for deciding on the authorisation. (I)CSDs are obliged to apply for authorisation no later than six months after the effective application date of the regulatory technical standards published in March 2017. If the application is considered incomplete, the Bank shall set a time limit by which the (I)CSD has to provide additional information. In the case of Euroclear Belgium which shares a settlement platform with Euroclear France and Euroclear Nederland, respective national overseers and market regulators have agreed to coordinate the national authorisation process of their respective CSDs.

Governance, with the Euroclear Group (I)CSDs having outsourced critical services to the parent holding company (Euroclear SA), is a key aspect in the CSDR authorisation process. The PFMI had already indicated its importance for FMIs that are part of a larger organisation having clear governance arrangements, notably with regard to conflicts of interest and outsourcing issues. In addition, an FMI which relies upon or outsources part of its operations to another FMI or service provider should have timely access to information, as well as proper controls and monitoring tools in place. Although these principles have also been adopted in the CSDR and related ESMA standards, the latter is more specific about the access of information to authorities and the need for the CSD to remain in control of the management of the risks it faces. In addition to the PFMI, the competent and relevant authorities of the outsourcing CSDs can have access to the information directly from the outsourcee (in casu Euroclear SA) to allow them to assess the outsourced activities' compliance with CSDR.

In parallel with the preparation of the CSDR authorisation process, the Bank will further review and update the PFMI assessment of Euroclear Bank. It will take into account new available guidance to the PFMI with regard to operational risk (including cyber resilience) and risk management (including recovery and resolution). Further attention will also be paid to the role of Euroclear Bank in collateral management services which are expected to grow due to the implementation of EMIR. Common interests at group level (i.e. governance, risk management, cyber resilience, outsourcing) will be further discussed among Euroclear overseers and securities regulators.