# Euroclear Investments SA

Consolidated financial statements and standalone financial statements at 31 December 2018

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# Euroclear Investments SA

## Consolidated financial statements at 31 December 2018

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# Directors' report

The directors of Euroclear Investments SA (the 'Company') present their report, together with the audited consolidated financial statements of the Company and its subsidiaries (the 'group'), for the year ended 31 December 2018.

### Group overview and principal activities

The Euroclear group is the world's leading provider of post-trade services. The group provides settlement, safekeeping and servicing of domestic and cross-border securities, with asset classes covered including bonds, equities and investment funds. The Euroclear group includes the International Central Securities Depository (ICSD), Euroclear Bank, based in Brussels, as well as the domestic Central Securities Depositories (CSDs) Euroclear Belgium, Euroclear Finland, Euroclear France, Euroclear Nederland, Euroclear Sweden and Euroclear UK & Ireland. Euroclear Bank, as single purpose bank, is the only credit institution in the Euroclear group. Euroclear Investments SA provides system development and support services to the other companies of the group.

Euroclear Holding SA/NV replaced Euroclear Limited (previously named Euroclear plc) at the end of 2018. Based in Brussels, it owns, directly or indirectly, the entire issued share capital of these companies.

Euroclear Investments SA is headquartered in Luxembourg. Besides 99.9% of the share capital of Euroclear SA/NV, it owns directly the reinsurance captive company of the group, Euroclear Re and the real estate companies of the group; i.e. Calar Belgium SA/NV and Eurcoelar Properties France SA.

Euroclear Bank's branch in Krakow, Euroclear Bank (Spółka Akcyjna) - Oddział w Polsce, officially opened in January 2013. By the end of 2018, it had grown to 614 employees who serve Euroclear's global client base. The Krakow branch provides a dual-office arrangement with Euroclear Bank's existing operations in Belgium.

With 139 employees, the Hong Kong Branch of Euroclear Bank SA/NV is an important contributor to client servicing in Asia. Through the Hong Kong office, Euroclear Bank is able to provide clients with a global service offering, despite the time zone difference with its headquarters in Europe.

In 1987, Euroclear Bank operated a representative office in Tokyo to support Japan-based users of its securities settlement system. The presence of the Company was reinforced in 2017 with the opening of a foreign bank branch with 16 employees in 2018 to further enhance the way Euroclear Bank supports its local Asian customers.

DTCC-Euroclear Global Collateral Ltd (DEGCL) is a joint venture shared equally between Euroclear SA and The Depository Trust and Clearing Corporation (DTCC), founded in September 2014. Through DTCC-Euroclear Global Collateral Ltd, Euroclear will enable the automatic transfer and segregation of collateral based on agreed margin calls relating to over-the-counter (OTC) derivatives and other collateralised contracts. In 2018, Euroclear SA injected a capital of $11 million to support further business developments. Euroclear holds 50% of DEGCL.

In March 2018, Euroclear SA/NV increased its equity stake from 35% to 65% in Quantessence, a UK based company. The capital increase is aimed at reinforcing the capacity of the company to establish an infrastructure to connect market participants (distributors, investment managers and investment banks) active in Individualised Constant Proportion Portfolio Insurance (iCPPI) services.

In addition to the senior notes issued in 2016 for €600 million, Euroclear Investments issued in April 2018, a €300 million of unsecured fixed rate senior note and a €400 million of subordinated, resettable fixed-rate hybrid note. These notes were listed on the Irish Stock Exchange and their respective proceeds were downstreamed by Euroclear Investments to Euroclear Bank for €600million and to Euroclear SA for €100 million in order to structure relevant loss absorption mechanisms to restore the capital position of these group entities in recovery and resolution scenarios in accordance with the Banking Recovery and Resolution Directive.

Besides the above Long Term notes issued, Euroclear Bank launched a €5 billion Euro Medium Term Note (EMTN) and a €3 billion Certificate of Deposits multi-currency programs to increase its Qualifying Liquidity Sources under the European Central Securities Depositary Regulation. Euroclear Bank issued a total amount equivalent to €2.5 billion in EUR and GBP by the end of 2018 through its EMTN programme. The Certificate of Deposits program was launched during the last quarter of 2018 and the Bank issued a total amount equivalent to about €500 million in USD and GBP.

Euroclear Investments recorded an impairment charge of €28 million in 2018, principally related to the costs that were capitalised in the context of the Finnish IT platform rebuild following doubts on the future use of some of the developed components. A limited part of this impairment charge was related to the Swedish infrastructure as a result of technological changes coupled with evolving client expectations.

## Business review

### Euroclear's business model: meeting its commitments to stakeholders

Euroclear's business model enables the group to deliver its corporate commitments to a broad range of stakeholders. Euroclear aims to create long-term value as a trusted cornerstone of the capital markets by providing robust and relevant services as a financial market infrastructure.

Euroclear is dedicated to reducing risk and providing liquidity to make global financial markets safer and more efficient. As an open-architecture financial market infrastructure, it has created a global network and client franchise founded on partnerships across financial markets, including growth economies.

Euroclear has built its position as a scale provider of post-trade services through the expertise of its people, client engagement and reliable technology. It continues to develop products and services that make it easier for clients to manage risk and liquidity in a more robust regulatory environment, including through collateral management solutions. Underpinning its role as a market infrastructure is its prudent and structured approach to risk management and strong financial position.

Euroclear generates net fee income and interest income, predominantly through the provision of settlement and safekeeping services. Safekeeping fees charged to clients is predominantly based on the nominal values of the securities it holds, resulting in a very stable annuity-like income. In addition, Euroclear charges clients fees on the volume of transactions that it processes, as well as fees for value-add services and interest earnings on deposits. The income generated by its products and services is offset by costs to provide its products and services, as well as investments in future opportunities, to derive sustainable levels of profitability, return on equity, and earnings per share.

Profits are invested into new products and services for clients; training and development opportunities for Euroclear's people; strong levels of regulatory capital as well as delivering robust returns and long-term sustainable value to shareholders. Such investments increase value for these important stakeholders as well as the broader public good by contributing to the efficiency of financial markets, actively enabling risk reduction and by acting as a responsible corporate citizen.

#### *A strategy for evolving capital markets*

Euroclear's business strategy builds on its position, as a systemically-important infrastructure, at the centre of the global financial market ecosystem.

Its open-architecture approach has enabled Euroclear to build an unparalleled network of issuers, intermediaries and investors around the world. By bringing together this network, Euroclear aims to facilitate financing in capital markets by reducing risk, increasing process efficiency in post-trade activities, and optimising collateral mobility and access to liquidity.

In realising this vision, Euroclear are focused on delivering three strategic objectives:

1. **Strengthening core European network** in Eurobonds, European securities and fund asset classes
2. **Growing the network** by expanding internationally (including in emerging markets), and by connecting global collateral pools
3. **Reshaping the network** by exploring innovative value-add solutions that ensure group's long term relevance to clients

Delivery of these strategic objectives will help Euroclear's clients navigate rapidly changing operating environment, while contributing to sustainable long-term financial performance.

In 2018, Euroclear reported record operating metrics and financial performance, which is testament to strategic progress made in previous years to develop Euroclear's attractive network proposition.

#### *Strengthening the core European network*

Euroclear provides significant coverage of the Eurobond market with 60% holdings, and over 50% of European capital market securities. The group also provides significant coverage of the European funds industry, with access to over 1,200 fund administrators and 100,000 funds. Euroclear's core European network generates 75% of the group's total business income.

- *Investing in relevant, efficient and safe (I)CSDs*

Euroclear continually invests in providing robust and relevant market infrastructure services for the markets it serves through its international CSD (Euroclear Bank) and the group's six domestic CSDs.

One of the most important post-trade industry in recent years was the setup of the European Central Bank's TARGET2-Securities (T2S) platform, which established a single settlement platform for Eurozone securities. Since autumn 2016, Euroclear Bank is connected to T2S through the Euroclear Settlement for Euronext-zone Securities (ESES) CSDs.

T2S provides potential opportunities for investors who wish to have a single gateway to Eurozone securities and for issuers that can attract a broader investor community more easily. Euroclear has been working to support global custodian clients in maximising the opportunities of having a single CSD access to T2S, which becomes increasingly attractive as the platform continues to gain volumes.

Having increased interoperability between ESES and Euroclear Bank, international clients can now choose to access European liquidity in central bank money or commercial bank money, while benefiting from a range of value-add services. During 2018, Euroclear successfully launched the single CSD service with a first client, a major global custodian, and anticipate growth in the model in the years to come.

Euroclear continues to invest in connectivity and communications products that benefit clients' experience and increase operational efficiency. EasyWay is Euroclear's web-based interface that offers clients the ability to have a clear overview of settlement, collateral management and corporate actions activity. With accurate, real-time data at their fingertips, EasyWay helps users work efficiently and make fast, effective decisions to manage operational risks. Euroclear continues to see increasing usage of the EasyWay platform with over 250 active clients active on the platform.

Underpinning its proposition is Euroclear's capacity to deliver operationally stable platforms and the group continuously invests to enhance its delivery against this customer promise. Euroclear has a number of programmes underway to enhance its systems resilience and reduce further operational risk.

A major focus of Euroclear's investments is reinforcing its cyber security capabilities to counteract the evolving threat posed by cyber criminals, who are showing increasing levels of sophistication and a propensity to target its sector in recent years. As well as enhancing systems and controls, Euroclear has invested in increasing the maturity of its cyber security risk culture and collaborated in efforts to heighten cyber resilience in the financial industry.

The ESES CSDs continued to accompany market participants through regulatory changes. Having implemented changes to become compliant with new corporate actions standards, Euroclear is now working closely with investors and the asset manager community in preparation for incoming transparency legislation in the form of the new Shareholder Rights Directive (SRD2). Euroclear also continues to increase proximity with the issuer community as the full benefits of access to T2S markets through ESES becomes apparent.

2018 saw Euroclear UK & Ireland (EUI) become the first foreign infrastructure to be given direct access to the Federal Reserve's National Settlement Service. Clients are now able to settle US-dollar transactions in central bank money which addresses credit and operational risks between settlement banks and allows for greater market efficiencies. EUI is now able to offer central bank money settlement in three currencies - sterling, euro and US dollars.

Euroclear continues to develop its IT infrastructures in both Euroclear Finland and Euroclear Sweden. The multiyear project to replace Euroclear Finland's entire securities processing infrastructure reached a milestone in May 2018 as all assets in the custody were transferred to a single and modern platform.

- *Enhancing access to funds*

Asset managers' objectives as funds promoters are similar to that of debt management offices in enabling broad and efficient access to their investment fund issuances. Euroclear supports their distribution strategies by developing its range of funds-specific post-trade services, known together as Euroclear FundsPlace.

Euroclear's platform provides automated order routing, settlement, and asset servicing for fund assets. With its network of over 1,200 fund administrators, 10.9 million funds orders were routed in 2018, an increase of 4% year on year. The group continues to deliver a more flexible service while allowing clients to leverage automation to reduce the cost, risks and complexity associated to processing fund trades.

The funds industry is embarking on a period of significant evolution. New innovative business models are being created to meet the expectations of an increasingly global and technologically-savvy customer base and pressures to increase transparency and efficiency throughout the investment chain. Euroclear is working closely with the industry to meet these challenges.

For example, Euroclear worked in collaboration with members of the French financial services community to set out a roadmap to increase attractiveness and competitiveness of the French fund distribution model. The recommendations in the report focused on opportunities from new technology and how the industry can meet Know Your Customer principles while retaining the efficiency benefits of a centralised distribution model.

A major trend in the fund management industry in recent years has been the rise of passive management instruments. Euroclear has been at the centre of innovation in the Exchange-Traded Fund (ETF) market by developing the international ETF structure.

With its simplified issuance structure, the international model is attractive to both ETF issuers and global investors. Today approximately 40% of the European ETF industry is in the international form and major asset managers continue to migrate their ETFs to the structure.

- *Adapting to regulatory changes in Europe*

Participants and authorities increasingly expect infrastructures, such as Euroclear, to contribute actively to developing safer, more efficient and more transparent financial markets. A new regulatory landscape has been established in line with this intent, shaped by new and incoming pan-European legislation including MIFID II, EMIR, the CSD Regulation (CSDR), Shareholder Rights Directive, banking regulations such as the Bank Recovery and Resolution Directive (BRRD) and Anti-Money Laundering (AML) regulation.

Euroclear has made considerable investments to adopt these rules that directly affect its business, while playing an active role in meeting new industry needs that arise as clients adapt to the new regulatory requirements.

CSDR is a regulation that directly applies to every (I)CSD in the group. As a single, pan-European rulebook for CSDs, CSDR aims to improve the safety and efficiency of settlement systems and processes. The changes required by CSDR further reinforce Euroclear's role as a provider of safe and efficient financial market infrastructure, while also cementing independent responsibility and accountability within the operating entities. Euroclear's application processes for authorisation under CSDR are well-advanced for each group (I)CSD.

In the course of 2018, Euroclear Bank took steps to prepare for the new regulatory requirements of the CSDR and BRRD. Indeed, the Company strengthened its capital position by issuing in 2018 registered notes for €600 million in total which were fully subscribed by Euroclear Investments SA with the funding that the group investment holding Company raised mid 2018 following a €700 million long-term fixed income instruments issuance on the debt capital markets.

In addition, Euroclear Bank established a €5 billion Euro Medium Term Note (EMTN) of which €2.5 billion have been issued through both public and private placements and a €3 billion Certificate of Deposits (CD) programmes of which €500 million have been issued during the last quarter of the year.

- *Preparing for the new European landscape*

Over a number of years, Europe has been moving towards a more harmonised financial marketplace in line with the European Commission's plans for a Capital Markets Union. This is reflected in a number of the new pan-European regulations described previously.

However, the United Kingdom's (UK) decision to leave the European Union has introduced uncertainty, and Euroclear is following developments closely. Nevertheless, Euroclear is well positioned to manage the direct business implications of Brexit.

In anticipation of potential risks that may have arisen from Brexit, Euroclear took the prudent step of moving the legal seat of the group's ultimate holding Company from the UK to Belgium. This guarantees that Euroclear's seat remains located inside the European Union. Euroclear remains firmly committed to the UK, including through the operations of its domestic CSD, and there was no business impact on day-to-day operations or jobs as a result of the reorganisation.

In addition, services currently offered by Euroclear UK & Ireland to the Irish securities market may not be possible post-Brexit. Euroclear welcomes the transitional agreement granted by the European Commission to provide temporary equivalence for certain systemically-important institutions, including Euroclear UK & Ireland, if the Article 50 deadline is reached without a deal. Euroclear continues to work closely with authorities and market participants to work towards a long-term post-Brexit solution for Ireland.

***Growing the network globally***

As an open financial market infrastructure, Euroclear supports the evolving requirements of its clients as they look to benefit from the opportunities created by an interconnected global economy. The group is growing its network globally by supporting financial market participants increasing requirement to mobilise collateral across borders and time zones, as well as by connecting international markets to Euroclear through the Global Reach initiative. Together, these programmes have grown substantially over recent years and now contribute to 25% of the group's revenues.

- *Providing global collateral management solutions*

Through the Collateral Highway, Euroclear supports the financial market's requirement for a neutral, interoperable utility to source, mobilise and segregate collateral. It provides a comprehensive solution for managing collateral, offering clients a complete view of exposures across the full spectrum of their asset classes and enabling collateral optimisation opportunities.

In addition to more traditional collateral management activities (typically repos, securities lending, derivatives and access to central bank liquidity), its range of collateral management solutions includes dedicated services for corporate treasurers, and a specialised equities collateral management service.

By the end of 2018, the average daily collateralised outstanding on the Collateral Highway reached €1.2 trillion with growth across business lines. Euroclear was again honoured as the Global Custodian Magazine Tri-Party Securities Financing Survey awarded first place to Euroclear, with average scores up in all service areas.

The joint venture with the Depository Trust & Clearing Corporation (DTCC), DTCC-Euroclear Global Collateral Ltd (DEGCL), is connecting two of the most important pools of collateral to provide a truly global, end-to-end collateral management solution.

The demand for collateral management services is expected to continue to accelerate, driven by the end of quantitative easing and the impact of new global regulations which require clients to post margin across transactions to reduce counterparty and systemic risk.

One area of regulatory changes is the new regime for initial margin requirements for non-cleared derivatives. During 2018, Euroclear continued to work with market participants to successfully on-board clients which transitioned to the new regime. Preparations are underway to support the broader range of clients which will do so in 2019 and 2020.

- *Global and emerging markets*

Across the globe, growth economies are seeking to attract foreign investors to help fund long-term development needs. At the same time, international investors are seeking opportunities to diversify and increase the profitability of their investments around the world, particularly during a period of historically low yields in Europe and North America.

Through the Euroclear Global Reach initiative, Euroclear connects domestic capital markets to a global investor base, with the aim of bringing more efficient capital flows and providing stability to these financial markets.

The attractiveness to both foreign investors and local issuers of a country connecting to Euroclear is illustrated by Chile. The proportion of Chilean government bonds funded by foreign investors rose from 5% in 2017 to more than 20% in their first issuance after becoming Euroclearable. Furthermore, borrowing costs related to issuing local currency denominated bonds declined compared to their previous practice of issuing Global Depository Notes.

Today, the global and emerging markets business line comprises links to 30 financial markets outside of Europe, representing a total of €1 trillion of assets, establishing Euroclear as a global international network. Euroclear continues to assist local market authorities in a number of emerging markets around the world as they consider adapting legal frameworks to be in line with international standards, which is a pre-requisite for becoming Euroclearable.

***Innovating to reshape the network***

Euroclear's strategy extends to exploring opportunities to support its clients' evolving needs in new areas that reflect its ambitions to increase safety, efficiency and global liquidity optimisation in capital markets. By combining new technology with new business model, Euroclear believes that there could be opportunities to reshape its network and deliver long-term sustainable business growth.

Given its role as financial market infrastructure with over €28 trillion of assets under custody, Euroclear today manages a vast amount of financial transaction data, Euroclear is looking to extend its role in bringing greater transparency and liquidity in global capital markets by harnessing this untapped data. By bringing new, valuable and actionable insights to clients, Euroclear can continue to support the development of safer, more efficient financial markets.

Euroclear is actively working on a number of innovation initiatives to explore how to reshape its network in new ways, both in-house and in partnership with FinTech companies.

For example, the Company a founding shareholder in LiquidShare, a FinTech venture that aims to develop post-trade infrastructure for European small and medium enterprises (SMEs) harnessing DLT. Since being setup in 2017, LiquidShare has made good progress with the first pilot phases being launched at the end of 2018.

Another example is Taskize, which was acquired in 2017. Taskize's innovative messaging tool helps back-offices across Euroclear's network to manage their post-trade activities more efficiently. Client demand for the service has steadily increased, with over 150 active clients in 35 countries reporting high levels of user satisfaction.

***Key business parameters***

Net fee and commission income stems mainly from the provision of settlement, asset servicing and other services.

- Settlement related fee and commission income is a function of the number of international and domestic transactions settled in the Euroclear group and is thus impacted by trading activities and investor confidence in the financial markets.
- Asset servicing related fee and commission income is mainly a function of the value of securities held for Euroclear clients in its (I)CSDs. The value of bonds is based on nominal value, whilst for equities, their market value is taken into consideration.
- Other services include global Collateral Highway services. Euroclear's Collateral Highway generates incomes in relation to the daily value of collateral provision outstanding, which is impacted by the activity in the repo market as well as by other factors such as the ECB's liquidity programmes, including long-term refinancing operations.

Interest income stems principally from Euroclear Bank's clients' cash balances invested partially in short term deposits and in money market short term securities and from the investment of Euroclear Bank's capital and its debt securities issued, together with retained earnings. Interest income is dependent on the evolution of short-term interest rates.

Administrative expenses include staff costs, depreciation and amortisation as well as other operating expenses. Administrative expenses are impacted to a certain level by business volume levels, regulatory, cyber security, business-driven investments and by inflation to a moderate extent.

***Operating highlights***

The Euroclear group delivered robust business performance in 2018 driven by increased activity levels despite higher regulatory and Cyber Security cost pressures.

The value of securities held for Euroclear clients at the end of 2018 reached €28.2 trillion, representing a slight 1.4% decrease compared to €28.6 trillion in 2017. Such decrease is mainly driven by the year-end price drops observed on equity capital markets worldwide.

Turnover, or the value of securities transactions settled, increased by 7.9% to €790.6 trillion in 2018. The number of netted transactions settled in the Euroclear group achieved 230.0 million in 2018, a 7.1% increase compared to 214.8 million in 2017.

Euroclear's global Collateral Highway secured a record yearly average of daily outstandings at the end of 2018 of €1,2 trillion, up by 7% compared to last year. The sustained volumes in the Euroclear's global collateral management infrastructure reflect strong needs from market participants to reduce operational risks as well as maximise their asset protection, in line with regulatory requirements.

***Financial performance highlights***

The consolidated results for the year are set out on page 17 of the financial statements.

Net fee and commission income reached €1,028.4 million in 2018, an increase of 2% compared with last year.

Net interest income was €255.8 million, compared to €153.2 million last year, predominantly due to higher interest rates margins (mainly in USD) and higher cash deposits on average during the year. Meanwhile, other income reached €51.9 million in 2018, a decrease of 20% compared to 2017, due to lower gains on financial assets and liabilities held for trading.

Operating income was €1,336.1 million in 2018, an increase of 9% compared to 2017.

Administrative expenses reached €807.7 million in 2018, compared to €801.4 million in 2017. If we exclude the 2017 one-off items, the administrative expenses are stable compared to last year, reflecting the group's focus on cost management despite constant investments in Cyber security, regulatory and business driven initiatives.

Operating profit before taxation was €492.3 million, an increase of 22% compared with €403.3 million in 2017. After excluding the 2017 one-off expenses among which the impairment of the deferred tax asset in DEGCL and the impairment of the capitalised platform developments recorded in 2018, the operating profit before taxation increased by 28% compared to last year.

Impairments were recorded in 2018 for €29.2 million, principally related to the costs that were capitalised in the context of the Nordic technology platforms.

Effective tax rate amounted to 31%, compared to 40% in 2017. After adjusting deferred tax assets for impairments on capitalised IT developments recognised in 2018 and excluding the 2017 one-off reassessment of deferred tax assets in Euroclear SA/NV, the effective tax rate in 2018 decreased by 3% compared to 2017 adjusted level.

Profit for the year ended 31 December 2018 was €340.2 million, an increase of 41% compared to a profit of €240.5 million in 2017.

Total assets amounted to €28,145 million on 31 December 2018, up by €6,106 million compared to the previous year. The increase is mainly driven by higher deposits from central banks, banks and other customers, in addition to debt instruments issued on the market in 2018 for a total €-equivalent of 3.0 billion at the level of Euroclear Bank and for €700 million at the level of Euroclear Investments.

Total shareholders' equity totaled €3,852 million in 2018, up €149.3 million from the prior year increase is mainly driven by the profits of the year, partially offset by dividends of €159.9 million distributed in 2018.

***Employee evolution***

The average number of persons employed by Euroclear Investments SA during the year was 3,982, stable when compared to 3,921 in 2017.

**Dividends**

The Board is not recommending to shareholders to approve the payment of a dividend at the Annual General Meeting as part of the usual yearly profit allocation process. Instead, the Board envisages approving the payment of such a dividend in the fourth quarter of 2019 under the form of an interim distribution, in accordance with the Luxembourg Companies Code and Euroclear Investments SA's Articles of Association.

**Acquisition of own shares**

During the financial year, neither the Company nor any directly controlled subsidiary or person acting in his own name but on behalf of the Company or a directly controlled subsidiary of the Company acquired any shares of the Company.

**Information on circumstances that might materially influence the development of the consolidated perimeter**

No circumstances occurred that might materially influence the development of the company.

**Research and development**

The Euroclear group has continued investing in research and development. These investments are linked to the performance and resilience of the systems as well as business developments, which are described in more detail in the 'Business review' section of this report. The group also continued investing in market research in line with its mission to provide increasingly commoditised market infrastructure services.

**Information on likely future developments in the business of the Company or its subsidiaries**

Likely future developments in the business of the Company and its subsidiaries are included in the Annual Review.

**Post balance sheet events**

There are no important post-balance events to report for the Company and its subsidiaries except for the ordinary dividend proposed to the shareholders (see note XXVII).

## Risk management in Euroclear

### *Enterprise Risk management framework and governance*

Euroclear operates within highly regulated market infrastructure regime, and is a systemically important financial holding. Euroclear intends to maintain its strong reputation in the financial industry for its safety and resilience, and for the quality of its products and post-trade services.

In this context, the Board considers that a comprehensive and effective risk governance framework, underpinned by a sound risk culture, is critical to the overall effectiveness of Euroclear's risk management arrangements. To ensure the organisation's risk arrangements continue to meet Board, market and regulatory expectations, the Euroclear group has initiated in 2016 a group-wide risk transformation programme across the three lines of defence. Since its launch the programme has reinforced Euroclear's risk management framework in line with the increasing regulatory requirements including further clarification of the roles and responsibilities of the Board and its Committees, Senior Management, Line Management, and its independent Control Functions. The risk transformation continued to progress as planned throughout the period and resulted in strengthened risk awareness and improved risk and control environment. The Risk Transformation Programme is expected to achieve the required maturity increase of Euroclear risk management arrangements by end 2019.

The ERM framework structures the way Euroclear manages its risks, within the Board's risk appetite, whilst pursuing its strategy and corporate objectives. It also details the roles and responsibilities of the three lines of defense, in line with the Board's expectations and the governance arrangements.

The first line of defense is the primary source of (non-independent) assurance on the adequacy and effectiveness of the control environment to Senior Management and the Board. The first line of defense provides this assurance through, amongst others, regular risk and control self-assessments, positive assurance reports, semi-annual and annual internal control system report. The internal control system reports are complemented by independent Risk Management (second line of defense) and Internal Audit (third line of defense) opinions. This regular reporting by the three lines of defense provides frequent, effective and comprehensive monitoring of the control environment. Moreover, it contributes to the effective operation of Euroclear's three lines of defense model whereby the Risk Management function plays its role as an independent challenger to the first line of defense and where Internal Audit provides comprehensive assurance based on the highest level of independence.

The Board oversees the effectiveness and independence of the control functions. In particular, it ensures that the Risk Management function provides robust, independent oversight of risk-taking activities to help Euroclear achieve its goals and deliver its strategy within the Board's risk appetite. The Risk Management function does this by: aiming to deliver and maintain a leading Enterprise Risk Management (ERM) framework; providing the Board and Senior Management with high quality, independent risk challenge, advice and guidance; and helping foster a healthy risk culture throughout the organisation. As part of the risk transformation programme, the control functions including Risk Management, have been strengthened with increased bandwidth and depth of expertise.

### *Risks affecting the group*

All of the entities face *operational* risk (the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events). Euroclear has an operational risk management framework embedded in each entity, which in the context of CSDR licensing was reinforced over the last years. Effective identification, monitoring, management and appropriate reporting are at the centre of the group approach. Being a market infrastructure, the integrity, confidentiality and availability of Euroclear, and clients', data and the continuous availability of Euroclear services is very important.

(I)CSDs of the Euroclear group are designated as critical national infrastructure in seven countries. Therefore, as security and resilience is a key aspect of the group approach to operational risk, Euroclear has developed and tested comprehensive processes in all entities to ensure the security and continuous availability of business-critical services, including effective management response to incidents and crises. All locations have appropriate security and contingency arrangements for recovery from workplace disruptions; supplemented by three geographically separate data centres to sustain operations in the event of a local and regional- scale disaster. Disaster recovery response capability is proven through regular switches of activity between the primary data centres. Euroclear also regularly exercises and tests its operational and management response and provide adequate training at all levels of the organisation.

Considering the fast evolving security threat landscape, Euroclear is continuing its important investment in its cyber security capabilities including improvements that continue to be brought to the cyber security risk culture. Beyond enhancing the group security posture and resilience capabilities, significant investment has been made to increase maturity of the IT risk and control environment including also the way IT is being delivered. This investment will continue in 2019.
*Financial* risks are borne mainly by the ICSD, Euroclear Bank, in its role as single-purpose settlement bank. The CSDs of the group have an overall low risk appetite. They offer only securities settlement services in central bank money and do not provide credit to clients. They do not engage in operations with counterparties, except for the investment of their own funds.

As a settlement bank, Euroclear Bank mainly faces collateralised intra-day *credit* exposures on its clients. In addition, it runs credit risk resulting from the intra-day use of a high-quality correspondent network and from short-term placements, mainly by using reverse repos, of clients' end-of-day cash positions in the market with high-quality counterparties. Euroclear Bank is continuously looking at initiatives to reduce the intraday credit provided to its participants.

Because *liquidity* is key for the efficient functioning of Euroclear Bank, it has built a robust liquidity management framework to ensure smooth day-to-day operations and maintain a high level of preparedness to cope with unexpected and significant liquidity shocks. In 2018, Euroclear Bank increased the robustness of its liquidity arrangements including enhanced contingency capabilities if needed e.g. increased committed liquidity facilities with a number of respected liquidity providers.

Euroclear Bank's assets are very short term by nature and the firm has very limited transformation risk on its balance dheet. This is also driven by the fact that Euroclear Bank does enter into trading activity. In 2018, Euroclear Bank has issued Medium Term Notes (€2.500 million) and Certificate of deposits (€500 million) to ensure it has sufficient high liquidity capacity to meet CSD Regulatory requirements. Euroclear Bank remains also with a very low level of *market* risk (interest rate and foreign exchange rate risks only) arises as a by-product of the investment of Euroclear Bank's capital (interest rate risk) and future earnings (interest rate and foreign exchange rate risks). A hedging strategy is in place to mitigate Euroclear Bank's interest rate risk and foreign exchange risk.

Euroclear Investments SA also faces *conduct and culture* and *legal and compliance* risks given its position as a leading financial market infrastructure operating in a highly regulated environment. These risks are managed through robust application of Euroclear's compliance risk management framework.

The ability to anticipate and integrate change in an evolving market is essential for the longer term strategy of the group. Therefore, Euroclear has established a framework to increase the robustness of its project and programme management capabilities.

***Compliance***

The group-wide ethical and compliance risk management framework allows Euroclear to adequately identify, monitor and manage the full spectrum of compliance risks. These include, amongst others, fraud, market abuse and money laundering. In addition, a specific focus is devoted to assess group controls linked to economic sanctions taken by authorities around the world. This framework is supported by communication efforts (e-learning, case-based compliance tests, etc.) that help maintain high levels of staff awareness.

***Supervision and regulation***

The National Bank of Belgium and the Financial Services and Markets Authority (FSMA) are the supervisors of Euroclear Bank. The National Bank of Belgium is the lead regulator of Euroclear SA/NV. In addition, individual CSDs are supervised by their respective local regulator and central bank, which set and monitor, among others, their capital adequacy, liquidity requirements, governance and internal control systems.

***Recovery plan***

In line with regulatory rules and guidance, a recovery plan is in place for each entity of the group as well as for the group itself as part of its overall approach to a recovery, restructuring or orderly wind down situation. These plans are reviewed and approved by each entity Boards of Directors, upon recommendation of the Risk Committees on a yearly basis. The recovery plans are designed to effectively recover from extreme but plausible stresses that could threaten the entity's viability, such that it can ensure continuous operation of its critical services. To this end, Euroclear identifies and analyses a number of recovery options that the entity could take in order to restore its capital base, liquidity position or profitability, over a short- to- medium timeframe. In 2018, the Euroclear group has increased its recovery capacity as well as the reliability of its capacity for the benefit of the market at large. This was mainly driven by the contingent debt instruments via debt issuances done by Euroclear Investments and subsequently down-streamed to Euroclear Bank (€ 500 million) and Euroclear Investments SA (€ 100 million).

Detailed information on the risks faced by Euroclear, as well as its risk management strategies, policies and processes can be found in Euroclear's yearly Pillar 3 report on www.euroclear.com as well as in note IV to the financial statements.

***Non-financial information***

**Euroclear responsibility**

Euroclear runs a Corporate Responsibility programme in full alignment with its business strategy, by conducting business in an ethical, responsible and sustainable way, while giving back to the wider community. The Corporate Responsibility framework is organised around four streams.

In 2018, Euroclear published its first sustainability report 'Euroclear responsibility'. More details on the group Corporate Responsibility approach can be found there (Euroclear.com/Our responsibility). Euroclear plan to publish its 2018 sustainability report end of May 2019.

**Workplace**

People are its premier asset at Euroclear. Ensuring a well-trained, diverse mix of people with a wide range of skills is key to delivering its business strategy in an increasingly complex environment.

Euroclear annual's staff engagement survey allows to obtain a representative picture of the organisation and permits to take action, based on the results. In 2018, 86% of the staff participated in the survey, with an overall satisfaction rating of 68%, similar to the score in 2017.

*Training and development*

Development is a key part of Euroclear's people strategy. It actively promotes internal mobility, with more than 400 colleagues, representing more than 10% of the workforce, changing function in 2018 through its internal mobility opportunities.
In a record year, 448 people have been coached internally by Euroclear coaches. In 2019, Euroclear intends to deliver its new Corporate Training Academy to be better aligned to its corporate strategy and future needs.

*Ensuring employee well-being*

Euroclear provides its people with a balanced approach to work/private life, offering opportunities for teleworking and flexible work arrangements, as well as a wide range of sports and leisure activities. The staff can also take advantage of an independent Employee Assistance Programme across all locations, offering confidential advice on a wide range of social topics.

In Euroclear's approach to employee relations, it ensures that all mandatory social relations bodies and committees - and related negotiations - are organised and conducted in a timely manner, and take place in each of the group entities, as well as on a pan-European level, thereby complying with the Information and Consultation processes on recurrent topics and special projects.

*A diverse workforce*

Euroclear believes that a diverse workforce and an inclusive, open environment are essential to reach its corporate objectives.
Diversity and inclusion also contribute towards being a Great Place to Work, enabling everyone at Euroclear to be themselves at work and contribute to their full potential.

In the 2018 Employee engagement survey, 90% of people say that they feel that they can be themselves at Euroclear and that Euroclear is a place that respects diversity and makes its staff feel included. This is up 2% from 2017.

Although women and men are already equally represented in the Company today, gender diversity is not visible at all levels. Women are over-represented at the lower levels and under-represented at the higher levels. Euroclear is committed to reversing female under-representation at senior levels of the organisation, thereby gradually reaching a better gender balance across the organisation.

In 2019, Euroclear will focus on getting more women into middle management. Euroclear will do this by encouraging women - both inside and outside the Company – to feel comfortable applying for positions at this level, as well as by supporting their career and development.

There are clear procedures to follow to ensure that discrimination complaints are dealt with fairly and according to the law. If someone feels that they cannot escalate internally, Euroclear has an external ethics hotline, where complaints can be dealt with in the strictest confidence and handled accordingly.

**Marketplace**

Euroclear's risk-aware business practices, highest ethical standards and robust processing infrastructure, have played a key part in ensuring market stability during times of turbulence. Euroclear strongly believes in creating an environment where everyone is responsible for safeguarding Euroclear reputation for reliability and resilience.

There are currently three pillars to Euroclear's Marketplace strategy.

- Know and trust your suppliers
- Risk-aware culture
- Staff awareness

*Know and trust your suppliers*

Ensuring that the suppliers adhere to Euroclear's high standards of ethical conduct is important to the group. Euroclear has included Environment, Social, Governance (ESG) questions in its Supplier questionnaire which has already been sent to all Euroclear's critical suppliers and will publish a Supplier Code of Business Conduct in Q2 2019.

Euroclear has put measures in place to ensure that there is no modern slavery, nor human trafficking in the supply chains or in any part of Euroclear's businesses. Euroclear's modern slavery and human trafficking statement, published on its website, reflects its commitment to acting ethically and with integrity in all its business relationships.

*Creating a risk-aware culture and staff awareness*

All staff and contractors follow a series of training sessions on topics such as cyber-crime, bribery, fraud, anti-competitive behaviour, anti-money laundering, modern slavery and phishing and other potentially malicious behaviour. Every two years Euroclear runs a mandatory Compliance and Ethics test, and its results are shared with its main regulator.

In 2018, Euroclear held mandatory cyber awareness workshops across the group, which 73% of staff, consultants and contractors attended. All staff also received mandatory training on compliance with the new data privacy regulation GDPR, with a 95% completion rate. There were no data breaches reported to the authorities in 2018.

To encourage the staff to report any area for concern, Euroclear has an external, independent ethics hotline and inbox. Euroclear has a zero-tolerance approach to any form of retaliation towards individuals who openly raise concerns. In 2018, Euroclear received two written reports to its independent external ethics provider.

Euroclear has a stringent approach towards corruption. All cases of possible corruption are tackled rigorously and in complete compliance with all local laws.

**Environment**

As a global technology-based company, the main environmental impacts are caused by business travel and energy consumption. Euroclear recognises its responsibility to work sustainably for the future and have created an Environmental strategy around four pillars:

4. Emissions
5. Resource use
6. Supply Chain
7. Compliance

By the end of December 2018, Euroclear has reduced its emissions by 17% based on a 2014 baseline. Euroclear is an endorser of the EU Datacentre Code of Conduct and third party verification of its energy data collection for carbon footprinting is in line with ISO 14064.

Euroclear has been carbon neutral since 2012, third party certified by CarbonClear to PAS 2060 standards. Euroclear invests annually in Gold Standard carbon credits, specifically choosing projects which have additional long-term social and health benefits.

In 2018, Euroclear has built on a standardised waste management approach and continue to minimise its waste, particularly single use plastics.

**Community**

Euroclear focus on reducing poverty, while contributing towards a stable and equitable economy which benefits everyone. Euroclear has been partnering with NGOs Build Africa and Junior Achievement Europe for five years, focusing on education, financial inclusion and entrepreneurship. Euroclear also offers volunteering opportunities to its staff, wherever they are based, and encourage staff to put forward local community projects for sponsorship.

As part of its 50th anniversary celebrations, Euroclear donated €1 million to local and global community partners. This large donation underpins its strong belief that supporting community initiatives focused on education and equality results in better and more sustainable futures for many.

## Corporate governance

***Introduction***

Euroclear believes that sound corporate governance is key for us to remain a trusted financial market infrastructure and safeguard the interests of its shareholders and clients. Euroclear has put in place governance procedures and practices throughout the group which promote accountability and transparency of decision-making and which seek to ensure that all stakeholder interests are duly considered and safeguarded. These procedures are underpinned by a strong focus on ethical behaviour and positive working culture. Euroclear believes that these elements together enable us to make better business decisions that ensure a continued success.

### Publicity of external mandates

Details of the reportable directorship mandates and managerial functions exercised in companies outside the Euroclear group by the members of the Board and the management of Euroclear SA/NV are available on Euroclear's public website (www.euroclear.com).

### Individual and collective Committee member skills

Article 52 para. (1) of the Luxembourg law of 23 July 2016 on the audit profession, as amended, (the "Audit Law") provides that the

majority of the members of the audit committee must be independent. However, the Audit Committee of Euroclear Investments is exempted from the requirement of independence pursuant to article 52 para. (4) of the Audit Law since all the members of the Audit Committee of Euroclear Investments are all its directors.

All members of the Audit and Compliance Committee, the Risk Committee, the Nominations and Governance Committee and the Remuneration Committee are non-executive directors of the Company and at least one member of the Audit and Compliance Committee, the Risk Committee, the Nominations and Governance Committee and the Remuneration Committee is independent within the meaning of Article 526ter of the Belgian Companies Code. The Committees have the correct knowledge base and skills among their members and each member has the adequate personal attributes in order for the Committee to fulfil its role efficiently.

## Euroclear Investments SA Board advisory committees

### Audit Committee (AC)

The AC is comprised of at least three non-executive directors of the Company. All AC members collectively have in-depth knowledge of the financial markets and services and they have an understanding of the Company's business, accounting and audit matters. At least one member is competent in accounting and/or audit matters.

## Euroclear SA/NV Board advisory committees

### Audit and Compliance Committee (ACC)

The ACC is comprised of at least three non-executive directors of the Company. All ACC members collectively have in-depth knowledge of the financial markets and services and they have an understanding of the Company's business, accounting and audit matters. At least one member is competent in accounting and/or audit matters.

### Risk Committee (RC)

The RC is comprised of at least three non-executive directors of the Company, supported by an advisor. The RC is composed in such a way to assist and advise the Board of Directors in its oversight of the Group's risk management governance structure, risk tolerance, appetite and strategy and key risks as well as the processes for monitoring and mitigating such risks. The RC members individually have the skills and experience to be able to understand the Company's business and oversee such risk strategy, risk tolerance, risk capacity and risk profile of the Company.

### Nominations and Governance Committee (NGC)

The NGC is comprised of at least three non-executive directors of the Company. The NGC is composed in such a way to be able to properly and independently assist and advise the Board of Directors on all matters in relation to the nomination of Board and Management Committee members, Head of Internal Control Functions, Board and Committee composition, succession planning as well as corporate governance matters, as they apply to both the Company and the Group. The NGC members should possess individual and collective appropriate knowledge, skills, expertise and professional experience regarding governance and selection process, suitability and control practices.

### Remuneration Committee (RemCom)

The RemCom is comprised of at least three non-executive directors of the Company The RemCom is composed in such a way so as to properly and independently assist and advise the Board of Directors in defining a global compensation policy for the Group, ensuring that the members of the Management Committee, identified staff and the non-executive Board members are compensated as per the principles described in the Euroclear compensation policy and overseeing management's implementation of the compensation policy. The RemCom members collectively have the knowledge, expertise and experience concerning remuneration policies and practices, risk management and control activities, namely with regard to the mechanism for aligning the remuneration structure to the Company's risk and capital profiles. The RemCom members also collectively have an understanding of the Company's business and have competence relevant to the sector in which the Company operates.

## Non-audit services

The amount of fees charged to Euroclear Investments and its subsidiaries for non-statutory audit services amounted to €2,109,000, the largest part of it relating to the ISAE 3402 report. Further details of fees for audit and non-audit services are provided in note IX to the financial statements.

### Group responsibility

Please refer to the current sustainability report for an overview of Euroclear's mission and values, its commitment to Euroclear's people and corporate responsibility. This report is reviewed on an annual basis and reports on four Corporate Responsibility streams in accordance with Core GRI standards. It is updated and made available on Euroclear's public website (www.euroclear.com) as from May.

On behalf of the Board

Koenraad Geebels
Chairman of the Board

18 April 2019

# Board and Committees - composition

as at 31 December 2018

| Members | Euroclear Investments SA Board | Audit Committee |
|---|---|---|
| **Koenraad Geebels** | 8(8) | 4(4) |
| **Danilo Giuliani** | 8(8) | 4(4) |
| **Sota Suzuki** (appointed on 14 March 2018) | 6(7) | 3(3) |
| **Tsutomu Suzuki** (resigned on 31 July 2018) | 3(4) | 2(3) |

( ) the figure in bracket indicates the maximum number of meetings the director could have attended

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# Consolidated income statement

For the year ended 31 December 2018

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| Interest income | VI | 353,075 | 223,328 |
| Interest expense | VI | (97,316) | (70,178) |
| **Net interest income** | | **255,759** | **153,150** |
| Fee and commission income | VII | 1,528,916 | 1,482,137 |
| Fee and commission expense | VII | (500,512) | (476,332) |
| **Net fee and commission income** | | **1,028,404** | **1,005,805** |
| **Net interest and fee income** | | **1,284,163** | **1,158,955** |
| Dividend income | | 9,885 | 8,052 |
| Net gains/(losses) on non-trading financial assets mandatorily at FVPL | | 2,804 | - |
| Net gains/(losses) on financial assets and liabilities held for trading | VIII | 29,041 | 40,313 |
| Net gains/(losses) on foreign exchange | | 1,299 | 5,332 |
| Other operating income | | 8,892 | 11,505 |
| **Operating income** | | **1,336,084** | **1,224,157** |
| Administrative expenses | IX | (807,741) | (801,445) |
| Share of the profit/(loss) of investments accounted for using equity method | I | (6,822) | (17,977) |
| **Operating profit/(loss) before impairment and taxation** | | **521,521** | **404,735** |
| Impairment | X | (29,221) | (1,436) |
| **Operating profit/(loss) before taxation** | | **492,300** | **403,299** |
| Taxation | XI, XII | (152,136) | (162,774) |
| **Profit/(loss) for the year** | | **340,164** | **240,525** |

For the list of companies in the group, see Note I.

The accompanying Notes form an integral part of these financial statements.

# Consolidated statement of comprehensive income

For the year ended 31 December 2018

| (€'000) | Notes | 2018 Gross | 2018 Tax | 2018 Net | 2017 Gross | 2017 Tax | 2017 Net |
|---|---|---|---|---|---|---|---|
| **Changes in other comprehensive income** | | | | | | | |
| **Adjustment on adoption of IFRS 9** | II | **(184,621)** | **(38)** | **(184,659)** | **-** | **-** | **-** |
| - Financial assets reclassified from available-for-sale to FVPL | | (2,461) | - | (2,461) | - | - | - |
| - Debt instruments measured at FVOCI | XIII, XXII | 129 | (38) | 91 | - | - | - |
| - Equity instruments designated at FVOCI | XIII, XXII | (182,289) | - | (182,289) | - | - | - |
| Available-for-sale financial assets | XIII, XXII | - | - | - | 66,190 | 1,205 | 67,395 |
| Debt instruments measured at FVOCI | XIII, XXII | 3,384 | (992) | 2,392 | - | - | - |
| Cash flow hedges | XV, XXII | 2,674 | (791) | 1,883 | 512 | (172) | 340 |
| Foreign currency translation reserve | XXII | (9,833) | - | (9,833) | (10,806) | - | (10,806) |
| Recyclable subsequently to profit/(loss) | | (188,396) | (1,821) | (190,217) | 55,896 | 1,033 | 56,929 |
| **Adjustment on adoption of IFRS 9** | II | | | | | | |
| - Equity instruments desingated at FVOCI | | 182,289 | - | 182,289 | - | - | - |
| Equity instruments designated at FVOCI | | (13,450) | 346 | (13,104) | - | - | - |
| Defined benefit plans | XX | (14,802) | 2,372 | (12,430) | (394) | (4,784) | (5,178) |
| Not recyclable subsequently to profit or loss | | 154,037 | 2,718 | 156,755 | (394) | (4,784) | (5,178) |
| **Net income/(expense) recognised directly to equity** | | **(34,359)** | **897** | **(33,462)** | **55,502** | **(3,751)** | **51,751** |
| **Adjustment on adoption of IFRS 9** | II | **3,007** | **(90)** | **2,917** | **-** | **-** | **-** |
| - ECL on cash with central banks | | (2) | - | (2) | - | - | - |
| - ECL on loans and advances | | (899) | 258 | (641) | - | - | - |
| - ECL on debt instruments measured at FVOCI | | (129) | 38 | (91) | - | - | - |
| - ECL on commitments and financial guarantees | | (28) | 8 | (20) | - | - | - |
| - ECL on Other assets | | 1,604 | (394) | 1,210 | - | - | - |
| - Financial assets reclassified from available-for-sale to FVPL | | 2,461 | - | 2,461 | - | - | - |
| **Derecognised equity instruments designated at FVOCI** | | **(372)** | **-** | **(372)** | **-** | **-** | **-** |
| **Profit/(loss) for the year** | | **492,300** | **(152,136)** | **340,164** | **403,299** | **(162,774)** | **240,525** |
| **Total recognised income for the year** | | **460,576** | **(151,329)** | **309,247** | **458,801** | **(166,525)** | **292,276** |
| Attributable to equity holders of the company | | | | | | | |

The accompanying Notes form an integral part of these financial statements.

# Consolidated statement of changes in equity

For the year ended 31 December 2018

| (€'000) | Notes | Called up share capital | Share premium account | Other reserves | Retained earnings | Total equity |
|---|---|---|---|---|---|---|
| **At 31 December 2017** | | **119,077** | **258,623** | **289,816** | **3,034,876** | **3,702,392** |
| Adjustment on adoption of IFRS 9 (net of tax) | II | - | - | (2,370) | 2,917 | 547 |
| **At 1 January 2018** | | **119,077** | **258,623** | **287,446** | **3,037,793** | **3,702,939** |
| Changes in other comprehensive income | | | | | | |
| - Debt instruments measured at FVOCI | XXII | - | - | 2,392 | - | 2,392 |
| - Equity instruments designated at FVOCI | XXII | - | - | (13,104) | (372) | (13,476) |
| - Cash flow hedges | XXII | - | - | 1,883 | - | 1,883 |
| - Foreign currency translation reserve | XXII | - | - | (9,833) | - | (9,833) |
| - Defined benefit plans | XX | - | - | - | (12,430) | (12,430) |
| Transfer to legal reserve | XXII | - | - | 102 | (102) | - |
| Profit/(loss) for the year | | - | - | - | 340,164 | 340,164 |
| Dividends paid | XXIII | - | - | - | (159,990) | (159,990) |
| **At 31 December 2018** | | **119,077** | **258,623** | **268,886** | **3,205,063** | **3,851,649** |

| | | Called up share capital | Share premium account | Other reserves | Retained earnings | Total equity |
|---|---|---|---|---|---|---|
| At 1 January 2017 | | 119,077 | 258,623 | 232,782 | 2,799,634 | 3,410,116 |
| Changes in other comprehensive income | | | | | | |
| - Available-for-sale financial assets | XXII | - | - | 67,395 | - | 67,395 |
| - Cash flow hedges | XXII | - | - | 340 | - | 340 |
| - Foreign currency translation reserve | XXII | - | - | (10,806) | - | (10,806) |
| - Defined benefit plans | | - | - | - | (5,178) | (5,178) |
| Transfer to legal reserve | I | - | - | 105 | (105) | - |
| Profit for the year | XXV | - | - | - | 240,525 | 240,525 |
| **At 31 December 2017** | | **119,077** | **258,623** | **289,816** | **3,034,876** | **3,702,392** |

The accompanying Notes form an integral part of these financial statements.

# Consolidated statement of financial position

As at 31 December 2018

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Assets** | | | |
| Cash and balances with central banks | IV | 4,536,101 | 3,582,755 |
| Loans and advances at amortised cost | IV | 14,540,928 | 11,514,288 |
| Financial assets at FVOCI | XIII | 7,433,905 | - |
| Available-for-sale financial assets | XIII | - | 5,363,273 |
| Non-trading financial assets mandatorily at FVPL | | 12,505 | - |
| Financial assets held for trading | XIV | 14,475 | 8,383 |
| Derivatives used for hedging | XV | 3,293 | 453 |
| Current income tax assets | | 8,629 | 8,739 |
| Deferred income tax assets | XII | 126,527 | 115,002 |
| Other assets | | 183,162 | 165,889 |
| Pre-payments and accrued income | | 153,421 | 149,044 |
| Pension asset | XX | 523 | 541 |
| Property, plant and equipment | XVI | 107,447 | 93,514 |
| Goodwill and intangible assets | XVII | 1,002,028 | 1,022,267 |
| Investments in subsidiaries and joint ventures | I | 22,302 | 15,272 |
| **Total assets** | | **28,145,246** | **22,039,420** |
| **Liabilities** | | | |
| Deposits from central banks | IV | 539,598 | 900,382 |
| Deposits from banks and customers | IV | 17,944,330 | 14,913,351 |
| Debt securities issued and funds borrowed | XVIII | 4,956,396 | 1,667,543 |
| Financial liabilities held for trading | XIV | 20,316 | 23,828 |
| Derivatives used for hedging | XV | 566 | 400 |
| Other liabilities | | 418,329 | 339,862 |
| Accruals and deferred income | | 227,609 | 244,552 |
| Current income tax liabilities | | 4,902 | 87,735 |
| Deferred income tax liabilities | XII | 3,382 | 4,720 |
| Provisions for liabilities and charges | XIX | 17,796 | 21,236 |
| Pension deficit | XX | 160,373 | 133,419 |
| **Total liabilities** | | **24,293,597** | **18,337,028** |
| **Shareholders' equity** | | | |
| Called up share capital | XXI | 119,077 | 119,077 |
| Share premium account | | 258,623 | 258,623 |
| Other reserves | XXII | 268,886 | 289,816 |
| Retained earnings | | 3,205,063 | 3,034,876 |
| **Total shareholders' equity** | | **3,851,649** | **3,702,392** |
| **Total liabilities and shareholders' equity** | | **28,145,246** | **22,039,420** |

The accompanying Notes form an integral part of these financial statements.

These financial statements were authorised for issue by the Board of Directors on 18 April 2019 and signed on its behalf by Koenraad Geebels, Chairman of the Board

# Consolidated statement of cash flows

For the year ended 31 December 2018

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Profit/(loss) before taxation** | | **492,300** | **403,299** |
| Adjustments for: | | | |
| - Depreciation and amortisation | XVI, XVII | 48,091 | 37,671 |
| - Impairment | X | 29,221 | 1,436 |
| - Provisions for liabilities and charges | IX | (1,070) | (7,152) |
| - Dividends received | | (9,885) | (8,052) |
| - (Gains)/losses on disposal of property, plant and equipment | | (1,425) | - |
| - Share of the (profit)/loss of investments accounted for using equity method | I | 6,822 | 17,977 |
| - Interest on loans and advances (including central banks) | VI | (339,802) | (221,326) |
| - Interest on deposits and short term funds borrowed | VI | 48,824 | 35,813 |
| -Interest on financing activities | VI | 22,155 | 7,332 |
| Other non-cash movements | | 7,521 | (191,743) |
| of which effect of exchange rate changes | | (4,005) | (287,399) |
| - Interest received on loans and advances (including central banks) | | 334,163 | 214,607 |
| - Interest paid on deposits and short term funds borrowed | | (49,873) | (35,207) |
| **Cash flows from operating profit/loss before changes in operating assets/liabilities** | | **587,042** | **254,655** |
| Net increase/(decrease) in deposits and short term funds borrowed | | 1,939,650 | 278,355 |
| Net (increase)/decrease in loans and advances (including central banks) | IV | (292,630) | 251,977 |
| Net (increase)/decrease in other assets | | (17,837) | (2,093) |
| Net increase/(decrease) in other liabilities | | 78,467 | 55,276 |
| **Net cash inflow/(outflow) from operating activities** | | **2,294,692** | **838,170** |
| Tax paid | | (244,150) | (136,366) |
| **Net cash from operating activities** | | **2,050,542** | **701,804** |
| **Cash flows from investing activities** | | | |
| Investment in subsidiaries and joint venture | I | (13,824) | (17,244) |
| Purchase of available-for-sale financial assets | XIII | - | (14,815,991) |
| Purchase of debt securities at FVOCI | XIII | (17,832,173) | - |
| Proceeds from redemption and disposals of available-for-sale financial assets | XIII | - | 12,307,545 |
| Proceeds from redemption and disposals of debt securities at FVOCI | XIII | 15,770,626 | - |
| Purchase of property, plant and equipment | XVI | (39,671) | (28,822) |
| Purchase of intangible assets | XVII | (37,438) | (33,287) |
| Sale of property, plant and equipment | I | 1,775 | - |
| Dividends received | | 9,885 | 8,052 |
| Loans/(reimbursement of loans) to related party | XXVI | (2,372) | 70,000 |
| **Net cash used in investing activities** | | **(2,143,192)** | **(2,509,747)** |
| **Cash flows from financing activities** | | | |
| Proceed from financing activities | XVIII | 3,699,010 | - |
| Interest paid on financing activities | | (6,750) | (6,750) |
| Equity dividends paid | XXIII | (159,990) | - |
| **Net cash from/(used in) financing activities** | | **3,532,270** | **(6,750)** |
| **Net increase/(decrease) in cash and cash equivalents** | | **3,439,620** | **(1,814,693)** |
| Cash and cash equivalents at beginning of year | | 13,737,220 | 16,454,636 |
| Effects of exchange rate changes on cash and cash equivalents | | 216,081 | (902,723) |
| **Cash and cash equivalents at end of year** | | **17,392,921** | **13,737,220** |
| Cash and cash equivalents at end of year comprise: | | | |
| **Cash and balances with central banks** | IV | 4,536,101 | 3,582,755 |
| **Loans and advances** | IV | 14,540,928 | 11,514,288 |
| Excluding loans and advances with initial maturity above three months | | (1,684,108) | (1,359,823) |
| **Cash and cash equivalents at end of year** | | **17,392,921** | **13,737,220** |

**Reconciliation of liabilities arising from financing activities**

| (€'000) | Notes | 2017 | Cash flows | Non-Cash changes | 2018 |
|---|---|---|---|---|---|
| Long term senior debts | | **594,895** | 687,198 | 18,543 | **1,300,636** |
| Medium term notes | | **-** | 2,508,251 | 2,822 | **2,511,073** |
| Certificates of deposits | | **-** | 496,811 | 626 | **497,437** |
| **Total liabilities arising from financing activities** | XVIII | **594,895** | **3,692,260** | **21,991** | **4,309,146** |

| (€'000) | Notes | 2016 | Cash flows | Non-Cash changes | 2017 |
|---|---|---|---|---|---|
| Long term senior debts | | **594,313** | (6,750) | 7,332 | **594,895** |

# Notes to the consolidated financial statements
# I. Interests in other entities

## I.1. General information

Euroclear Investments SA (the Company) and its subsidiaries (together, the group) arrange for the provision of settlement and related services, including banking services in the case of Euroclear Bank, for domestic and international securities transactions, covering bonds, equities, investment funds and derivatives.

Euroclear Investments SA is incorporated and domiciled in Luxembourg. The address of its registered office is:

Euroclear Investments SA
12, Rue Eugène Ruppert
L-2453 Luxembourg
Luxembourg

## I.2. Subsidiaries

At December 31, 2018, the Company's subsidiaries are as follows:

| | Country of incorporation | Nature of business | Proportions of voting rights and ordinary shares held |
|---|---|---|---|
| **Consolidated subsidiaries** | | | |
| Caisse interprofessionelle de dépôts et de virements de titres SA[1] | Belgium | Central Securities Depository for Belgium | 100% |
| Calar Belgium SA/NV[2] | Belgium | Property Investment | 100% |
| EMX Company Limited[1] | United Kingdom | Dormant | 100% |
| Euroclear Bank SA/NV[1] | Belgium | Banking, securities settlement and custody services | 100% |
| Euroclear Finland Oy[1] | Finland | Central Securities Depository for Finland | 100% |
| Euroclear France SA[1] | France | Central Securities Depository for France | 100% |
| Euroclear Information Solutions Limited[1] | United Kingdom | Proprietary services | 100% |
| Euroclear Market Solutions Limited[1] | United Kingdom | Dormant | 100% |
| Euroclear Properties France SA[2] | France | Property Investment | 100% |
| Euroclear Re SA[2] | Luxembourg | Reinsurance | 100% |
| Euroclear SA/NV[2] | Belgium | (I)CSD holding company, ownership of share processing | 100% |
| Euroclear Sweden AB[1] | Sweden | Central Securities Depository for Sweden | 100% |
| Euroclear UK & Ireland Limited[1] | United Kingdom | Central Securities Depository for the United Kingdom and | 100% |
| Nederlands Centraal Instituut voor Giraal Effectenverkeer BV (Necigef)[1] | The Netherlands | Central Securities Depository for the Netherlands | 100% |
| Number of wholly owned subsidiaries | | | 14 |
| **Total subsidiaries** | | | 14 |

[1] Held through Euroclear SA/NV
[2] Held through Euroclear Investments SA

| | Country of incorporation | Nature of business | Proportions of voting rights and ordinary shares held |
|---|---|---|---|
| **Non-consolidated subsidiaries** | | | |
| **Nominees** | | | |
| CIN(Belgium) Limited[1] | United Kingdom | Nominee company | 100% |
| CREST Client Tax Nominee(No.1) Limited[1] | United Kingdom | Nominee company | 100% |
| CREST USD Nominee Limited[2] | United Kingdom | Nominee company | 100% |
| CREST Depository Limited[2] | United Kingdom | Nominee company | 100% |
| CREST International Nominees Limited[1] | United Kingdom | Nominee company | 100% |
| CREST Stamp Nominee(No.1) Limited[2] | United Kingdom | Nominee company | 100% |
| CREST Stamp Nominee(No.2) Limited[2] | United Kingdom | Nominee company | 100% |
| CRESTCo Limited[2] | United Kingdom | Nominee company | 100% |
| EC Nominees Limited[3] | United Kingdom | Nominee company | 100% |
| ENL Nominee Limited[5] | United Kingdom | Nominee company | 100% |
| EOC Equity Limited[3] | United Kingdom | Nominee company | 100% |
| Euroclear Nominees Limited[3] | United Kingdom | Nominee company | 100% |
| Euroclear Treasury Nominee Limited[3] | United Kingdom | Nominee company | 100% |
| Fundsettle EOC Nominees Limited[3] | United Kingdom | Nominee company | 100% |
| Trinity Nominees Limited[2] | United Kingdom | Nominee company | 100% |
| **Non material subsidiaries** | | | |
| Quantessence Limited[4] | United Kingdom | Proprietary services | 65% |
| Taskize Limited[4] | United Kingdom | Proprietary services | 78% |

[1] Held through CREST Depository Limited

[2] Held through Euroclear UK & Ireland Limited

[3] Held through Euroclear Bank SA/NV

[4] Held through Euroclear SA/NV

[5] Held through Nederlands Centraal Instituut voor Giraal Effectenverkeer BV (Necigef)

Euroclear International Services Limited was renamed Euroclear Information Solutions Limited on 16 January 2018. Euroclear Information Solutions Limited is a UK-based financial services company that is currently developing pre-trade financial solutions for illiquid fixed income instruments. In July 2018, the company injected USD 10,001,000 into Algomi Ltd in exchange of 309,341 shares representing a 5.38% ownership. Later the decision was taken in December to write off the Algomi participation due to the uncertainty of cash flow projections.

In March 2018, Euroclear SA/NV took an additional stake of 30% (€2,858,000) in Quantessence Limited which brings its total shareholding to 65% (€4,156,000). Quantessence Limited is a UK-based start-up company active in the financial services that will develop innovative fund services. The participation in Quantessence Limited is recognised at its acquisition value in the statement of financial position. The aggregate amount of Quantessence capital and reserves was GBP 2,731,000 as at the end of 2018 (2017: GBP 1,072,000), made of capital and share premium of GBP 3,625,000 (2017: GBP 1,100,000) and accumulated losses of GBP 894,000 (2017: GBP 27,000).

Euroclear SA/NV owns a stake of 78.05% in Taskize Limited (2017: 75.54%). Taskize Limited is a start-up company founded to develop and bring to market Taskize Connect, a collaboration software designed to resolve issues in global banking operations within and between firms. The participation in Taskize is recognised at a net book value of €9,937,000 (2017: €8,572,000) in the statement of financial position. The aggregate amount of Taskize capital and reserves was GBP 3,274,000 as at the end of 2018 (2017: GBP 3,794,000), made of capital and share premium of GBP 7,703,000 (2017: GBP 6,499,000) and accumulated losses of GBP 4,429,000 (2017: GBP 2,705,000).

Taskize Limited and Quantessence Limited have not been consolidated since they collectively represent less than 1% of the group consolidated equity, total assets and profit after tax and are therefore not considered as being material.

Euroclear Market Solutions Limited, an English company incorporated in 2014, will be wound up voluntarily. Liquidators have been appointed and the company is expected to be dissolved in 2019. The company was intended to provide a central infrastructure to enable banks and their counterparties to agree on and manage operations payables and receivables claims. The service had been developed in cooperation with Merit Software Ltd, a provider of claims management systems. The aggregate amount of Euroclear Market Solutions Limited assets as at the end of 2018 was €624,000 (2017: €802,000). In light of the immateriality of the net asset value of the company (< 1% of total group's equity) as of end of 2017 and 2018, the company was not presented as discontinued operations in the financial statements.

**I.3. Joint venture**

The Depository Trust & Clearing Corporation (DTCC) and Euroclear created a 50/50 joint venture in September 2014 focusing on collateral processing. The company, DTCC-Euroclear Global Collateral Ltd, is domiciled in the United Kingdom.

The joint venture provides an open industry infrastructure solution for clients as they manage their collateral margin needs, including a Margin Transit Utility (MTU) providing straight-through processing to the settlement of margin obligations, and a Collateral Management Utility (CMU) offering optimised collateral mobility and allocation at a global level.

The joint arrangement between DTCC and Euroclear SA/NV qualifies as a joint venture. Ownership and governance of the company is shared equally between DTCC and Euroclear with its Board and senior executives drawn from the two firms' management. Under the contractual agreements, unanimous consent is required from the two parties for all relevant activities. The shareholders are jointly responsible for the new company. The joint arrangement is conducted through a separate legal entity, which has been equally funded by the two shareholders. Each party has a 50% interest in the company (covering both MTU and CMU services all together) with equal rights attached to shares, dividends and net assets.

The company financial statements are prepared in accordance with International Financial Reporting Standards.

There are neither commitments nor contingent liabilities relating to the group's interest in the joint venture.

DTCC-Euroclear Global Collateral Ltd is not a listed company and there is no quoted market price available for its shares.

| | Country of incorporation | Proportions of voting rights and ordinary shares held |
|---|---|---|
| **DTCC-Euroclear Global Collateral Ltd** | United Kingdom | 50% |

| (€'000) | 2018 | 2017 |
|---|---|---|
| **Summarised statement of financial position** | | |
| **Assets** | | |
| Cash and cash equivalents | 17,345 | 14,519 |
| Other current assets (excluding cash) | 1,128 | 54 |
| **Total assets** | **18,473** | **14,573** |
| **Liabilities** | | |
| Other current liabilities (including trade payables) | 2,057 | 3,770 |
| **Total liabilities** | **2,057** | **3,770** |

| (€'000) | 2018 | 2017 |
|---|---|---|
| **Summarised statement of comprehensive income** | | |
| **Operating profit/(loss) before taxation** | **(13,644)** | **(22,950)** |
| Taxation | - | (13,004) |
| **Profit/(loss) for the year** | **(13,644)** | **(35,954)** |
| **Total comprehensive income** | **(13,644)** | **(35,954)** |

50% of the above comprehensive income are recognised in the group's consolidated statement of comprehensive income.

Non-current assets include the deferred tax assets. Deferred tax assets have been fully impaired in 2017, due to the uncertainty as to their recoverability.

| (€'000) | 2018 | 2017 |
|---|---|---|
| **Reconciliation of summarised financial information** | | |
| Opening net assets | 10,803 | 21,960 |
| Capital injection | 19,200 | 27,335 |
| Profit/(loss) for the year | (13,644) | (35,954) |
| Adjustment on adoption of IFRS 9 | (3) | - |
| Effect of exchange rate changes | 60 | (2,538) |
| **Closing net assets** | **16,416** | **10,803** |
| Interest in joint venture at 50% | | |
| **Carrying value** | **8,208** | **5,401** |

# II. Accounting policies

## II.1.Basis of preparation

These financial statements have been prepared in accordance with International Financial Reporting Standards as adopted by the European Union (IFRSs as adopted by the EU) and IFRIC Interpretations applicable to companies reporting under IFRS.

The consolidated financial statements have been prepared under the historical cost convention, as modified by the revaluation of certain financial instruments and are prepared on a going concern basis.

The preparation of financial statements in conformity with IFRSs requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the company's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements, are disclosed in Note III.

### II.1.1. Adoption of interpretation, new standards and amendments to standards effective on 1 January 2018

- IFRS 9 Financial Instruments.

IFRS 9 introduces key changes in the following areas:
1. Classification and measurement requires asset classification and measurement based upon both business model and product characteristics.
2. Impairment introduces an expected credit loss model using forward looking information which replaces an incurred loss model.
3. Hedge accounting introduces changes to, and wider eligibility criteria to hedging of financial instruments.

Section II.2 Summary of significant accounting policies describes more in detail the previous IAS 39 and new IFRS 9 rules.

Section II.3 Transition to IFRS 9 describes the key impacts arising from the implementation of IFRS 9 on 1 January 2018.

The application of below new standard, IFRIC or amendments to standards had no significant impact on the group's financial statements.
- IFRS 15 Revenue from Contracts with Customers. The group was already compliant with the revenue recognition rules as defined under IFRS 15.
- Amendments to IAS 40: Transfers of Investment Property
- Amendments to IFRS 2: Classification and Measurement of Share-based Payment Transactions
- IFRIC 22 Foreign Currency Transactions and Advance Consideration
- Annual Improvements to IFRS Standards 2014-2016 Cycle

### II.1.2. Standards, amended standards and interpretations endorsed by the EU, but not yet effective in 2018

The following new standard, IFRIC and amendments to standards will become effective on 1 January 2019.
- IFRS 16 Leases: The new standard applies to leased buildings, the car pool and DP equipment. The standard revises the accounting model for lessees through the measurement of right-of-use (ROU) asset and lease liability at present value of lease payments. The impact of the adoption of IFRS 16 on January 1, 2019 is the recognition of right of use assets and lease liabilities amounting to €99 million. More information can be found in the disclosure note on operating lease commitments.
- Amendments to IFRS 9: Prepayment Features with Negative Compensation.
- IFRIC 23 Uncertainty over Income Tax Treatments.

## II.2. Summary of significant accounting policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. Except for the changes related to the adoption of IFRS 9, these policies have been consistently applied to all the years presented.

### II.2.1. Consolidation

Subsidiaries are all entities over which the group has control. The group controls an entity when the group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the group. They are deconsolidated from the date that control ceases.

A group entity controls an investee if and only if the investor has all the following:
- power over the investee;
- exposure, or rights, to variable returns from its involvement with the investee; and
- the ability to use its power over the investee to affect the amount of the investor's returns.

In accordance with IFRS 3, the cost of an acquisition is measured as the fair value of the assets given, equity instruments issued and liabilities incurred or assumed at the date of exchange. Costs directly attributable to the acquisition are expensed. Identifiable assets

acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date, irrespective of the extent of any minority interest.

The excess of the cost of acquisition over the fair value of the group's share of the identifiable net assets is recognised as goodwill. If the cost of acquisition is less than the fair value of the group's share of the net assets of the subsidiary acquired, the difference is recognised directly in the income statement.

Inter-company transactions, balances and unrealised gains on transactions between group companies are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of impairment of the asset transferred. Where permitted under local legislation, the accounting policies of subsidiaries have been changed to ensure consistency with the policies of the group.

Business combinations involving entities under common control were specifically excluded from the scope of IFRS 3 Business combinations.
The group therefore applies the guidance provided by IAS 8 Accounting policies, changes in accounting estimates and errors, which requires management to consider the requirements and guidance in other international standards and interpretations dealing with similar issues. Management therefore applies the UK GAAP requirements of Financial Reporting Standard (FRS) 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland.* The standard allows the assets and liabilities of the parties involved in business combinations of entities under common control to be retained at their book value.

A joint arrangement is an arrangement of which two or more parties have joint control. A joint arrangement has the following characteristics:
- the parties are bound by a contractual arrangement;
- the contractual arrangement gives two or more of those parties joint control of the arrangement.

A joint arrangement is either a joint operation or a joint venture.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint ventures are accounted for using the equity method of accounting. Under the equity method, the investment is initially recognised at cost and the carrying amount is subsequently increased or decreased to recognise the group’s share of the net result of the joint venture after the acquisition. The group’s share of the joint venture’s profit or loss is recognised in its income statement. The group’s interest in a joint venture or associate is carried in the statement of financial position at its share in the net assets of the joint venture, less any impairment loss. The accounting policies of the joint venture are changed where necessary to ensure consistency with the policies adopted by the group.

### II.2.2. Segment reporting

An operating segment is a component of an entity that engages in business activities from which it may earn revenues and incur expenses.

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker. The chief operating decision maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the Euroclear Investments SA Management Committee.

### II.2.3. Foreign currency translation

#### II.2.3.1. Functional and presentation currency

Items included in the financial statements of each of the group's entities are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The consolidated financial statements are presented in euro, which is the company's functional and presentation currency.

#### II.2.3.2. Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement, except when deferred in equity as qualifying cash flow hedges and qualifying net investment hedges. Translation differences on non-monetary items measured at fair value through profit or loss are reported as part of the fair value gain or loss. Translation differences on other non-monetary items are included in the foreign currency translation reserve. Translation differences on foreign operations are recognised directly in the income statement.

#### II.2.3.3. Group companies

The results and financial position of all the group's entities that have a functional currency different from the presentation currency are translated into the presentation currency as follows:
- assets and liabilities for each balance sheet presented are translated at the closing exchange rate at the balance sheet date;
- income and expenses for each income statement are translated at average exchange rates for the year; and
- the resulting exchange differences are recognised in the foreign currency translation reserve.

On consolidation, exchange differences arising from the translation of the net investment in foreign entities, and of borrowings and other currency instruments designated as hedges of such investments, are taken to other comprehensive income, in the foreign

currency translation reserve and the hedge of net investments in foreign operations reserve. When a foreign operation is sold, such exchange differences are recognised in the income statement as part of the gain or loss on the sale.

None of the group companies have used the currency of a hyperinflationary economy as its functional currency.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing exchange rate.

### II.2.4. Revenue recognition

#### II.2.4.1 Interest income and expense

##### II.2.4.1.a. Accounting policies applied from 1 January 2018

Interest income and expense are recognised in the income statement using the effective interest rate method. This is a method of calculating the amortised cost of a financial asset or liability and of allocating the interest income or interest expense over the relevant accounting years.

The effective interest rate is the rate that exactly discounts the estimated cash payments or receipts over the expected life of the instrument to the net carrying amount of the financial asset or liability.

When calculating the effective interest rate for financial assets other than credit impaired assets, the group estimates future cash flows considering all contractual terms of the financial instrument, but not expected credit losses. For credit impaired financial assets, a credit-adjusted effective interest rate is calculated using estimated future cash flows including expected credit losses.

The calculation of the effective interest rate includes transaction costs and fees and points paid or received that are an integral part of the effective interest rate. Transaction costs include incremental costs that are directly attributable to the acquisition or issue of a financial asset or financial liability.

The amortised cost of a financial asset or liability is the amount at which the financial asset or liability is measured on initial recognition minus the principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount and, for financial assets, adjusted for any expected credit losses allowance.

The gross carrying amount of a financial asset is the amortised cost of a financial asset before adjusting for any expected credit loss allowance.

Interest income and expense presented in the income statement include:

- interest of financial assets and liabilities presented at amortised cost using the effective interest method,
- interest on debt instruments measured at FVOCI calculated on an effective interest basis,
- interest on non SPPI-compliant loans classified as non-trading financial assets mandatorily at FVPL.

Group loans to, and deposits from, banks and customers are principally related to Euroclear Bank clients' cash accounts operated in connection with their securities settlement activity, with balances generally changing on a daily basis. Time deposits and the re-deposits of surplus funds rarely have maturities of more than three months.

##### II.2.4.1.b. Accounting policies applied prior to 1 January 2018

Interest income and expense are recognised in the income statement for all instruments measured at amortised cost using the effective interest rate method. This is a method of calculating the amortised cost of a financial asset or liability and of allocating the interest income or interest expense over the relevant accounting years.

The effective interest rate is the rate that exactly discounts the estimated cash payments or receipts over the expected life of the instrument to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, the future expected cash flows are estimated after considering all the contractual terms of the instrument, but not future credit losses.

Group loans to, and deposits from, banks and customers are principally related to Euroclear Bank clients' cash accounts operated in connection with their securities settlement activity, with balances generally changing on a daily basis. Time deposits and the re-deposits of surplus funds rarely have maturities of more than three months.

Interest income and expense on derivative instruments are recorded in profit and loss on an accrual basis.

#### II.2.4.2. Fee and commission income and expense

Fee and commission income and expense which respectively represent a return and cost for services rendered (such as safekeeping, settlement and custody) are recognised in the income statement point in time when the related service is performed and resulting the performance obligation is met.

Settlement and Clearing includes the settlement service, but also the securities and borrowing service and other collateral management services directly linked to settlement business. Settlement fees are charged at an average fee rate multiplied by the number of settled transactions during the month. Fees are aggregated by market and instrument type. Fees are calculated applying a sliding scale tariff to the number of instructions. Fee and commission income and expense, which represent a return for credit risk

borne or which are in the nature of interest (securities borrowing), are recognised in the income statement over the period of the loan, or on a systematic basis over the expected life of the transaction to which they relate, net of rebates granted.

The safekeeping service ensures that a record of title to the customer's securities is maintained on the books of a higher-tier entity, and that the number of securities owned by the customer as recorded in the custodian books can always be delivered to the customer's order. Safekeeping fees are computed on the monthly average depot value of securities held in custody.

Other fee and commission income mainly relates to communication fees, custody operations, the recovery of out-of-pocket expenses incurred on behalf of clients, issuer services fees earned by Euroclear Finland and Euroclear Sweden, and revenue earned by Euroclear UK & Ireland for collecting Stamp Duty Reserve Tax on behalf of Her Majesty's Revenue & Customs in the United Kingdom and Stamp Duty on behalf of the Irish Revenue Commissioners. The fees are monthly charged, at an average fee rate multiplied by the number of transactions.

#### II.2.4.3. Dividends

Dividends on equity instruments are recognised in the income statement when the group's right to receive payment is established.

#### II.2.4.4. Gains and losses on disposals

Gains and losses on disposals of property, plant and equipment, determined by comparing proceeds with the carrying amount, are included in the income statement in other operating income and administrative expenses respectively.

## II.2.5. Financial instruments

### II.2.5.1. Accounting policies applied from 1 January 2018

#### II.2.5.1.a. Classification and measurement

On initial recognition, a financial asset is classified as measured at amortised cost, Fair Value through Other Comprehensive Income ('FVOCI') or Fair value through profit and loss ('FVPL'). The classification results from a two-step approach: The "characteristics" test will check whether the cash flows can be considered as Solely Payments of Principal and Interest ('SPPI'), and the business model for managing the asset.

A financial asset is classified and measured at amortised cost if it is not designated as FVPL, and if it meets both of the following conditions: it is held for collection of contractual cash flows (Held to Collect) and its contractual terms give rise to cash flows that represent solely payments of principal and interest ('SPPI'). A financial asset classified and measured at amortised cost is recognised in the balance sheet on settlement date at fair value plus any directly related transaction costs. It is subsequently measured at amortised cost using the effective interest method less any loss allowances.

A financial asset is classified and measured at Fair value through other comprehensive income (FVOCI) if it is not designated as FVPL, and if it meets both of the following conditions: it is held for collection of contractual cash flows and for selling the assets, and its cash flows represent solely payments of principal and interest. A financial asset classified and measured at Fair value through other comprehensive income (FVOCI) is recognised in the balance sheet on settlement date at fair value. Gains or losses arising from changes in the fair value are recognised directly in equity, until the asset is either sold or matures, at which time the cumulative gain or loss previously recognised in equity is released to the income statement. Interest revenues are recognised using the effective yield method.

The group may irrevocably elect to designate an equity instrument at FVOCI, if it not held for trading. This election is made on an investment by investment basis. In this case, dividends are recognised in profit and loss, but gains and losses are not recycled to profit and loss on derecognition and no impairment is recognised. The revaluation gains/losses accumulated in other comprehensive income are transferred to distributable reserves in case of sale of the investment.

All other financial assets are measured at FVPL. These assets are initially recognised and subsequently measured at fair value. The movements in fair value are recognised in the income statement.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When available, the group measures the fair value of an instrument as the published price at the balance sheet date. In the case of investments with no listed market price, a valuation technique that maximise the relevant use of observable inputs (e.g. discounted cash flows and market multiples) is applied.

#### II.2.5.1.b. Business model assessment

A business model refers to how the group manages its financial assets in order to generate cash flows. It is determined on a level that reflects how financial assets are managed to achieve a particular business objective.

The group's objective can be:
- solely to collect the contractual cash flows from the assets ('Held to Collect');
- to collect both the contractual cash flows and cash flows arising from the sale of assets ('Held to Collect and Sell');
- neither of above (e.g. financial assets are held for trading purposes), then the financial assets are classified as part of 'other' business model.

Factors considered by the group in determining the business model for a group of assets include objectives for the portfolios, how the asset's performance and risks are evaluated, managed and reported to management, and past experience.

#### II.2.5.1.c. Assessment whether contractual cash flows are solely payment of principal and interest ('SPPI')

The group assesses whether the contractual cash flows are consistent with a basic lending arrangement i.e. interest includes only consideration for the time value of money, credit risk, other basic lending risks and a profit margin that is consistent with a basic lending arrangement. This assessment is done on an instrument-by-instrument basis. Where the contractual terms introduce exposure to risk or volatility that are inconsistent with a basic lending arrangement (e.g. write off feature), the related financial asset is classified and measured at fair value through profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

#### II.2.5.1.d. Reclassifications

Financial assets are not reclassified subsequent to their initial recognition, except in the period after the group changes its business model for managing financial assets.

### II.2.5.2. Accounting policies applied prior to 1 January 2018

Financial assets are classified into held-to-maturity investments, available-for-sale financial assets, held for trading, or loans and receivables. The group has not designated any financial instrument as at fair value through profit or loss.

#### II.2.5.2.a. Held-to-maturity investments

Held-to-maturity investments are non-derivative financial assets with fixed or determinable payments and fixed maturities that the group's management has the positive intention and ability to hold to maturity. In accordance with IAS 39, the disposal of any more than an insignificant amount of held-to-maturity assets will result in the entire category being tainted and reclassified as available-for-sale for a period of two years (provided no further tainting occurs). Held-to-maturity assets are recognised in the balance sheet on settlement date at fair value plus any directly related transaction costs. They are subsequently measured at amortised cost using the effective interest method less any impairment losses.

#### II.2.5.2.b. Available-for-sale investments

Available-for-sale investments are those financial assets including debt securities and equity instruments which are intended to be held for an indefinite period of time, but which may be sold in response to changes in the group's financial environment.

Available-for-sale investments are recognised in the balance sheet on settlement date at fair value. Gains or losses arising from changes in the fair value of such assets are recognised directly in equity, until the asset is either sold, matures or becomes impaired, at which time the cumulative gain or loss previously recognised in equity is released to the income statement. Interest revenues are recognised using the effective yield method.

The fair value of listed debt securities and equity instruments reflects the published price at the balance sheet date. In the case of investments with no listed market price, a valuation technique (e.g. recent transactions between willing and knowledgeable parties, discounted cash flows and market multiples) is applied. Where the fair value of unlisted equity investments cannot be reliably measured, they continue to be valued at cost.

#### II.2.5.2.c. Held for trading

A financial asset is classified as held for trading if it is either:
- acquired for the purpose of selling or repurchasing in the near term;
- part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking;
- a derivative that is not a designated and effective hedging instrument.

Assets held for trading are initially recognised and subsequently measured at fair value. The movements in fair value are recognised in the income statement.

#### II.2.5.2.d. Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are initially recognised in the balance sheet on settlement date at fair value plus directly related transaction costs, if any, when cash is advanced to the borrowers. They are subsequently measured at amortised cost using the effective interest method.

Long-term loans or receivables that carry no interest are initially recognised at the net present value of all future cash receipts discounted using applicable market interest rates at origination, with the difference between nominal value and net present value recorded in the income statement. The difference between nominal value and net present value is subsequently recognised in the income statement over the life of the investment using the effective interest rate.

### II.2.6. Borrowings

Borrowings are recognised initially at fair value, being the issue proceeds (fair value of consideration received) net of transaction costs incurred. Borrowings are subsequently stated at amortised cost; any difference between proceeds net of transaction costs and the redemption value is recognised in the income statement over the period of the borrowings using the effective interest rate method.

### II.2.7. Derivative financial instruments and hedge accounting

Prior to 1 January 2018, the group applied the hedge accounting requirements compliant with IAS 39 in full as issued by the IASB. From 1 January 2019, the group has elected to adopt the new IFRS 9 hedge accounting requirements.

All derivative financial instruments are still recognised, and subsequently re-measured at fair value. Derivative fair values are determined from quoted prices in active markets where available. Where there is no active market for an instrument, fair value is derived from prices for the derivative's components using appropriate pricing or valuation models.

Gains and losses arising from changes in fair value of a derivative are recognised as they arise in profit and loss, unless the derivative is part of a qualifying hedge.

At the inception of the hedge relationship, the group documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the group documents whether the hedging instrument is effective in offsetting changes in fair values or cash flows of the hedged item attributable to the hedged risk, which is when the hedging relationships meet all of the following hedge effectiveness requirements:
- there is an economic relationship between the hedged item and the hedging instrument;
- the effect of credit risk does not dominate the value changes that result from that economic relationship; and
- the hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the group actually hedges and the quantity of the hedging instrument that the entity actually uses to hedge that quantity of hedged item.

Under IAS 39, if the hedge is not highly effective in offsetting changes in fair values or cash flows attributable to the hedged risk, consistent with the documented risk management strategy, hedge accounting is discontinued. Under IFRS 9, if a hedging relationship ceases to meet the hedge effectiveness requirement relating to the hedge ratio but the risk management objective for that designated hedging relationship remains the same, the group adjusts the hedge ratio of the hedging relationship (i.e. rebalances the hedge) so that it meets the qualifying criteria again. The ineffective portion of the gain or loss on the hedging instrument is recognised immediately in the profit and loss account.

The group designates the full change in the fair value of a forward contract (i.e. including the forward elements).

The group may enter into three types of hedges: hedges of changes in the fair value of a recognised asset or liability or firm commitment (fair value hedges), hedges of the variability in cash flows from a recognised asset or liability or a forecast transaction (cash flow hedges), and hedges of the net investment in a foreign entity (net investment hedges). The group currently designates certain derivatives as hedging instruments in respect of foreign currency risk in cash flow hedges.

#### II.2.7.a. Fair value hedges

Changes in the fair value of derivatives that are designated and which qualify as fair value hedges are recorded in the profit and loss account, together with any changes in the fair value of the hedged asset or liability attributable to the hedged risk.

#### II.2.7.b. Cash flow hedges

In the case of a cash flow hedge, the portion of the gain or loss on the hedging instrument that is determined to be an effective hedge should be recognised directly in other comprehensive income and released to profit and loss when the hedged item (for instance the forecasted transaction) affects profit and loss.

#### II.2.7.c. Net investment hedges

A hedge of a net investment in a foreign operation is accounted for similarly to cash flow hedges. The portion of the gain or loss on the hedging instrument that is determined to be an effective hedge is recognised directly in other comprehensive income and released to profit and loss when the foreign operation is partially disposed or sold.

### II.2.8. Impairment of financial assets

#### II.2.8.1. Accounting policies applied from 1 January 2018

The group recognises loss allowances on financial assets measured at amortised cost, debt instruments at fair value through other comprehensive income, lease receivables, loan commitments and financial guarantees. No impairment loss is recognised on equity instruments.

The expected credit loss (ECL) is estimated as the difference between all contractual cash flows that are due to the group in accordance with the contract and all the cash flows that the group expects to receive, discounted at the original effective interest rate.

IFRS 9 requires the recognition of 12 month expected credit losses if credit risk has not significantly increased since initial recognition (stage 1), and lifetime expected credit losses for financial instruments for which the credit risk has increased significantly since initial recognition (stage 2) or which are credit impaired (stage 3). Lifetime ECL represents the expected credit losses that will result from all

possible default events over the expected life of a financial instrument. In contrast, 12 month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

The measurement of expected credit losses is a function of the probability of default, loss given default (i.e. the magnitude of the loss if there is a default) and the exposure at default. Expected credit losses on financial assets are individually assessed.

The impairment requirements are complex and require management judgements, estimates and assumptions that are detailed in section III Critical accounting estimates and judgements.

A financial asset is credit impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Evidence that a financial asset is credit-impaired includes observable data about the following events:
- significant financial difficulty of the issuer or the borrower;
- a breach of contract, such as a default or past due event;
- it is becoming probable that the borrower will enter bankruptcy or other financial reorganisation; or
- the disappearance of an active market for that financial asset because of financial difficulties.

For trade receivables with no significant financing component, a simplified approach requiring the recognition of lifetime ECLs at all times applies. The expected credit losses on these assets are collectively assessed and estimated using a provision matrix based on the group’s historical credit loss experience. Macro-economic factors are not considered as historical observations show that they are non-relevant. Expected credit losses are based on the age of the receivables. If all or part of a client’s receivable is confirmed as being irrecoverable, the value of that receivable will be reduced accordingly.

The group writes off financial assets and trade receivables, in whole or in part, when it has exhausted all practical recovery efforts and has concluded there is no reasonable expectation of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings.

The aggregate of provisions made (less amounts released and recoveries of bad debts previously written off) is charged against operating profit in the profit and loss account.

#### II.2.8.2. Accounting policies applied prior to 1 January 2018

The group assesses at each balance sheet date whether there is objective evidence that a financial asset or group of financial assets classified as held-to-maturity, available-for-sale or loans and receivables is impaired. A financial asset or portfolio of financial assets is impaired and an impairment loss recognised where there is objective evidence that an event occurring after initial recognition of the asset has adversely affected the amount or timing of future cash flows and this effect can be reliably estimated.

For financial assets carried at amortised cost, the amount of the impairment loss is measured as the difference between the carrying amount of the financial asset and the present value of estimated future cash flows discounted at the financial asset’s original effective interest rate. The carrying amount of the asset is reduced and the amount of the loss is recognised in profit or loss.

Cash flows relating to short-term receivables (less than three months) generally are not discounted. The impairment loss is measured as the difference between the carrying amount of the financial asset and the estimated future cash flows, and is recognised immediately in profit and loss. If, in a subsequent year, the amount of the impairment or bad debt loss decreases and the decrease can be related objectively to an event occurring after the recognition of the original loss, this loss is reversed. The reversal shall not result in a carrying amount of the financial asset that exceeds what the amortised cost would have been had the impairment not been recognised at the date the impairment is reversed.

For financial assets carried at fair value, if there is objective evidence of impairment of an available-for-sale financial asset, the cumulative net loss (difference between amortised acquisition cost and current fair value less any impairment loss previously recognised in profit or loss) that has previously been recognised in equity is removed and recognised in the income statement. If, in a subsequent year, the fair value of an available-for-sale debt instrument increases and the increase can be objectively related to an event occurring after the loss was recognised, the loss may be reversed through profit and loss. Impairments on investments in equity securities cannot be reversed.

### II.2.9. Purchase and resale agreements

Securities purchased under agreements to resell ('reverse repos') are recorded as loans and advances to other banks or customers, as appropriate. The difference between the sale and repurchase price is treated as interest and accrued over the life of the agreements using the effective interest method.

### II.2.10. Goodwill and intangible assets

#### II.2.10.a. Goodwill

Goodwill represents the excess of the cost of an acquisition over the fair value of the group's share of the identifiable net tangible and intangible assets of an acquired entity at the date of acquisition. Goodwill is carried at cost less accumulated impairment losses and tested for impairment annually or more frequently where events or changes in circumstances indicate that it might be impaired. For the purpose of impairment testing, goodwill is allocated to cash-generating units, the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. If impairment is

identified, the carrying value of goodwill is written down to its net recoverable amount. Impairment losses are immediately recognised in profit and loss and are not subsequently reversed.

#### II.2.10.b. Computer software

Computer software licences are capitalised on the basis of the costs incurred to acquire and bring to use the specific software.

Costs associated with the development phase of computer software being developed by, and for use of, the group are capitalised only when the following can be demonstrated:

- technical feasibility;
- intention to complete;
- ability to use or sell the asset;
- generation of probable future economic benefits;
- availability of technical, financial and other resources; and
- reliable measurement of attributable expenditure.

Borrowing costs that are directly attributable to the acquisition or development of software are considered as part of the cost of the software.

The cost of computer software is amortised using the straight-line method over its estimated useful life, normally estimated to be between three and five years.

Impairment tests are performed annually or more frequently if events or circumstances indicate that the asset might be impaired.

Costs associated with maintaining or upgrading computer software programmes are recognised as an expense as incurred.

#### II.2.10.c. Other intangible assets

At the time of a business combination, part of the cost might be attributed to one or more intangible assets when these are separable or arise from contractual or other legal rights (such as contractual customer relationships), provided a fair value can be measured reliably.

For each asset, the expected useful life is also assessed. Where this is a finite period, the cost of the asset will be amortised using the straight-line method over that period. The estimated useful life is assessed to be indefinite when, following an analysis of all the relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows. In such circumstances, the cost will not be amortised.

After initial recognition, the amortisation period and amortisation method for assets with a finite life are reviewed at least at each financial year-end, and changed when necessary.

For assets with an indefinite life, impairment tests are performed annually or more frequently if events or circumstances indicate that the asset might be impaired.

### II.2.11. Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation. Where an item of property, plant and equipment comprises major components having different useful lives, these components are accounted for separately.

Borrowing costs that are directly attributable to the acquisition of an asset are considered as part of the cost of the asset.

Subsequent costs are included in the asset's carrying amount or are recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the group and the cost can be measured reliably. All other costs are charged to the income statement during the financial year in which they are incurred.

Depreciation on property, plant and equipment is determined using the straight-line method to allocate the depreciable amount (difference between the cost and the residual value) over its estimated useful life.

The estimated useful life of property, plant and equipment is as follows:

- buildings (including enhancements): 20 to 40 years;
- leasehold improvements: shorter of economic life and period of lease;
- furniture and fixtures: seven years; and
- IT equipment (data processing and communications): between two and five years.

Land is not depreciated.

### II.2.12. Leases

Contracts to lease assets are classified as finance leases where they transfer substantially all the risks and rewards of ownership of the asset to the customer. Contracts not deemed to be finance leases are treated as operating leases.

Assets acquired under finance leases are included within fixed assets at the fair value of the leased asset or, if lower, the present value of the minimum lease payments, and depreciated over their economic useful lives taking into account anticipated residual values.

Operating lease income and charges are adjusted where relevant by lease incentives and are recognised on a straight-line basis over the life of the lease.

When an operating lease is terminated before the lease period has expired, any payment required to be made to the lessor, or received from the lessee by way of penalty, is recognised as an expense or income in the period in which termination takes place.

### II.2.13. Cash and cash equivalents

For the purposes of the statement of cash flows, cash and cash equivalents comprise balances with an original maturity of not more than three months, including cash and non-restricted balances with central banks, and loans and advances to banks and other customers.

### II.2.14. Provisions

Provisions are recognised where:
- there is a present obligation arising from a past event;
- there is a probable outflow of resources; and
- the outflow can be estimated reliably.

Provisions are recognised in respect of onerous contracts where the unavoidable costs of the future obligations under the contract exceed the economic benefits expected to be received.

Contingent liabilities are possible obligations whose existence depends on the outcome of one or more uncertain future events not wholly under the control of the group. For those present obligations where the outflows of resources are uncertain, or in the rare cases where these outflows cannot be measured reliably, this will give rise to a contingent liability. Contingent liabilities are not recognised in the financial statements but are disclosed, unless they are remote.

### II.2.15. Employee benefits

#### II.2.15.a. Pension obligations

The group operates a number of post-retirement benefit schemes for its employees, including both defined contribution and defined benefit pension plans.

A defined contribution plan is a pension plan under which the group pays fixed contributions into a separate entity and has no legal or constructive obligation to pay further contributions.

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan.

The liability recognised in the balance sheet in respect of defined benefit plans is the present value of the defined benefit obligation at the balance sheet date less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension liability.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are recognised in equity in the period in which they occur.

Past service costs are recognised immediately in the profit and loss account.

The costs of defined contribution plans are charged to the income statement in the year in which they fall due.

#### II.2.15.b. Other post-retirement benefits

Some group companies provide post-retirement healthcare benefits to their retirees. The expected costs of these benefits are accrued over the period of employment using an accounting methodology similar to that for defined benefit pension plans. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity. These obligations are valued annually by independent qualified actuaries.

### II.2.16. Current and deferred income taxes

Current tax payable on profits, based on the applicable tax law in each jurisdiction, is recognised as an expense in the year in which profits arise.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted in each relevant country by the balance sheet date and are expected to apply when the related deferred income tax asset is realised or the deferred income tax liability is settled.

The principal temporary differences arise from:
- depreciation of tangible fixed assets and amortisation of intangible assets;
- revaluation of certain financial assets and liabilities, including derivative contracts;
- provisions for pensions and other post-retirement benefits;
- tax losses carried forward; and
- in relation to acquisitions, the difference between the fair values of the net assets acquired and their tax base.

Temporary differences on the initial recognition of assets and liabilities other than those acquired in a business combination are not recognised unless the transaction affects accounting or taxable profit.

Deferred tax assets, including those related to income tax losses available for carry forward, are recognised when it is probable that future taxable profit will be available against which the temporary differences can be used.

Deferred income tax is provided on temporary differences arising from investments in subsidiaries and associates, except where:
- the timing of the reversal of the temporary difference is controlled by the group; and
- it is probable that the difference will not reverse in the foreseeable future.

Current tax assets and liabilities are offset when they arise in the same entity and where there is both a legal right of offset and the intention to settle on a net basis or to realise the asset and settle the liability simultaneously.

Deferred tax related to a transaction or event which is charged or credited directly to equity (e.g. fair value re-measurement of available-for-sale investments and cash flow hedges) is also credited or charged directly to equity and is subsequently recognised in the income statement together with the deferred gain or loss.

Deferred tax assets and liabilities are not discounted.

### II.2.17. Dividends

Dividends on ordinary shares are recognised in equity and as a liability in the year in which they are approved by the Company's shareholders.

Dividends for the year that are declared after the balance sheet date are not recognised as a liability and are instead disclosed as subsequent events.

### II.3.Key impacts on transition to IFRS 9

The impacts of the new classification and measurement rules are very limited since financial assets kept the same measurement methodology as under IAS 39. Cash, loans and advances are still measured at amortised cost. Debt securities and equity shares, previously classified as available-for-sale, satisfy the conditions for classification at Fair Value through Other Comprehensive Income (FVOCI), with the exception of some shares with a puttable feature that did no longer meet the definition of equity shares. These debt instruments amounting to €7,786,000 are non SPPI compliant and were reclassified to ‘financial assets at Fair Value through Profit and Loss (FVPL).

€182,289,000 positive fair value reserves related to equity shares were reclassified from ‘recyclable to profit and loss to ‘not recyclable to profit and loss’ on 1 January 2019.

The impacts arising from the implementation of the expected credit loss model are also very limited due to the high quality of the group’s financial assets, and high level of collateralisation. Impairment allowances and provisions on financial assets, loan commitments and financial guarantees increased by €1,058,000. This increase was more than offset by the decrease of the impairment allowance on other assets (€1,604,000 before tax) that used to be computed in a more conservative way under previous policy.

The new hedge accounting rules align the accounting for hedging instruments more closely with the group’s risk management practices. The group’s hedge relationships still qualify as continuing hedges upon the adoption of IFRS 9. Derivatives remain measured either at FVOCI (if part of a cash flow hedging relationship) or Fair Value through Profit and Loss (FVPL).

The transition had no impact on the group’s accounting for financial liabilities.

The adjustments above resulted in an overall increase in shareholders’ equity of €547,000 after tax impact.

### Transition

As permitted by IFRS 9, comparative periods have not been restated. Differences on the carrying amount of financial assets resulting from the adoption of IFRS have been recognised in retained earnings and reserves as at 1 January 2018. Accordingly, the information presented for 2017 in the primary financial statements and the notes still reflects the requirements of IAS 39 and are not fully comparable to the information presented under IFRS 9 in 2018.

Below table provides a reconciliation of the statement of financial position between 31 December 2017 and 1 January 2018.

| (€'000) | 31 December 2017 | Presentation | classification and measurement | impairment charge | 1 January 2018 |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| Cash and balances with central banks | 3,582,755 | - | - | (2) | 3,582,753 |
| Loans and advances at amortised cost | 11,514,288 | - | - | (899) | 11,513,389 |
| Available-for-sale financial assets | 5,363,273 | (5,355,487) | (7,786) | - | - |
| Financial assets at FVOCI | - | 5,355,487 | - | - | 5,355,487 |
| Non-trading financial assets mandatorily at FVPL | - | - | 7,786 | - | 7,786 |
| Financial assets held for trading | 8,383 | - | - | - | 8,383 |
| Derivatives used for hedging | 453 | - | - | - | 453 |
| Current income tax assets | 8,739 | - | - | - | 8,739 |
| Deferred income tax assets | 115,002 | - | - | (120) | 114,882 |
| Other assets | 165,889 | - | - | 1,604 | 167,493 |
| Pre-payments and accrued income | 149,044 | - | - | - | 149,044 |
| Pension asset | 541 | - | - | - | 541 |
| Property, plant and equipment | 93,514 | - | - | - | 93,514 |
| Goodwill and intangible assets | 1,022,267 | - | - | - | 1,022,267 |
| Investments in subsidiaries and joint ventures | 15,272 | - | - | - | 15,272 |
| **Total assets** | **22,039,420** | **-** | **-** | **583** | **22,040,003** |
| **Liabilities** | | | | | |
| Deposits from central banks | 900,382 | - | - | - | 900,382 |
| Deposits from banks and customers | 14,913,351 | (1,667,543) | - | - | 13,245,808 |
| Debt securities issued and funds borrowed | 1,667,543 | 1,667,543 | - | - | 3,335,086 |
| Financial liabilities held for trading | 23,828 | - | - | - | 23,828 |
| Derivatives used for hedging | 400 | - | - | - | 400 |
| Other liabilities | 339,862 | - | - | - | 339,862 |
| Accruals and deferred income | 244,552 | - | - | - | 244,552 |
| Current income tax liabilities | 87,735 | - | - | 8 | 87,743 |
| Deferred income tax liabilities | 4,720 | - | - | - | 4,720 |
| Provisions for liabilities and charges | 21,236 | - | - | 28 | 21,264 |
| Pension deficit | 133,419 | - | - | - | 133,419 |
| **Total liabilities** | **18,337,028** | **-** | **-** | **36** | **18,337,064** |
| **Shareholders' equity** | | | | | |
| Called up share capital | 119,077 | - | - | - | 119,077 |
| Share premium account | 258,623 | - | - | - | 258,623 |
| Other reserves | 289,816 | - | (2,461) | 91 | 287,446 |
| Retained earnings | 3,034,876 | - | 2,461 | 456 | 3,037,793 |
| **Total shareholders' equity** | **3,702,392** | **-** | **-** | **547** | **3,702,939** |
| **Total liabilities and shareholders' equity** | **22,039,420** | **-** | **-** | **583** | **22,040,003** |

'Loans and advances' have been renamed 'Loans and advances at amortised cost', without any reclassification.

The line 'Deposits from customers and clients' has been split to identify separately the debt securities issued and other funds borrowed. This change in presentation is not related to the adoption of IFRS 9, but adds clarity on the debts which have become more material (see Risk Management note).

The ECL impact from the adoption of IFRS 9 is shown in the impairment charge column. The impairment on the financial assets at FVOCI does not appear as offset by a fair value adjustment, but results in a reclassification of the impairment loss amount between the FVOCI revaluation reserve and retained earnings. The increase in impairment results in the recognition of a deferred tax asset that will amortise to current tax over time.

Impairment allowance reconciliation

The table below shows the impairment allowances determined in accordance with IFRS 9. No allowances were recognised under IAS 39 for financial assets or under IAS 37 for loan commitments or financial guarantees. All balances as at 1 January 2018 were classified as Stage 1 balances.

| (€'000) | Gross exposure | 12 months expected credit loss | Net exposure |
|---|---|---|---|
| Cash and balances with central banks | 3,582,755 | (2) | 3,582,753 |
| Loans and advances at amortised cost | 11,514,288 | (899) | 11,513,389 |
| Debt instruments measured at FVOCI | 5,057,564 | (129) | 5,057,435 |
| Loan commitments and financial guarantees | 25,914,260 | (28) | 25,914,232 |
| | | (1,058) | |

The movement in loss allowance for trade receivables amounts to €1,604,000 before tax (balance of €1,056,000 as of 1 January 2018 compared to €2,662,000 as of 31 December 2017).

## III. Critical accounting estimates and judgements

The Euroclear group makes estimates and assumptions that affect the reported amounts of assets and liabilities. These estimates are considered to be important to understand the group's financial condition, since they require management to make complex and subjective judgements, some of which may relate to matters that are inherently uncertain. Estimates and judgements are continually evaluated and based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

### III.1. Impairment of goodwill and contractual customers' relationships with an indefinite useful life

The group tests goodwill and contractual customers' relationships for impairment annually (during the fourth quarter), irrespective of whether there is an indication of impairment. Furthermore, the group remains alert for indicators of impairment throughout the year and conducts a high-level impairment review at each quarter end.

Such impairment reviews are deemed to detect:
- overpayment;
- under-performance compared with expectations; and
- significant changes with an adverse effect on the acquired business. Such changes can stem from, for example, new business parameters (e.g. volatility of stock markets, changes in the volume of securities safekept on behalf of customers, ...) or from changes in market data used to determine the cost of capital of the acquired businesses.

An impairment loss is recognised whenever the recoverable amount of the goodwill is less than its carrying amount (book value). The recoverable amount of an asset is the higher of its net selling price and its value in use, both based on present value calculations.
- Net selling price is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable willing parties, less the cost of disposal.
- Value in use is the amount obtainable from the use of an asset until the end of its useful life and from its subsequent disposal. Value in use is calculated as the present value of estimated future cash flows. The value in use calculation may take into account not only the post-acquisition performance of the acquired entity itself, but also the changes in cash flows in other entities in the group that are positively or negatively affected by the acquisition.

No impairment charge was deemed necessary at the end of 2017 and 2018. See Note XVII.

Contractual customers' relationships with an indefinite useful life relate to the acquisition of Euroclear Belgium.

**III.2. Impairment of other intangible assets**

The group tests internally developed software for impairment annually (during the fourth quarter), irrespective of whether there is an indication of impairment. Furthermore, the group remains alert for indicators of impairment throughout the year and conducts a high-level impairment review at mid-year.

In assessing whether there is any indication that an asset is impaired, the group considers significant adverse changes that have taken place or are expected in the near future in the extent to which, or in the way that, an asset is used or expected to be used. This includes the asset becoming idle, plans to discontinue or restructure the operation to which the asset belongs, or the asset's disposal.

Indications of impairment exist if:
- there are plans to discontinue the development;
- Inefficiencies are noted (i.e. costs higher than expected);
- there is material delay in the delivery of the project;
- there is an adverse event in the market;
- technology becomes obsolete;
- resources needed are not available;
- under-performance is noted compared with expectations;
- economic performance is lower than expected.

Euroclear recorded an impairment of €28 million in 2018, principally related to the costs that were capitalised in the context of the Finnish IT platform rebuild following doubts on the future use of some of the developed components. A small part of this impairment charge was related to the Swedish infrastructure as a result of technological changes coupled with evolving client expectations.

**III.3. Provisions**

A provision is a liability of uncertain timing or amount. At each reporting year, the necessity to record or adjust provisions is considered based on the latest information available.

Onerous lease provisions can lead to a decision to vacate premises leased by the company and/or when the space is expected to remain empty or to be sub-let at terms and conditions below those in the Euroclear lease. The provision represents the lower of the cost to breach the contract and the cost of fulfilling it, taking into account the expected benefits that might be received under a sub-lease, providing the entity is actively seeking to sub-let the property.

The onerous contract provision represents the best estimate of the unavoidable costs of the obligations under the contract over the economic benefits expected to be received under it.

Human resources-related provisions are recognised when a decision has been made, a formal plan exists and the main features are known by those affected. The provision represents the best estimate of the full cost of implementing the plan.

Provisions for dilapidation, or end-of-lease obligations, are recorded when Euroclear is contractually bound to incur such costs and a reliable estimate can be made.

Provisions for litigation are recorded if and when there are strong indications that costs will be incurred to settle any possible legal cases concerned and a reliable estimate can be made.

**III.4. Defined benefit plans**

The present value of the defined benefit plan obligations depends on a number of factors that are determined on an actuarial basis using a number of assumptions. Any changes in these assumptions will impact the carrying amount of the obligations.

The assumptions used in determining the net cost/(income) for the plans include the discount rate at the end of each year. This is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the plan obligations. In determining the appropriate discount rate, the group considers the interest rates of high-quality corporate bonds (or mortgage backed bonds in Sweden) that are denominated in the currency in which the benefits will be paid and that have terms to maturity approximating the terms of the related plan liability.

Other key assumptions for plan obligations are based in part on current market conditions.

The major assumptions used are shown in Note XX.

**III.5. Deferred tax assets**

Deferred tax assets are recognised to reflect the future tax benefit from unused tax losses or tax credits and other temporary differences. If there is a concern about the relevant entities' capacity to utilise the tax assets within a reasonable (10-year) period, the

assets are impaired, even when there remains a possibility to benefit longer term if sufficient taxable profits arise. The 10-year period is considered reasonable in view of the activities of the Euroclear group entities and the sector in which they operate.

The Belgian government announced in July 2017 an important corporate tax reform which will decrease the corporate tax rate in Belgium of 33,99% down to 29,58% in 2018 and 25% as from 2020. The Act affecting the reform has been voted by Parliament in December 2017 which, by virtue of the guidance in IAS 12, is considered as substantively enacted. Therefore, deferred taxes on temporary differences have to be calculated based both on the new tax rates and the timing of their expected reversals. In this regard, management has exercised judgement in deciding which temporary differences are expected to reverse before 2020, on which the tax rate of 29,58 % is applicable, and which temporary differences are expected to reverse after 2020 to which the tax rate of 25% is applied.

### III.6. Fair valuation of FVOCI equity investments

The group has recourse to adequate valuation techniques (e.g. discounted cash flows, market multiples) to estimate the value of non-quoted equity investments at FVOCI, as explained in section IV.

### III.7. Impairment of financial assets

The impairment requirements require management judgements, estimates and assumptions, including:

- Determining a significant increase in credit risk since initial recognition

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition. In making this assessment, the group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

IFRS 9 requires the recognition of 12 month expected credit losses (the portion of lifetime expected credit losses from default events that are expected within 12 months of the reporting date) if credit risk has not significantly increased since initial recognition (stage 1), and lifetime expected credit losses for financial instruments for which the credit risk has increased significantly since initial recognition (stage 2) or which are credit impaired (stage 3).

The following information is taken into account when assessing whether credit risk has increased significantly since initial recognition:
- a significant deterioration in the financial instrument's external or internal credit rating;
- a significant deterioration in external market indicators of credit risk for a particular financial instrument, e.g. a significant increase in the credit default swap prices for the debtor, existing or forecast adverse changes in business, financial or economic conditions.

Irrespective of the outcome of the above assessment, the group presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the group has reasonable and supportable information that demonstrates otherwise.

Despite the afore going, the group assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the reporting date. The group considers a financial asset to have low credit risk when it has an internal or external credit rating of 'investment grade' as per globally understood definition. For all exposures considered as low risk and classified in Stage 1, credit will verify that the exemption is relevant through management judgment. In case it considers that the exposure should still be classified in Stage 2, even if it is eligible to the low risk exemption, credit will override the stage.

- Forward-looking information

Euroclear is mainly exposed to highly-rated financial institutions. Credit losses are not sensitive to small variations of macro-economic conditions. The ECL model has been calibrated to reflect the low likelihood but potentially high severity of its credit losses. A close monitoring of key market indicators is done to evaluate the possibility of facing stress situations similar to the one experienced during the 2008 financial crisis. Expected credit losses are the unbiased probability-weighted credit losses determined by evaluating a range of possible outcomes and considering future economic conditions. Three scenarios are modelled to ensure an unbiased representative sample of the complete distribution when determining the expected loss.

- Definition of default

IFRS 9 does not give explicit definition of default, but clearly states that it must be consistent with the one used for internal credit risk management purposes, with the rebuttable presumption that 90 days past due is a default criterion. This definition must be used when assessing whether the credit risk on a financial instrument has increased significantly. Euroclear uses the default definition as stated in the Financial Risk Policy Handbook and used for regulatory capital purposes, to ensure consistency with Basel Committee guidelines.

- Expected life

In order to assess the lifetime of the instrument and on which time horizon probability of default (PD) must be calculated, a maturity assessment is required. The maturity is the maximum contractual period over the entity is exposed to risk, that should take into account the ability to demand repayment and the possible extensions. When determining the period over which an entity is expected to be exposed to credit risk, Euroclear uses historical information and experience, and notably the period over which the entity was exposed on similar financial instruments. Euroclear mainly holds non committed open-ended lines, for which no maximum contractual period has been defined. For those, an expected lifetime has been defined based on historical data. For others, the period of exposure has been set to the contractual maturity.

- Discounting

Expected credit losses are discounted at the effective interest rate determined at initial recognition or an approximation thereof.

- Calculation methodology

The measurement of expected credit losses is a function of the probability of default, loss given default (i.e. the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information. As for the exposure at default, for financial assets, this is represented by the assets' gross carrying amount at the reporting date. For loan commitments and financial guarantee contracts, the exposure includes the amount drawn down as at the reporting date, together with any additional amounts expected to be drawn down in the future by default date determined based on historical averages, and other relevant forward-looking information.

The regulatory Basel Committee of Banking Supervisors (BCBS) ECL calculations are leveraged and adjusted for IFRS 9. While BCBS requires 12 month through the economic cycle losses, IFRS 9 requires 12 months or lifetime point-in-time losses based on conditions at the reporting date and multiple forecasts of the future economic conditions over the expected lives. IFRS 9 also requires discounting to the reporting date at the original effective interest rate rather than using the cost of capital to the date of default.

- Simplified approach for trade receivables

For trade receivables, the expected credit losses are assessed per entity and estimates of loss rates are based on the loss experience observed by each of the (I)CSDs and split over various time buckets.

# IV. Risk management and the financial risk management environment

## IV.1. Managing business in a risk-controlled environment

### IV.1.1. The Enterprise Risk Management framework

The Enterprise Risk Management (ERM) framework defines the overall approach to how risk is managed at Euroclear. The framework structures the way Euroclear identifies, assesses and manages its risks, within the Board's risk appetite, whilst pursuing its strategy and corporate objectives. The framework is supported by a number of board approved policies and management handbooks, which take into account applicable market and regulatory standards and are regularly reviewed and updated to maintain their relevance.

The core components of the ERM framework are the business strategy, objectives and risk appetite, set at Board level. These are translated into risk-informed decision making via robust governance arrangements. The framework is underpinned by the risk culture including as key elements the balance of risk and opportunity, risk awareness, transparency and accountability. The risk management culture is thus an integral part of the corporate culture.

As an FMI and an O-SII (Other Systemically Important Institution), we pay close attention to systemic risk. We strive to provide secure, reliable and resilient services, contribute to the development of stable and efficient markets, and facilitate the reduction of systemic risk wherever possible. Systemic considerations are pervasive in our ERM framework.

### IV.1.2. The three lines of defence

In line with best market practice, Euroclear has adopted the three lines of defence model to support the effective operation of its ERM framework. Each line plays a distinct role providing Senior Management and the Board with assurance on the risk and control environment and thus on the success of the business objectives.

**1st line of defence – Business Management:** ensures that the right risk culture is embedded in the different business units. It owns the risks linked to the activities it undertakes. It identifies, measures, and manages these risks. It also designs and operates a control system to ensure that Euroclear reaches its business objectives within its risk appetite. Business management is the primary source of assurance on the adequacy and effectiveness of the control environment to Senior Management and the Board.

Moreover, the finance division has established a permanent control framework to provide reasonable assurance on the effectiveness of the internal control environment around the financial statements.

**2nd line of defence – Risk Management and Compliance & Ethics**

**Risk Management**: the Board ensures that the Risk Management function provides robust, independent oversight of business activities. The Risk Management function aims to deliver and maintain an effective ERM framework; provides the board and Senior Management with high quality, independent advice and guidance and helps to foster a healthy risk culture throughout the organisation.

**Compliance & Ethics**: provides the group-wide ethical and compliance risk management framework to adequately identify, monitor, test and report to management on controls relating to laws and regulations falling within its remit and advises on remedial actions (e.g. fraud, market abuse, money laundering, etc). In addition, a specific focus is devoted to assess our controls linked to economic sanctions taken by authorities. Compliance & Ethics also supports the organisation to increase awareness of compliance risks and ethical issues.

**3rd line of defence - Internal Audit**: provides comprehensive assurance based on the highest levels of independence within the organisation, to support the Board and Senior Management in reaching their objectives. Internal Audit's scope is unrestricted, and provides assurance on the adequacy and effectiveness of Euroclear's governance, risk management and internal controls**.**

### IV.1.3. Risk appetite framework & control environment

Euroclear's risk appetite is set by the Board and represents the maximum amount of risk the Board is willing to accept to achieve its objectives, including preservation of the long term strength of the company and of the trust of all key stakeholders. Euroclear articulates and monitors its risk appetite by way of metrics associated with each of Euroclear's primary risk sources, thereby providing Senior Management and the Board with an indication of risk profile (i.e. actual situation) versus appetite.

Euroclear's risk appetite aims at:

- developing and maintaining efficient post-trade services which are resilient, reliable and secure;
- supporting the development of sound and stable capital markets; and
- serving the public good by supporting the efficiency of markets and actively enabling the reduction of systemic risk wherever possible.

Euroclear uses the below risk categories to facilitate risk identification and analysis:

| | |
|---|---|
| Conduct & Culture Risk | Risks arising from our corporate and risk culture, governance arrangements, conduct and dealings with stakeholders and shareholders, and our corporate responsibility as an international financial organisation.<br>Stakeholders include clients, participants, suppliers, regulators, competitors and other financial market infrastructures. |
| Operational Risk | The risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events.<br>This definition excludes legal and compliance risk. |
| Legal & Compliance | Risks arising from:<br>- applicable laws, regulations, market rules, prescribed practices and our own internal policies in all relevant jurisdictions;<br>- upcoming laws and changing regulatory environment;<br>- the negotiation of rules, procedures and contracts in all relevant jurisdictions;<br>- conflicts of laws between jurisdictions |
| Credit Risk | The risk to Euroclear's earnings or capital arising from Euroclear's obligor's failure to perform due to inability or unwillingness on its financial obligations to Euroclear on time and in full. In the scope of its activities Euroclear's obligors are defined as borrowing participants, cash correspondents and settlement banks, treasury counterparts and issuers of securities in the investment and treasury securities portfolio. |
| Liquidity Risk | Risks arising from being unable to settle a cash or securities obligation when due resulting from inappropriate and/or insufficient liquidity sources |
| Market Risk | Market risk is the uncertainty on the value of assets and liabilities (on- or off-balance sheet) and on the future earnings (linked to foreign exchange or interest rate movements). |
| Strategic & Business Risk | Business Risk - Short term (<2 years) risks to our financial results and solvency arising from, for instance: business decisions, product and client portfolios, human capital and other resources, underfunded defined benefit pension obligations. |

| | |
|---|---|
| | Strategic Risk - Medium to long term (>2 years) risks to our existence and our ability to deliver our strategy, arising from, for instance: our strategy & business model, strategic decisions, implementation of strategy, technology, IT infrastructure and software. |
| Change and Project Risk | Change Risk is the risk of failure with respect to the change management process including the tools and techniques to manage the people side of change to achieve the required business outcome.<br>Project Risk is defined as an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives. |

**Risk and control monitoring**
To ensure risk taking is appropriate and remains within the defined risk appetite, Euroclear has designed a system of internal controls and metrics. Controls are established by business management and are aligned to the mission and objectives of each business unit. Controls are designed in line with the risks they aim to mitigate. All these controls are the foundation of the Euroclear's Internal Control System (ICS).

An annual, externally-audited ISAE3402 report is produced for each Euroclear's CSD (Central Securities Depository) providing assurance on the effectiveness of the relevant internal control environments.

**Risk reporting**
Business management reports the results of identified risks, risk assessments, main findings and proposed actions to its local executive risk committee. Every division maintains a Positive Assurance Report (PAR) to demonstrate the adequacy and effectiveness of its control framework as well as to identify and mitigate the weaknesses. Twice a year, Business Management reports to senior management and the Boards of Euroclear on the adequacy and effectiveness of its control environment. Risk Management and Internal Audit add their own independent assessment, thus giving Senior Management and Boards a comprehensive overview of the control environment. This process is complemented by a yearly self-assessment exercise, where the business management takes a step back to reassess its level of inherent risk, as well as its control environment.

Risk Management reports the conclusions of its continuous risk monitoring activities via a quarterly Chief Risk Officer (CRO) report submitted to Euroclear SA/NV Board and to the Boards of each Euroclear's CSDs. The CRO reports outline the Group and the entities' key risks and their current risk profiles respectively. In addition, Risk Management continuously monitors ICS issues and the overall effectiveness of the ERM framework.

Finally, the third line of defence, Internal Audit regularly conducts specific assessments of the ERM framework, or parts of it, and reports to the board of directors on the adequacy and effectiveness of the framework and the ICS. These reports are shared with Senior Management and the Boards.

**IV.2. Operational risk management**

All Euroclear entities face operational risks in their daily activities, caused by either inadequate or failed internal processes, human errors, system failures or external events.

In line with Basel recommendations, Euroclear categorises its operational risks and loss events as follows:

- employment practices and workplace safety;
- clients, products & business practices;
- execution, delivery & process management;
- internal fraud;
- external fraud and cyber;
- business disruption & systems failure;
- damage to or loss of physical (or other) assets;
- model risk;
- custody risk; and
- investment risk.

Euroclear uses Key Risk Indicators (KRIs), Key Performance Indicators (KPIs) and regular risk and control self-assessments to effectively monitor operational risk. By providing an incident management framework and incident logging tool, Risk Management provides all the means for the first line to consistently log and report incidents and escalates them at the appropriate management level as necessary.

Euroclear (anonymously) shares its internal loss data with the Operational Riskdata Exchange Association (ORX) in order to access their database of high quality operational risk loss data. Euroclear uses this data for its capital modelling and to understand and manage operational risk adequately.

<u>Information Security & Business Continuity</u>
A major component of our operational risk management is Information Security (IS) and Business Continuity Management, which are fully integrated in our ERM framework and aligned with recognised international standards.

Euroclear's business continuity arrangements include identification of all critical functions to ensure continuity of required services. To this end, appropriate business continuity plans are in place for each CSD, and critical function and division.

In addition, Euroclear's business continuity programme includes a testing strategy to enable each entity to respond to unforeseen events. Euroclear performs functional as well as entity and group wide business continuity plan tests to ensure continued readiness to respond to crisis situation. For example:

- IT disaster recovery testing:
  - switch between data centres;
  - crisis management exercises;
  - office recovery testing: switch to a recovery office and dual site testing;
- testing of agreed arrangements with critical suppliers and external parties covering for example:
  - crisis communication;
  - reciprocal plans with other Financial Market Infrastructures (e.g. National Central Banks, other (I)CSDs, Central Counterparts);
  - participation to market wide exercises where and when they are organised;
  - building evacuation exercises.

In addition, each division/department is responsible for producing, maintaining and implemented its "site-switch" procedure to ensure the continuity of Euroclear Bank's critical functions.

### IV.3. Euroclear group financial risk management

Euroclear's financial risk framework, together with the risk appetite, ensures that financial risks (i.e. credit, liquidity and market risks) remain within an accepted level. As a FMI, the financial risks Euroclear faces are however limited, interlinked and, in the majority of the cases the direct result of participant's activity.

#### IV.3.1. Credit risk

Credit risk is defined as the risk to Euroclear's earnings or capital arising from Euroclear (as obligor) failure to perform due to inability or unwillingness on its financial obligations to Euroclear on time and in full. In the scope of its activities, Euroclear's obligors are defined as borrowing participants, cash correspondents and settlement banks, treasury counterparts and issuers of securities in the investment and treasury securities portfolio.

**Euroclear Bank's c**redit risk framework sets limits based on Euroclear Bank's credit risk appetite, and addresses among others the size and conditions of credit facilities for borrowing participants and market facilities to support treasury activity, concentrations and collateral quality. Furthermore operational processes are designed and reassessed on a regular basis to actively monitor and minimise credit risks.

Credit risk is mainly taken on borrowing participants and on other counterparts when performing the day-to-day balance sheet management, in particular re-depositing participant's long cash balances or investing its capital and the proceeds of the debt securities issued. To date Euroclear Bank has not experienced any credit losses, not even during periods of market turmoil. This is largely due to the very short duration (mostly intraday) and predominantly secured nature of its credit exposures.

All credit granted to borrowing participants is uncommitted and must be secured by proprietary collateral, for which strict collateralisation rules apply. Unsecured exposure on borrowing participants is only permitted when allowed under CSDR[1] (e.g. exempted entities as per Article 23(2) of Regulation (EU) 390/2017).

Euroclear Bank also runs treasury exposures resulting from clients' end-of-day cash positions and investing of its own equity and issued debt. Treasury exposures are usually placed in the market with high-quality counterparties for a short duration, preferably by using reverse repurchase agreements (reverse repos) or invested in very high-quality securities with relatively short-term maturities. Unsecured treasury credit exposure is allowed but kept limited.

**Euroclear CSDs** have no direct cash relationship with their clients as their transactions settle in central bank money. Consequently, they cannot extend loans or credit facilities to their clients nor do these CSDs have banking license. Euroclear CSDs can potentially face a certain level of credit risk arising from the non-payment of fees by their clients, albeit for limited amounts considering both the frequency of the billing and their relatively broad customer base. Therefore, each CSD of the group is required by its home regulator to hold enough liquidity to cover such risks.

The Euroclear CSDs are also exposed to credit risk related to the reinvestment of their cash surplus with their bank counterparties. Since 2018, some Euroclear CSDs also reinvest in a dedicated common investment fund and a longer term investment portfolio. Credit risk is however mitigated through a strict investment policy limiting among others the allowed counterparties, type of instruments, currencies and maturity.

**Euroclear Investments SA**, as intermediary group holding entity, mainly provides financial assistance to Euroclear group entities. The company has no direct business relationship with third party clients. In this context, Euroclear Investments SA faces credit risk which arises mainly from the non-payment of interests and principal on the various funding arrangements with its subsidiaries.

[1] Regulation EU 909/2014 on settlement and central securities depositories.

The company is also exposed to credit risk related to the reinvestment of its cash with its bank counterparties. In addition, in 2018, the company also reinvested a part of its available cash in dedicated common investment funds. Credit risk arising from such investments is however mitigated through a strict and conservative investment policy in line with the group risk and credit rating profiles.

#### IV.3.1.a. Credit exposure

Intraday credit exposure arises when Euroclear Bank delivers assets before receiving the appropriate counter value from the other counterparties and when Euroclear Bank extends short-term credit to its clients to facilitate the settlement of securities transactions on a Delivery-Versus-Payment (DVP) basis. Generally, the duration varies with the sources of exposure and funding. Only in unforeseen circumstances (primarily as the result of settlement failures or delayed credits) part of the operating exposure can become an end-of-day overdraft retained in the books of Euroclear Bank until the next day. Sanctioning rates act as an effective deterrent to discourage participant's intraday credit exposures to translate into overnight credit exposures. Other credit exposures that can go beyond the short-term (intraday and overnight) are related to Treasury activity, Securities Lending and Borrowing (SLB) and General Collateral Access (GCA) Term lending.

The table below represents the maximum gross exposure to credit risk which is defined as the gross carrying amount, without taking into account any collateral held or other credit enhancement attached. After application of impairment losses recognised in accordance with IFRS 9, it equals to the carrying amount as reported in the financial statements (therefore measured on an end-of-day basis).

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| At 31 December | | | |
| **Financial assets** | | | |
| - Cash and balances with central banks | | 4,536,101 | 3,582,755 |
| - Loans and advances at amortised cost | | 14,540,928 | 11,514,288 |
| - Financial assets at FVOCI | XIII | 7,433,905 | - |
| - Available-for-sale financial assets | XIII | - | 5,363,273 |
| - Non-trading financial assets mandatorily at FVPL | XIII | 12,505 | - |
| - Financial assets held for trading | | 14,475 | 8,383 |
| - Derivatives used for hedging | XIV | 3,293 | 453 |
| **Total financial assets** | | **26,541,207** | **20,469,152** |
| **Loan commitments** | XXIV | 39,030 | 1,972 |
| **Financial guarantees** | | 26,448,880 | 25,912,288 |
| **Total** | | **53,029,117** | **46,383,412** |

At 31 December 2018, secured exposure amounted to €36,881,881,000 (2017: €34,994,559,000) including €9,147,715,000 of reverse repo transactions (2017: €8,032,760,000). On balance sheet unsecured exposure amounted to €16,107,289,000 (2017: €11,365,964,000) and relates to treasury exposure and credit exposure to exempted entities. Off balance sheet (secured and unsecured) mainly relates to commitments and guarantees under the SLB and GCA programmes (Note XXIV).

The credit quality of Euroclear's credit exposures can be assessed by reference to the internal rating system adopted by the group[2] or ratings assigned by the three major rating agencies (Standard & Poor's, Moody's and Fitch ratings). In the tables below, the internal rating Eaa' sums up the ratings 'Eaa-', 'Eaa' and 'Eaa+' of Euroclear Bank's internal ratings scale. The internal rating 'Ea' sums up the ratings 'Ea-', 'Ea' and 'Ea+' of the internal ratings scale.

[2] Euroclear bank's internal rating scale and definitions are in accordance with the Long-term Issuer Default Rating (LT IDR) scale of the three major rating agencies. For further details, please refer to Euroclear's Pillar 3 disclosure section 'Internal rating Model'.

The table below presents an analysis of the loans and advances at amortised cost (incl. cash and balances with central banks) using the group's internal ratings. The internal ratings are those of Euroclear's borrowers at legal entity level.

| (€'000) | 2018 | 2017 |
|---|---|---|
| At 31 December | | |
| **Loans and advances at amortised cost** | | |
| Eaaa | 4,534,772 | 3,601,429 |
| Eaa | 8,006,282 | 5,412,263 |
| Ea | 5,566,959 | 4,807,053 |
| Ebbb+ and Ebbb | 744,036 | 929,679 |
| Ebbb- and below | 225,222 | 346,619 |
| **Total gross carrying amount** | **19,077,271** | **15,097,043** |
| **Expected credit loss (loss allowance)** | **(242)** | **-** |
| **Carrying amount** | **19,077,029** | **15,097,043** |

Euroclear's borrowing participants and other counterparts are mainly of high credit quality, for which limited credit loss allowances are recorded under IFRS 9.

The table below presents an analysis of the FVOCI debt instruments (2017: available-for-sale debt securities), using the second best approach on LT IDR ratings assigned by the three major rating agencies.

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| At 31 December | | | |
| **Debt instruments at FVOCI** | | | |
| AAA | | 1,657,196 | 1,306,596 |
| AA+ | | 2,333,032 | 1,449,755 |
| AA | | 1,894,947 | 1,645,099 |
| AA- | | 771,328 | 655,985 |
| BBB+ | | 19,530 | - |
| BBB | | 22,699 | - |
| **Carrying amount** | XIII | **6,698,733** | **5,057,435** |
| **Including expected credit loss (loss allowance)** | | **(255)** | **-** |

Euroclear Bank's FVOCI debt instruments mainly consist of high credit quality short-term investments, which are considered as Stage 1 assets under IFRS 9. The Euroclear CSD's FVOCI debt instruments consist of above investment grade credit quality longer term investments, which are considered as Stage 1 assets under IFRS9.

The table below presents an analysis of the loan commitments and financial guarantees using the group's internal ratings. The internal ratings are those of the Euroclear's clients or counterparties for which loan commitments and financial guarantees are given.

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| At 31 December | | | |
| **Loan commitments and financial guarantees** | | | |
| Eaaa | | 4,187,389 | 3,897,528 |
| Eaa | | 3,149,947 | 2,225,120 |
| Ea | | 14,064,372 | 15,715,488 |
| Ebbb+ and Ebbb | | 4,822,180 | 3,952,371 |
| Ebbb- and below | | 264,021 | 123,753 |
| **Carrying amount** | XXIV | **26,487,910** | **25,914,260** |
| **Incl. expected credit loss (loss allowance)** | | **(6)** | **-** |

### IV.3.1.b. Credit risk mitigation

Credit exposure is mitigated by recourses to secure the credit (e.g. collateral, guarantees or letter of credit) and market facilities that are granted to borrowing participants, treasury counterparties and Clearstream Banking Luxembourg. These recourses can be used to cover any credit exposure that Euroclear Bank may incur due to default following a credit event e.g. a bankruptcy, sanctions, etc.

As clients have both an aggregated credit facility as well as credit facilities by currency, clients can use the collateral pledged and held in Euroclear Bank to guarantee all the obligations they have with Euroclear Bank, irrespective of the nature of the exposure and the original currency. For repo activity with treasury counterparties, Euroclear Bank signs Global Master Repurchase Agreements (GMRAs), which allow for close-out netting of positions in case of a counterparty default. If the post-liquidation value of collateral does not cover the defaulted credit exposure, Euroclear Bank may end up with a residual credit exposure. The potential residual credit exposure that Euroclear Bank faces after consideration of all credit mitigations, and protective measures in place is however monitored on a daily basis.

In accordance with Articles 10-11 of Regulation (EU) 390/2017, strict collateralisation rules apply concerning the quality and quantity of securities used as collateral for overdrafts, guarantees issued to securities lenders in the context of the SLB and GCA programmes, and reverse repos. Euroclear Bank uses a four category collateral classification system. The internal rating as well as a series of credit, market and liquidity indicators are used to determine the category allocation. Any collateral that cannot be categorised in one of the four categories, is not accepted as collateral to secure credit exposure. Frequent monitoring shows that more than 99% of the collateral pledged in the Euroclear System has investment grade quality.

In order to accurately determine the value of the collateral it takes, Euroclear Bank has developed a dynamic internal collateral valuation model taking into account market, credit, country and liquidity risks. Haircuts are computed at least once a day for each security, reflecting the latest market risk factors and conditions. The collateral valuation model is back-tested (daily) and stress tested (yearly). The results show that the collateral valuation model has provided continually adequate valuations, even during periods of high volatility for the markets.

The credit exposure of the interoperable link (i.e. the Bridge) with Clearstream Banking Luxembourg (CBL) is annually secured by means of a letter of credit issued by a consortium of creditworthy financial institutions in Euroclear Bank's favour. In accordance with Article 16(k) of Regulation (EU) 390/2017, no credit institution has committed to a share of the total outstanding letter of credit above 10%. The guarantee amounted to USD 3 billion at end-2018. Additionally, Euroclear Bank has a right to off-set as a final settlement that extinguishes the mutual debts owed between the parties in exchange for a new net amount. In line with CSDR requirements a change in the CBL Bridge risk management principles and processes was implemented in the course of 2018, to remove potential unsecured credit exposure under the electronic Bridge.

### IV.3.1.c. Concentration risk

Euroclear's role as a provider of post trade services to global capital markets means its exposures are highly concentrated on the financial sector. Concentration limits are however set to ensure that the group does not take excessive exposures on a limited number of clients or counterparties. Furthermore limits and thresholds are set per collateral asset type, individual issuers, country (including geographic region), economic sector, type/activity of the issuer, rating, settlement currency, etc.

*Exposure concentration*: European regulation (Article 395 of Regulation (EU) 575/2013) imposes risk concentration limits that have to be respected for each applicable exposure. The Large Exposure Limit is the maximum amount that Euroclear Bank can lend to a single participant's family or group of connected clients. Euroclear Bank should never have an end of day exposure on one single participant's family larger than 25% of its eligible capital, after taking into account the effect of the credit risk mitigation in accordance with Articles 399 to 403 of Regulation (EU) 575/2013. Additionally limits to manage concentration risk arising from exposures to shadow banking entities (defined as under Article 395(2) of Regulation (EU) 575/2013 and that are not excluded undertakings as defined in EBA guidelines (EBA/GL/2015/20) are in place, both at individual family and aggregated level.

*Collateral concentration*: Collateral concentration thresholds and limits, which apply to the aggregate exposure on entity and/or family level, are set in line with Euroclear Bank's risk appetite to ensure Euroclear Bank's ability to liquidate securities pledged as collateral is not impaired. A minimum amount of collateral needs to be ECB-eligible and/or fit the eligibility criteria of committed reverse repo facilities is maintained, to ensure it can be monetised to raise sufficient liquidity when a credit facility of a borrowing participant is above a certain amount or a treasury counterpart defaults on its obligations. To anticipate collateral concentration and to allow actions to be taken, collateral monitoring against determined thresholds and limits is performed ex-ante, intraday and ex-post.

The table below shows the geographical concentration of financial assets and liabilities.

| (€'000) | European Union | Europe - Other | Americas | Asia | Rest of the world | Total |
|---|---|---|---|---|---|---|
| At 31 December 2018 | | | | | | |
| **Total financial assets** | **22,859,990** | **702,538** | **1,607,512** | **1,180,798** | **190,369** | **26,541,207** |
| **Total financial liabilities** | **12,813,259** | **1,432,168** | **2,407,965** | **6,100,557** | **707,257** | **23,461,206** |
| At 31 December 2017 | | | | | | |
| **Total financial assets** | **18,362,289** | **883,722** | **497,746** | **684,097** | **41,298** | **20,469,152** |
| **Total financial liabilities** | **8,268,258** | **1,025,399** | **2,494,611** | **5,179,225** | **538,011** | **17,505,504** |

The geographical regions are those in which Euroclear's clients or counterparties are located. Cash is classified under the country of the issuing central bank.

### IV.3.2. Liquidity risk

Liquidity risk is the risk that Euroclear, although solvent, is unable to meet its contractual or contingent obligations or that it does not have the appropriate amount, tenor and composition of funding and liquidity to support its assets.

#### IV.3.2.a. Liquidity risk at Euroclear Bank

Euroclear Bank provides liquidity to offer efficient settlement and custody services. It ensures timely cross-border settlement with domestic markets, supports new issues and custody activities, and enables clients to transfer sales and income proceeds in a timely manner. Euroclear Bank's liquidity risk is largely intraday and transactional.

Euroclear Bank's overnight settlement process, enabling clients to settle transactions in a wide range of currencies within a single timeframe, efficiently recycles and minimises liquidity needs, as clients only have to fund the resulting net debit position.

Euroclear Bank may end up with residual cash positions at the end of the day. On a daily basis, Euroclear Bank is typically long cash, which it invests mostly on a very short-term basis to match the volatility of clients' settlement and money transfer activities.

##### IV.3.2.a.1. Liquidity risk appetite

Euroclear Bank's liquidity risk appetite is very low, given the criticality of intraday liquidity for the efficient delivery of its settlement and custody services. Euroclear Bank has, therefore, adopted a strong risk management framework to anticipate, monitor and manage the intraday liquidity flows to ensure the quality of its services. Liquidity risk is further mitigated by Euroclear Bank's strict client admission policy and the continuous monitoring of its clients, and by the fact that credit is secured and short-term.

##### IV.3.2.a.2. Funding

Euroclear Bank's settlement system allows for an efficient recycling of liquidity. Although Euroclear Bank settles transactions amounting to over €2,000 billion each day (2018 average), it only extends less than 4% of the settled transactions in secured intraday credit to its clients (thanks to netted back-to-back transactions and to an efficient securities lending and borrowing programme). Since Euroclear Bank's daily payment receipts typically match its payment obligations, additional liquidity is only needed to smoothen or accelerate the payment process and to ensure the timely execution of time critical payments throughout the day.

To support its daily payment activity, Euroclear Bank relies on a large network of highly rated cash correspondents and has a reserve account with Central Bank of Belgium and has a direct access to TARGET2 system for euro payments. In order to raise liquidity, Euroclear Bank can also use its investment book, funded by equity and retained earnings. The investment book must be invested with the objective of capital and liquidity preservation, meaning in euro-denominated sovereign, supranational or agency debt instruments

rated AA- or above and ESCB-eligible. Euroclear Bank can also raise liquidity through securities in which had been invested the debt issued during the year as part of the funding strategy[3]. Furthermore, Euroclear Bank has a broad access to the inter-bank market and has contingency liquidity sources in place for the major currencies.

Euroclear Bank issued end June 2018 under a Belgian law registered note format, various intra-group recovery capital instruments for €600 million in total on top of the €200 million contingent loan arranged in 2016 which was simultaneously converted into a registered note format and aimed at structuring a relevant loss absorption mechanism to restore capital position of the Bank in recovery and resolution scenarios in accordance with the Banking Recovery and Resolution Directive applicable to the company.

These instruments were fully subscribed by Euroclear Investments SA after its debt issuance transactions realised in 2018 for €700 million in total.

The recovery capital instruments issued by Euroclear Bank were fully subscribed by Euroclear Investments SA after its debt issuance transactions realised in 2018 for €700 million in total. Indeed, Euroclear Investments SA issued in April 2018, a €300 million of unsecured and unsubordinated 12-year fixed rate senior note and a €400 million subordinated resettable 30-years fixed rate hybrid note callable at the option of the issuer after 10 years. These notes are listed on the Irish Stock Exchange.

In addition to this, €200 million out of the total amount issued by the Bank, were recognised in 2018 as category 2 regulatory capital by the National Bank of Belgium.

Besides the above Long Term notes issuances, Euroclear Bank launched a €5 billion Euro Medium Term Note (EMTN) and a €3 billion Certificate of Deposits multi-currency programs to increase its Qualifying Liquidity Sources under the European Central Securities Depositary Regulation. Out of its EMTN program, Euroclear Bank issued a total amount equivalent to €2.5 billion in EUR and GBP by the end of 2018. The Certificate of Deposits program was launched during the last quarter of 2018 and the Bank issued a total amount equivalent to about €500 million in USD and GBP.

The adequacy of Euroclear Bank's liquidity capacity is assessed daily and approved monthly by the Credit and Assets and Liabilities Committee (CALCO). It also monitors, on a monthly basis, the trend of liquidity risks that Euroclear Bank faces through liquidity risk indicators.

#### IV.3.2.a.3. Liquidity stress testing

Euroclear Bank regularly performs idiosyncratic and market-wide liquidity stress tests to assess potential liquidity strains and to ensure adequate access to sufficient liquidity sources to fund any shortfalls. For the group CSDs and Euroclear SA/NV, liquidity stress testing is also performed to ensure, where applicable, compliance with local regulatory liquidity obligations as well as adequate funding.

Examples of liquidity stress tests are:
- default of the top two clients (at family level) and the knock on effects;
- operational issue affecting a cash correspondent;
- operational issue affecting a participant;
- default of another market infrastructure; and
- unusual behaviour of participant's deposits.

In addition, Euroclear Bank has to comply with regulatory liquidity stress tests such as the Liquidity Coverage Ratio (LCR), the Net Stable Funding Ratio (NSFR) and the "Cover 1" and "Cover 2" (see definition below).

The aim of the LCR is that credit institutions hold sufficient liquid assets to withstand the excess of liquidity outflows over inflows that are expected to accumulate over a 30-day stressed period.

The NSFR is defined as the amount of available stable funding (Liabilities) relative to the amount of required stable funding (Assets). For these 2 ratios, Euroclear complies with these requirements and has set higher targets as part of its risk appetite framework.

On a daily basis, Euroclear Bank runs two intraday liquidity stress tests to assess if it has sufficient liquidity resources to withstand the default, at group level, of one participant (Cover 1 as per CPMI-IOSCO) and of 2 participants (Cover 2 as per CSDR) to which Euroclear bank has the largest liquidity exposure.

For the group CSDs and Euroclear SA/NV, liquidity stress testing is also performed to ensure, where applicable, compliance with local regulatory liquidity obligations as well as adequate funding.

#### IV.3.2.a.4. Liquidity contingency plan

Euroclear Bank maintains an appropriate liquidity contingency plan to ensure the business continuity of its core settlement and custody services. The plan documents the relevant operational procedures and ensures access to (contingency) liquidity in the event of an operational or financial crisis. On top of its own capital and access to regular market funding, Euroclear Bank has negotiated committed liquidity lines and can call upon a total of €1.85 billion syndicated back-stop facility, a total of €1.35 billion bilateral standby facility and approximatively €17 billion committed forex swap facilities. The contingency plan and the availability of contingency liquidity are regularly tested, including stress testing. Finally, to cover its short-term liquidity needs resulting from the default of a client, Euroclear

[3] Details on the debt securities issued and funds borrowed can be found in note XVIII.

Bank has agreements in place allowing Euroclear Bank to appropriate the client pledged collateral (immediate transfer of ownership). In order to generate liquidity, this appropriated collateral is then re-used with liquidity providers or pledged with the NBB, pending full liquidation.

#### IV.3.2.b. Liquidity risks in Euroclear SA/NV, the CSDs and Euroclear Investments SA

Investments of cash belonging to Euroclear SA/NV, Euroclear Investments SA and the CSDs aim at minimising liquidity risk for these entities:

- stable cash positions linked to regulatory liquidity requirements, for entities where such requirements apply, should be invested on a rollover basis; and
- surplus cash investments, which includes the working cash needs of these entities, should always be cash flow driven, which means that the amount and period of the investments should take into account the evolution of working cash needs and capital expenditure.

The types of investments to be used are limited to cash, overnight or term deposits, or High-Quality Liquid Assets (HQLA) - level 1 plain vanilla debt securities issued or guaranteed by (i) a government; (ii) a central bank; (iii) EU 909/2014 a multilateral development bank as listed under Article 117 of Regulation (EU) No 575/2013 of the European Parliament and of the Council; (iv) the European Financial Stability Facility or the European Stability Mechanism in accordance with the provisions of the applicable regulatory framework of each entity.

Treasury investments cannot exceed three years for cash, overnight or term deposits. Maturity limits for securities are set at three years when representing investments of the regulatory own funds of Euroclear SA and group (I)CSDs or, where applicable, up to eight years when representing investment of their respective additional recovery capital so to mitigate properly market risks.

For Euroclear Investments SA, available surplus cash can also be invested in plain vanilla corporate fixed income securities with maturities up to five years and not exceeding three years on average following strict and conservative investment policy principles in line with the group risk and credit rating profiles.

The table below shows the consolidated financial liabilities analysed by remaining contractual maturity at the balance sheet date. The amounts disclosed in the table are the contractual undiscounted cash flows at spot rate and the book value of the derivatives.

| (€'000) | Notes | Repayable on demand or within one week | Other amounts maturing within 3 months | Maturity between 3 and 6 months | Maturity between 6 months and 1 year | Maturity within 1 to 5 years | Maturity after 5 years | Undiscounted contractual cash flows - Total | Book value |
|---|---|---|---|---|---|---|---|---|---|
| At 31 December 2018 | | | | | | | | | |
| **Financial liabilities** | | | | | | | | | |
| - Deposits from central banks | | 531,770 | 7,828 | - | - | - | - | **539,598** | **539,598** |
| - Deposits from banks and customers | | 17,834,616 | 99,224 | 10,490 | - | - | - | **17,944,330** | **17,944,330** |
| - Debt securities issued and funds borrowed | XVIII | 354,035 | 790,660 | 15,000 | 370,835 | 2,234,048 | 1,784,458 | **5,549,036** | **4,956,396** |
| - Financial liabilities held for trading | XIV | 19,099 | 1,217 | - | - | - | - | **20,316** | **20,316** |
| - Derivatives used for hedging | XV | - | 141 | 141 | 284 | - | - | **566** | **566** |
| **Total financial liabilities** | | **18,739,520** | **899,070** | **25,631** | **371,119** | **2,234,048** | **1,784,458** | **24,053,846** | **23,461,206** |

| (€'000) | Notes | Repayable on demand or within one week | Other amounts maturing within 3 months | Maturity between 3 and 6 months | Maturity between 6 months and 1 year | Maturity between 1 and 5 years | Maturity after 5 years | Undiscounted contractual cash flows - Total | Book value |
|---|---|---|---|---|---|---|---|---|---|
| At 31 December 2017 | | | | | | | | | |
| **Financial liabilities** | | | | | | | | | |
| - Deposits from central banks | | 900,382 | - | - | - | - | - | **900,382** | **900,382** |
| - Deposits from banks and customers | | 14,840,794 | 108,227 | 10,475 | - | - | - | **14,959,496** | **14,913,351** |
| - Debt securities issued and funds borrowed | XVIII | 729,364 | 296,198 | - | 6,750 | 27,018 | 626,816 | **1,686,146** | **1,667,543** |
| - Financial liabilities held for trading | XIV | 8,463 | 15,365 | - | - | - | - | **23,828** | **23,828** |
| - Derivatives used for hedging | XV | - | 101 | 102 | 197 | - | - | **400** | **400** |
| **Total financial liabilities** | | **16,479,003** | **419,891** | **10,577** | **6,947** | **27,018** | **626,816** | **17,570,252** | **17,505,504** |

The deposits from banks and customers include an amount of 4,497,491,000 €-equivalent at 31 December 2018 (2017: 4,120,345,000 €-equivalent) of deposits blocked following applicable international sanctions measures. Furthermore, as of 31 December 2018, assets in safe custody also include securities for a market value of 9,801,173,000 €-equivalent blocked pursuant to these same sanctions.

### IV.3.2.c. Fair value of financial instruments

The goup measures fair values using the following fair value hierarchy, which reflects the significance of the inputs used in making the measurements:

- **Level 1**: Inputs that are quoted market price in active markets for the same instruments. A market is regarded as active if quoted prices are readily and regularly available (exchange, dealer, broker, pricing service or regulatory agency) and if these prices represent actual and regularly occurring market transactions on an arm's length basis.
- **Level 2**: The fair value of these instruments is determined by using quoted prices included within level 1 that are observable either directly (i.e. as prices) or indirectly (i.e. derived from prices). This category includes instruments valued using: quoted prices in active markets for similar instruments, quoted prices for similar instruments in markets that are less active, or other valuation techniques. The valuation techniques maximise the use of observable market data where it is available. If all significant inputs that are required to fair value an instrument are observable, the instrument is included in level 2.
- **Level 3**: If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3. Specific valuation techniques used to value financial instruments include:
  - quoted market prices or dealer quotes for similar instruments;
  - the present value of the estimated future cash flows based on observable yield curves, for the fair value of interest rate swaps;
  - the forward exchange rates at the balance sheet date, with the resulting value discounted back to present value, for the fair value of forward foreign exchange contracts;
  - other techniques, such as discounted cash flow analysis, used to determine the fair value of remaining financial instruments.

#### IV.3.2.c.1 Financial instruments measured at fair value

The table below show the three-level hierarchy of the financial instruments measured at fair value.

| (€'000) | Notes | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|---|
| At 31 December 2018 | | | | | |
| **Financial assets** | | | | | |
| **Financial assets at FVOCI** | XIII | | | | |
| - Equity instruments | | 281,680 | 439,448 | 14,044 | **735,172** |
| - Debt instruments | | 6,698,733 | - | - | **6,698,733** |
| **Non-trading financial assets mandatorily at FVPL** | | | | | |
| - Debt instruments | | - | - | 10,142 | **10,142** |
| - Loans | | - | - | 2,363 | **2,363** |
| **Financial assets held for trading** | XIV | | | | |
| - Forward foreign exchange | | - | 14,475 | - | **14,475** |
| **Derivatives used for hedging** | XV | - | 3,293 | - | **3,293** |
| **Total financial assets** | | **6,980,413** | **457,216** | **26,549** | **7,464,178** |
| **Financial liabilities** | | | | | |
| **Financial liabilities held for trading** | XIV | - | 20,316 | - | **20,316** |
| **Derivatives used for hedging** | XV | - | 566 | - | **566** |
| **Total financial liabilities** | | **-** | **20,882** | **-** | **20,882** |

Financial instruments classified in level 3 relate to minority long-term participating interests of Euroclear Bank (SWIFT and Monte Titoli), Euroclear SA/NV (Acadiasoft, Liquidshare, Eggsplore and DSB Limited) and Euroclear Information Solutions Limited (Algomi).

| (€'000) | Notes | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|---|
| At 31 December 2017 | | | | | |
| **Financial assets** | | | | | |
| **Available-for-sale financial assets** | XIII | | | | |
| - Equity instruments | | 290,136 | - | 15,702 | **305,838** |
| - Debt instruments | | 5,057,435 | - | - | **5,057,435** |
| **Financial assets at FVPL** | | | | | |
| **Financial assets held for trading** | XIV | | | | |
| - Forward foreign exchange | | - | 8,383 | - | **8,383** |
| - Stock options | | - | 32 | - | **32** |
| **Derivatives used for hedging** | XVI | - | 453 | - | **453** |
| **Total financial assets** | | **5,347,571** | **8,868** | **15,702** | **5,372,141** |
| **Financial liabilities** | | | | | |
| **Financial liabilities held for trading** | XIV | | | | |
| - Forward foreign exchange | | - | 23,828 | - | **23,828** |
| - Stock options | | - | 32 | - | **32** |
| **Derivatives used for hedging** | XV | - | 400 | - | **400** |
| **Total financial liabilities** | | **-** | **24,260** | **-** | **24,260** |

The table below shows the reconciliation of the level 3 fair value measurements.

| (€'000) | Notes | At 31 December 2017 | Adjustment on adoption of IFRS 9 | At 1 January 2018 | (Disposals)/ acquisitions | Fair value adjustment released in profit or loss | Fair value adjustment recognised in equity | Accrued interest | At 31 December 2018 |
|---|---|---|---|---|---|---|---|---|---|
| **Financial assets** | | | | | | | | | |
| **Financial assets at FVOCI** | XIII | | | | | | | | |
| - Equity instruments | | 15,702 | (7,786) | 7,916 | 9,453 | - | (3,325) | - | **14,044** |
| **Non-trading financial assets mandatorily at FVPL** | | | | | | | | | |
| - Debt instruments | | - | 7,786 | 7,786 | (225) | 2,581 | - | - | **10,142** |
| - Loans | | - | - | - | 2,348 | - | - | 15 | **2,363** |
| **Total financial assets** | | **15,702** | **-** | **15,702** | **11,576** | **2,581** | **(3,325)** | **15** | **26,549** |
| **Total financial liabilities** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |

| (€'000) | Notes | At 31 December 2016 | Transfer in/(out) of level 3 | | (Disposals)/ acquisitions | Fair value adjustment released in profit or loss | Fair value adjustment recognised in equity | Accrued interest | At 31 December 2017 |
|---|---|---|---|---|---|---|---|---|---|
| **Financial assets** | | | | | | | | | |
| **Available-for-sale financial assets** | XIII | | | | | | | | |
| - Equity instruments | | 14,568 | - | - | 1,700 | - | (566) | - | **15,702** |
| **Total financial assets** | | **14,568** | **-** | | **1,700** | **-** | **(566)** | **-** | **15,702** |
| **Total financial liabilities** | | **-** | **-** | | **-** | **-** | **-** | **-** | **-** |

### IV.3.2.c.2 Financial instruments not measured at fair value

The table below show the three-level hierarchy of the financial instruments not measured at fair value.

| (€'000) | Notes | Level 1 | Level 2 | Level 3 | Total | Carrying amount |
|---|---|---|---|---|---|---|
| At 31 December 2018 | | | | | | |
| **Financial assets** | | | | | | |
| - Cash and balances with central banks | | - | 4,536,101 | - | 4,536,101 | 4,536,101 |
| - Loans and advances at amortised cost | | - | 14,540,928 | - | 14,540,928 | 14,540,928 |
| **Total financial assets** | | **-** | **19,077,029** | **-** | **19,077,029** | **19,077,029** |
| **Financial liabilities** | | | | | | |
| - Deposits from central banks | | - | 539,598 | - | **539,598** | 539,598 |
| - Deposits from banks and customers | | - | 17,944,330 | - | **17,944,330** | 17,944,330 |
| - Debt securities issued and funds borrowed | XVIII | 4,299,707 | 647,249 | - | **4,946,956** | 4,956,396 |
| **Total financial liabilities** | | **4,299,707** | **19,131,177** | **-** | **23,430,884** | **23,440,324** |

| (€'000) | Notes | Level 1 | Level 2 | Level 3 | Total | Carrying amount |
|---|---|---|---|---|---|---|
| At 31 December 2017 | | | | | | |
| **Financial assets** | | | | | | |
| - Cash and balances with central banks | | - | 3,582,756 | - | 3,582,756 | 3,582,756 |
| - Loans and advancesat amortised cost | | - | 11,493,338 | - | 11,493,338 | 11,493,338 |
| **Total financial assets** | | **-** | **15,076,094** | **-** | **15,076,094** | **15,076,094** |
| **Financial liabilities** | | | | | | |
| - Deposits from central banks | | - | 900,382 | - | 900,382 | 900,382 |
| - Deposits from banks and customers | | - | 14,913,337 | - | 14,913,337 | 14,913,337 |
| - Debt securities issued and funds borrowed | XVIII | - | 1,680,502 | - | 1,680,502 | 1,667,543 |
| **Total financial liabilities** | | **-** | **17,494,221** | **-** | **17,494,221** | **17,481,262** |

Loans and advances at amortised cost and deposits are short-term (less than 12 months), hence their carrying amount is a reasonable approximation of their fair value.

### IV.3.3. Market risk

Market risk is the risk of losses in (on or off balance sheet) positions arising from adverse movements in market prices. Market risk arises from possible changes in foreign exchange rates, interest rates, equity or commodity prices.

#### IV.3.3.a. Market risk at Euroclear Bank

The majority of market risk in the group is concentrated at Euroclear Bank. As part of the Financial Risk Policy Handbook, an adequate risk framework has been put in place to measure, monitor and control the interest rate and foreign exchange risk supported by Euroclear Bank.

**Market risk appetite**: Market transactions are carried out at the discretion of Euroclear Bank, which accepts market risk only within its low risk appetite. Euroclear Bank adheres to the following principles relating to the management of market risk. By policy, Euroclear Bank's core equity (shareholders' equity plus retained earnings) is invested in debt instruments rated AA- or higher. The duration of these assets is limited to five years and is currently around nine months. Euroclear Bank does not engage in any activity that is not considered as part of its normal business or a consequence of its clients' activity, and as such will not engage in trading (even if, under IFRS, certain transactions in derivatives do not qualify as hedges and are therefore recognised under trading activities). The activities and instruments in which Euroclear Bank can engage must be in line with its low-risk profile. Euroclear Bank is not significantly exposed to equity risk or commodity risk. A prudent investment strategy is applied in order to preserve the core equity of Euroclear Bank. In particular, the assets of the investment book can only be invested in highly rated and liquid debt instruments (with the

exception of intra-company loans) and an appropriate hedging strategy may be applied so as to protect future earnings against adverse market conditions.

**Market risk measurement**: The market risk relative to the management of the FVOCI portfolio is measured using a Value-at-Risk (VaR) methodology. The VaR for a portfolio is the maximum loss over a determined time horizon at a given confidence level (99%). The VaR model assumes a holding period, until positions can be closed, of one day. The market parameters are derived from the volatility and correlation observed from historical daily changes. Euroclear Bank has to comply with a global VaR limit, as well as VaR limits by book. The market risk exposure that Euroclear Bank takes is segregated in the following books: Tier1 capital book (all securities purchased by Euroclear Bank with its capital); long term borrowings and investments (Euroclear Bank's senior non preferred loans, including the contingent convertibles, and the subordinated liabilities as well as the proceeds of their investments); short and medium term investment book (assets, liabilities and commitments resulting from the investments of the certificates of deposits and medium term notes). The FX Var is shown on an aggregated basis. The VaR model is back tested on an annual basis or in case of material changes.

| (€'000) | 2018 average | 2018 min | 2018 max | 2017 average | 2017 min | 2017 max |
|---|---|---|---|---|---|---|
| Tier 1 Capital - IR | 144 | 3 | 495 | 388 | 156 | 873 |
| Long term borrowings and investments - IR | 1,189 | 606 | 4,627 | 1,145 | 777 | 1,748 |
| Short and medium term investments (SMI) - IR | 318 | 65 | 568 | - | - | - |
| Aggregate - FX | 47 | 1 | 1,820 | 23 | 1 | 309 |

The above view on Euroclear Bank's VaR has been updated in 2018 vis-à-vis 2017 in order to more appropriately reflect the interest rate risk originating from any mismatch between the assets and liabilities in the portfolios. In addition, the VaR of the new SMI portfolio has been integrated in the view.

The Interest VaR is currently under review and a new model should be implemented in the course of 2019.

**Market risk mitigation (hedging)**: Euroclear Bank has engaged in a series of market derivatives in order to hedge the forex risk exposure resulting from future income streams, with the aim of ensuring that the financial results are not adversely affected by market evolutions ('predictability of future revenues'). Such transactions are classified as cash flow hedges.

The Foreign Exchange Manageable Amount owned by Finance Division forecasts the future income by currency, based on the plan figures. The outcome of this exercise is used by Treasury Department to carry out the Foreign Exchange hedging activity.

#### IV.3.3.b. Market risk at Euroclear SA/NV, the Euroclear CSDs and Euroclear Investments SA

Interest rate risk exists only to a limited extent in the CSDs, in Euroclear SA/NV and in Euroclear Investments SA. Indeed, the CSDs do not operate commercial cash accounts but invest their cash positions in accordance with regulatory liquidity requirements. The cash positions are reinvested in four ways:

- Straight overnight or Term Deposits with a maturity of maximum 3 years;
- Regulatory cash is invested in a Common Investment Fund (CIF) and mandates with a maturity of maximum 3 years;
- Excess of cash is invested in a CIF with a maturity of maximum 5 years;
- A loan for recovery purposes (in line with the Minimum Requirement Eligible liabilities - MREL) from Euroclear Investments SA is invested in a CIF with a maturity of maximum 9 years.

Foreign exchange risk is also very limited in the CSDs, in Euroclear SA/NV and Euroclear Investments SA. To avoid the potential foreign exchange risk that could arise from the investment of their surplus cash, these investments can only be made in their local currency, meaning in EUR for entities whose functional currency is EUR, in GBP for the entities located in the United Kingdom, and in SEK for the Swedish entity. The most significant source of foreign exchange risk stems from the potential change in net asset values of Euroclear SA/NV's non-euro shareholdings (for example, Euroclear UK & Ireland and Euroclear Sweden).

Starting in April 2018, Euroclear launched its Euroclear Treasury Funds and Treasury Investment mandates in France and UK to manage regulatory and excess treasury positions of the group (excluding Euroclear Bank). It aimed at better mitigating risks (credit, market and liquid) arising from treasury investments in EUR and GBP for CSDs, Euroclear SA/NV and Euroclear Investments SA, including capital erosion risks generated currently by the current EUR short term interest rate environment.

The Euroclear Treasury Fund and Mandate structures rely on two common investment funds domiciled in Belgium and Luxembourg and two Investment mandates in France and UK where assets under management are totalling approximatively €640 million as of end 2018 for Euroclear SA/NV, the CSDs and Euroclear Investments SA.

Such structures enable eligible Euroclear entities to invest their regulatory cash and to some extent their surplus cash positions under strict rules such as to invest into EUR and GBP government or supra national ECB eligible securities with rating, maturities, duration, relevant VaR and concentration limitations.

For Euroclear Investments SA in particular, market risks on treasury investments into the CIFs are further mitigated by allowing the usage of listed EUR Fixed income futures to limit the duration of the related treasury portfolios.

They also enable group subsidiaries to invest their respective excess cash positions to allow for optimised treasury returns and risk mitigation on cash in excess of regulatory obligations. Applicable investment rules also include i.a.: rating, maturity, average duration, VaR (and concentration limitations).

#### IV.3.3.c. Interest rate risk

Euroclear Bank typically has net long cash positions and its earnings therefore are sensitive to future changes in interest rates. The table below shows the interest rate sensitivity of the Banking Book[4] positions at the level of Euroclear Holding. Assets and liabilities held in the Banking Book are predominantly denominated in euro, and they are expressed at market value for the purpose of this disclosure. The economic value of the Banking Book is computed by discounting the future cash flows for assets and liabilities present in this book.

The sensitivity of the economic value of the Banking Book to interest rate shocks is presented in the first column of the table below.

| (€'000) | Economic value of banking book | Interest result Effective 2018 | Income sensitivity Interest result Expected 2019 |
|---|---|---|---|
| **increase/(decrease) of interest rate, in basis points** | | | |
| 300 | 2,521,114 | | 582,659 |
| 200 | 2,498,881 | | 455,823 |
| 100 | 2,472,201 | | 328,748 |
| - | 2,440,371 | 255,726 | 201,427 |
| (100) | 2,402,577 | | 140,819 |
| (200) | 2,357,868 | | 85,784 |
| (300) | 2,305,140 | | 44,264 |

| (€'000) | Economic value of banking book | Interest result Effective 2017 | Income sensitivity Interest result Expected 2018 |
|---|---|---|---|
| **increase/(decrease) of interest rate, in basis points** | | | |
| 300 | 2,491,015 | | 450,691 |
| 200 | 2,494,731 | | 333,076 |
| 100 | 2,497,217 | | 213,967 |
| - | 2,498,327 | 153,019 | 93,326 |
| (100) | 2,497,901 | | 42,495 |
| (200) | 2,495,758 | | 6,560 |
| (300) | 2,491,697 | | -6,751 |

[4] Banking book contains assets and liabilities which are not held for trading intentions or for hedging of the instrument within the trading book. This book includes the Bank's on-balance sheet interest bearing assets and liabilities, including off-balance sheet positions with a fixed interest rate and short-term treasury positions out of the trading book.

The tables below reflect the interest rate risk profile of assets and liabilities at 31 December, based on the earlier of maturity date and interest rate resetting date. Amounts are gross, net of any impairment loss.

| (€'000) | Repayable on demand or within one week | Other amounts maturing within 3 months | Maturity between 3 and 6 months | Maturity between 6 months and 1 year | Maturity between 1 and 5 years | Maturity after 5 years | Non-interest bearing | Total |
|---|---|---|---|---|---|---|---|---|
| At 31 December 2018 | | | | | | | | |
| **Assets** | | | | | | | | |
| - Cash and balances with central banks | 4,535,930 | - | - | - | - | - | 171 | 4,536,101 |
| - Loans and advances at amortised cost | 11,304,159 | 1,820,106 | 1,337,339 | 13,602 | 41,679 | - | 24,043 | 14,540,928 |
| - Financial assets at FVOCI | - | 3,472,034 | 904,683 | 146,824 | 1,824,929 | 758,920 | 326,515 | 7,433,905 |
| - Non-trading financial assets mandatorily at FVPL | - | - | - | - | 2,348 | - | 10,157 | 12,505 |
| - Financial assets held for trading | - | - | - | - | - | - | 14,475 | 14,475 |
| - Derivatives used for hedging | - | 823 | 823 | 1,647 | - | - | - | 3,293 |
| - Other assets | - | - | - | - | - | - | 1,604,039 | 1,604,039 |
| **Total assets** | **15,840,089** | **5,292,963** | **2,242,845** | **162,073** | **1,868,956** | **758,920** | **1,979,400** | **28,145,246** |
| **Liabilities** | | | | | | | | |
| - Deposits from central banks | 531,768 | 7,825 | - | - | - | - | 5 | 539,598 |
| - Deposits from banks and customers | 17,834,340 | 98,947 | 10,500 | - | - | - | 543 | 17,944,330 |
| - Debt securities issued and funds borrowed | 353,457 | 790,589 | - | 363,208 | 2,145,328 | 1,289,284 | 14,530 | 4,956,396 |
| - Financial liabilities held for trading | - | - | - | - | - | - | 20,316 | 20,316 |
| - Derivatives used for hedging | - | 141 | 141 | 284 | - | - | - | 566 |
| - Other liabilities | - | - | - | - | - | - | 832,391 | 832,391 |
| **Shareholders' equity** | - | - | - | - | - | - | 3,851,649 | 3,851,649 |
| **Total liabilities and shareholders' equity** | **18,719,565** | **897,502** | **10,641** | **363,492** | **2,145,328** | **1,289,284** | **4,719,434** | **28,145,246** |
| **Total interest sensitivity gap** | (2,879,476) | 4,395,461 | 2,232,204 | (201,420) | (276,372) | (530,364) | (2,740,034) | - |
| **Cumulative gap** | **(2,879,476)** | **1,515,985** | **3,748,189** | **3,546,770** | **3,270,398** | **2,740,034** | **(167)** | **(167)** |

| (€'000) | Repayable on demand or within one week | Other amounts maturing within 3 months | Maturity between 3 and 6 months | Maturity between 6 months and 1 year | Maturity between 1 and 5 years | Maturity after 5 years | Non-interest bearing | Total |
|---|---|---|---|---|---|---|---|---|
| At 31 December 2017 | | | | | | | | |
| **Assets** | | | | | | | | |
| - Cash and balances with central banks | 3,582,497 | - | - | - | - | - | 258 | 3,582,755 |
| - Loans and advances | 9,012,883 | 1,068,321 | 1,360,280 | 11,493 | 43,082 | - | 18,229 | 11,514,288 |
| - Available-for-sale financial assets | - | 3,158,721 | 934,212 | 666,864 | 287,975 | - | 315,501 | 5,363,273 |
| - Financial assets held for trading | 6,555 | 1,828 | - | - | - | - | - | 8,383 |
| - Derivatives used for hedging | - | 111 | 112 | 230 | - | - | - | 453 |
| - Other assets | - | - | - | - | - | - | 1,570,268 | 1,570,268 |
| **Total assets** | **12,601,935** | **4,228,981** | **2,294,604** | **678,587** | **331,057** | **-** | **1,904,256** | **22,039,420** |
| **Liabilities** | | | | | | | | |
| - Deposits from central banks | 900,381 | - | - | - | - | - | 1 | 900,382 |
| - Deposits from banks and customers | 15,568,984 | 404,806 | 10,500 | - | - | 594,895 | 1,709 | 16,580,894 |
| - Financial liabilities held for trading | 8,565 | 15,263 | - | - | - | - | - | 23,828 |
| - Derivatives used for hedging | - | 101 | 102 | 197 | - | - | - | 400 |
| - Other liabilities | - | - | - | - | - | - | 831,524 | 831,524 |
| **Shareholders' equity** | - | - | - | - | - | - | 3,702,392 | 3,702,392 |
| **Total liabilities and shareholders' equity** | **16,477,930** | **420,170** | **10,602** | **197** | **-** | **594,895** | **4,535,626** | **22,039,420** |
| **Total interest sensitivity gap** | (3,875,995) | 3,808,811 | 2,284,002 | 678,390 | 331,057 | (594,895) | (2,631,370) | - |
| **Cumulative gap** | **(3,875,995)** | **(67,184)** | **2,216,818** | **2,895,208** | **3,226,265** | **2,631,370** | **-** | **-** |

**Interest sensitivity gap**

A negative interest rate sensitivity gap exists when more liabilities than assets re-price or mature during a given period. A negative gap position tends to benefit net interest income in a declining interest rate environment and vice versa.

### IV.3.3.d. Foreign exchange risk

The group's entities have the euro as their functional currency, with the exception of subsidiaries and a joint venture located in the United Kingdom or Sweden.

Sensitivity to foreign exchange risk is monitored through a VaR model. Given Euroclear's low market risk appetite as an FMI and the focus on the preservation of its capital, it does not engage in trading activities. As a consequence, tight market risk limits are set and controlled via strict hedging and investment policies and daily monitoring. Hence, on a daily basis, the risk undertaken throughout the business is evaluated versus these limits.

The group's structural currency exposures were as follows:

| (€'000) | Net investments in non-euro operations | Currency hedges other than borrowings | Remaining structural currency exposures |
|---|---|---|---|
| **Functional currency of the operation involved** | | | |
| At 31 December 2018 | | | |
| - US dollar | 8,208 | - | 8,208 |
| - Pound sterling | 128,510 | - | 128,510 |
| - Swedish krona | 61,712 | - | 61,712 |
| At 31 December 2017 | | | |
| - US dollar | 5,402 | - | 5,402 |
| - Pound sterling | 122,099 | - | 122,099 |
| - Swedish krona | 58,270 | - | 58,270 |

The table below summarises the group's exposure to foreign currency exchange rate risk. Included in the table are the group's assets and liabilities at carrying amounts, categorised by currency.

**Concentration of assets and liabilities per currency**

| (€'000) | Euro | US Dollar | Japanese Yen | Pound Sterling | Other | Total |
|---|---|---|---|---|---|---|
| At 31 December 2018 | | | | | | |
| **Total assets** | **14,107,750** | **9,104,302** | **456,217** | **1,831,385** | **2,645,592** | **28,145,246** |
| **Total liabilities and shareholders' equity** | **12,074,036** | **9,986,940** | **1,229,609** | **2,350,536** | **2,504,125** | **28,145,246** |
| **Net balance sheet position** | **2,033,714** | **(882,638)** | **(773,392)** | **(519,151)** | **141,467** | **-** |

The net non-euro balance sheet positions mainly reflect a combination of outstanding currency swaps and the net assets of subsidiaries and branches located in the United Kingdom and Sweden.

**Concentration of assets and liabilities per currency**

| (€'000) | Euro | US Dollar | Singapore Dollar | Pound Sterling | Other | Total |
|---|---|---|---|---|---|---|
| At 31 December 2017 | | | | | | |
| **Total assets** | **11,037,004** | **7,854,929** | **515,337** | **903,622** | **1,728,528** | **22,039,420** |
| **Total liabilities and shareholders' equity** | **9,343,933** | **8,051,487** | **231,846** | **1,496,120** | **2,916,035** | **22,039,420** |
| **Net balance sheet position** | **1,693,071** | **(196,558)** | **283,491** | **(592,498)** | **(1,187,507)** | **(0)** |

## IV.4. Capital management

### IV.4.a. Capital measurement and allocation

The internal view on Euroclear Bank's capital needs is based on economic capital models, which estimate the amount of capital that Euroclear needs to have in order to protect itself from unexpected losses resulting from the risks it faces in its various activities. This

view is complemented by stress scenarios. The capital requirement models cover operational risk, credit risk, and market risk. In addition, Euroclear Bank maintains a model that estimate the uncertainty on the profit and loss over a one year horizon due to movements in market risk and business risk factors. This conservative approach to capital, combined with Euroclear's strong risk management and effective controls, has helped Euroclear Bank retain high credit ratings in times of market stress. Euroclear Bank is assigned a AA+ credit rating by Fitch Ratings and a AA credit rating by Standard & Poor’s (S&P).

The National Bank of Belgium (NBB) is the main supervisor of Euroclear Bank, the lead regulator for Euroclear SA/NV and, for consolidated capital adequacy purposes only, Euroclear Holding SA/NV. In addition, individual Euroclear CSDs are regulated by their own local supervisors, which set and monitor compliance with their capital adequacy and liquidity requirements. All Euroclear CSDs and Euroclear Bank are subject to the capital requirements stipulated under CSDR.

The Capital Requirement Regulation (CRR) requires Euroclear Bank, Euroclear SA consolidated and Euroclear Holding SA/NV consolidated entities, to maintain at all times:
- a ratio of total capital to risk-weighted assets that cannot fall under a threshold of 8%;
- a ratio of Tier 1 capital to risk-weighted assets that must exceed a threshold of 6%;
- a ratio of common equity Tier1 capital (CET1) exceeding 4.5%; and
- a capital conservation buffer of 1.875% in common equity (not applicable to Euroclear Holding SA/NV). The buffer will be set to 2.5% in 2019.

Euroclear Bank and Euroclear SA/NV have, together with seven other banks or banking groups in Belgium, were identified in 2015 by the NBB as domestic systemically important banks (referred to in EU legislation as “other systemically important institutions”, or O-SIIs) under Belgian banking law and CRD IV. Subsequently the NBB applies a common equity Tier 1 capital ratio surcharge of 0.75% to Euroclear Bank standalone and Euroclear SA consolidated, in three tranches of 0.25%.

Euroclear intends to maintain a CET1 ratio and total capital ratio in line with the SREP requirements on a continuous basis, in accordance with the supervisory review of its capital adequacy at statutory and consolidated levels.

Euroclear determines risk-weighted assets for credit, operational and market risks.

For credit risk, Euroclear uses the Foundation Internal Ratings Based Approach (FIRBA). Risk-weighted assets take into consideration balance sheet assets and off-balance-sheet exposures that may give rise to credit risk, as calculated for both Euroclear Bank and the group on a consolidated basis. Collateral and other eligible guarantees are taken into account appropriately.

With respect to operational risk, Euroclear uses the Advanced Measurement Approach (AMA) for the calculation of Pillar 1 capital requirements. Euroclear uses a hybrid approach at all consolidated levels above Euroclear Bank, by combining the AMA for Euroclear Bank with a Standardised or Basic Indicator Approach for the other group’s entities.

As Euroclear Bank is a limited purpose bank and does not have a trading book, the market risk that Euroclear Bank incurs is very limited. For market risk, Euroclear uses the Standardised Approach to cover the Foreign Exchange risk.

In addition to the capital ratios, Euroclear complies with the leverage ratio. Current requirement is 3%. Euroclear’s current levels of the leverage ratio are already well above this regulatory requirement and are disclosed in the Pillar 3 publication.

The table below sets out the Euroclear Holding group's Tier 1 and total capital, which both comfortably exceed the regulatory requirements. As reported in the table, none of the debt securities issued by Euroclear Investments SA have been recognised as regulatory capital in the computation of the group consolidated capital ratios.

### IV.4.b. Regulatory capital position

| (€'000) | 2018 | 2017 |
|---|---|---|
| **Risk-weighted assets** [1] | **7,368,131** | **6,792,627** |
| **Capital requirement** | **589,451** | **543,411** |
| - Credit risk | 209,745 | 178,358 |
| - Market risk | 28,699 | 28,198 |
| - Operational risk | 351,007 | 336,855 |
| **Capital base** [2] | **2,800,984** | **2,479,937** |
| - Tier 1 | 2,800,984 | 2,479,937 |
| - Tier 2 | - | - |
| **Solvency ratio** | | |
| - Tier 1 | 38.0% | 36.5% |
| - Total | 38.0% | 36.5% |

[1] Risk-weighted assets represent the total capital requirement multiplied by a factor of 12.5. This means that the risk-weighted assets do not only relate to credit and market risk, but also comprise the gross-up of the capital requirements related to operational risks. For Euroclear, the latter are the main source of capital consumption.
[2] Capital base is highly comparable to the shareholders' equity presented in the Statement of financial positions. Differences are due to deductions required by CRD IV regulation, mainly goodwill and intangible assets, current year proposed dividend, limits on investments in financial sector entities, cash-flow hedging reserve, prudent valuation and provision shortfall for expected losses.

## V. Segment analysis

The Euroclear SA/NV Management Committee receives internal reports for Euroclear Bank, Euroclear SA/NV, Euroclear UK & Ireland, the ESES CSDs as well as Euroclear Sweden and Euroclear Finland (the Nordics).

The reportable business segments are as follows:
- Euroclear Bank (including its Hong Kong branch, its Polish branch and its Japanese branch operational since December 2017) is an International Central Securities Depository (ICSD);
- Euroclear SA (including its branches in Amsterdam, London and Paris) is the provider of software development and non-operational support services to the (I)CSDs;
- Euroclear UK & Ireland is the Central Securities Depository (CSD) subsidiary located in the United Kingdom. This entity also runs an investment fund order routing business;
- the ESES segment includes the group's CSDs located in Belgium, France and the Netherlands; and
- the Nordics segment includes two companies: Euroclear Sweden (CSD in Sweden) and Euroclear Finland (CSD in Finland).

Information reported within 'Other' relates to Euroclear Investments SA, a reinsurance company, Euroclear Market Solutions Limited and two property companies whose buildings are leased almost entirely to Euroclear Investments SA. None of these qualified as a reportable segment in 2018 or 2017.

The risks and returns associated with Euroclear Bank's ICSD services do not vary geographically and, accordingly, is considered as one geographical segment. The activities of all other segments are within Europe.

No single client generated 10% or more of the group's revenues.

Transactions between the companies are on normal commercial terms and conditions. Recharges of software development costs and support services are based on formal agreements between the entities concerned.

Segment assets and liabilities comprise all third-party assets and liabilities.

| (€'000) | Notes | 2018 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Euroclear $Bank | Euroclear SA/NV | Euroclear UK & Ireland | ESES CSDs | Nordics | Other | Eliminations | Group |
| Net interest income | VI | 260,536 | (2,637) | 751 | 166 | (343) | (2,714) | - | 255,759 |
| Net fee and commission income | VII | 648,446 | (43) | 111,944 | 172,498 | 95,421 | 166 | (28) | 1,028,404 |
| Intra-group recharges | | 1,293 | 530,500 | 141 | 142 | 159 | 78 | (531,461) | 852 |
| Other income | | 34,881 | 157,741 | (97) | (161) | 490 | 148,114 | (289,899) | 51,069 |
| Operating income | | 945,156 | 685,561 | 112,739 | 172,645 | 95,727 | 145,644 | (821,388) | 1,336,084 |
| Staff costs | IX | (125,132) | (256,087) | (11,645) | (18,843) | (21,367) | (322) | - | (433,396) |
| Other direct costs | IX | (31,178) | (248,137) | (16,394) | (6,392) | (30,136) | (5,979) | 11,962 | (326,254) |
| Depreciation and amortisation | XVI, XVII | (1,364) | (36,559) | (70) | (13) | (6,875) | (3,210) | - | (48,091) |
| Royalty fees | | (4,778) | - | (425) | (618) | (317) | - | 6,138 | - |
| Group non-operational and Administrative support services | | (356,982) | (1,052) | (62,899) | (89,860) | (17,636) | (3,032) | 531,461 | - |
| Share of result in joint venture | | - | (6,822) | - | - | - | - | - | (6,822) |
| Operating profit/(loss) before impairment and taxation | | 425,722 | 136,904 | 21,306 | 56,919 | 19,396 | 133,101 | (271,827) | 521,521 |
| Impairment | X | 448 | (1,233) | (261) | (273) | (28,021) | 119 | - | (29,221) |
| Operating profit/(loss) before taxation | | 426,170 | 135,671 | 21,045 | 56,646 | (8,625) | 133,220 | (271,827) | 492,300 |
| Taxation | XI | (127,426) | (2,849) | (3,845) | (18,957) | 1,443 | (502) | - | (152,136) |
| **Profit/(loss) for the year** | | **298,744** | **132,822** | **17,200** | **37,689** | **(7,182)** | **132,718** | **(271,827)** | **340,164** |
| External revenues | | 1,508,621 | 15,913 | 123,764 | 178,287 | 93,333 | 1,392 | - | 1,921,310 |
| Revenues from other segments | | 16,793 | 672,736 | 1,085 | 26,135 | 4,729 | 164,063 | (885,541) | - |
| **Total revenues** | | **1,525,414** | **688,649** | **124,849** | **204,422** | **98,062** | **165,455** | **(885,541)** | **1,921,310** |
| Segment assets | | 25,427,086 | 1,582,423 | 135,957 | 278,014 | 384,278 | 337,609 | - | 28,145,367 |
| Of which: Non current assets | | 2,041,663 | 209,229 | 61,548 | 104,854 | - | 210,583 | - | 2,627,877 |
| Segment liabilities | | 22,668,221 | 233,277 | 9,178 | 34,293 | 41,684 | 1,307,065 | - | 24,293,718 |

| (€'000) | Notes | Euroclear Bank | Euroclear SA/NV | Euroclear UK & Ireland | ESES CSDs | Nordics | Other | Eliminations | Group |
|---|---|---|---|---|---|---|---|---|---|
| | | 2017 | | | | | | | |
| Net interest income | VI | 153,655 | (1,256) | 136 | (104) | (399) | 1,118 | - | 153,150 |
| Net fee and commission income | VII | 618,082 | (12) | 121,913 | 168,667 | 97,154 | 29 | (28) | 1,005,805 |
| Intra-group recharges | | 1,877 | 542,144 | 51 | 240 | 196 | 1,101 | (544,397) | 1,212 |
| Other income | | 82,533 | 100,536 | 173 | 10,021 | (272) | 10,318 | (139,319) | 63,990 |
| Operating income | | 856,147 | 641,412 | 122,273 | 178,824 | 96,679 | 12,566 | (683,744) | 1,224,157 |
| Staff costs | IX | (125,736) | (251,237) | (9,196) | (20,023) | (19,855) | (267) | - | (426,314) |
| Other direct costs | IX | (32,410) | (264,471) | (9,119) | (4,685) | (32,880) | (5,272) | 11,517 | (337,320) |
| Depreciation and amortisation | XVI, XVII | (1,154) | (30,883) | (41) | (728) | (2,436) | (2,429) | - | (37,671) |
| Royalty fees | | (3,537) | - | (484) | (579) | (339) | - | 4,932 | (7) |
| Group non-operational and Administrative support services | | (354,375) | (1,739) | (67,081) | (100,246) | (19,561) | (1,528) | 544,397 | (133) |
| Share of result in joint venture | | - | (17,977) | - | - | - | - | - | (17,977) |
| Operating profit/(loss) before impairment and taxation | | 338,935 | 75,105 | 36,352 | 52,563 | 21,608 | 3,070 | (122,898) | 404,735 |
| Impairment | X | (288) | (109) | (331) | 55 | (756) | (7) | - | (1,436) |
| Operating profit/(loss) before taxation | | 338,647 | 74,996 | 36,021 | 52,618 | 20,852 | 3,063 | (122,898) | 403,299 |
| Taxation | XI | (103,204) | (32,902) | (6,763) | (15,494) | (4,455) | 44 | - | (162,774) |
| **Profit/(loss) for the year** | | **235,443** | **42,094** | **29,258** | **37,124** | **16,397** | **3,107** | **(122,898)** | **240,525** |
| External revenues | | 1,354,111 | 13,334 | 131,885 | 174,018 | 94,091 | 1,056 | - | 1,768,495 |
| Revenues from other segments | | 47,764 | 629,941 | 957 | 35,787 | 4,602 | 20,264 | (739,315) | - |
| **Total revenues** | | **1,401,875** | **643,275** | **132,842** | **209,805** | **98,693** | **21,320** | **(739,315)** | **1,768,495** |
| Segment assets | | 19,418,932 | 1,456,908 | 131,564 | 254,237 | 370,660 | 407,120 | - | 22,039,420 |
| Of which: Non current assets | | 303,123 | 894,038 | 154 | 30,218 | 267,130 | 82,989 | - | 1,577,652 |
| Segment liabilities | | 17,399,862 | 226,155 | 9,620 | 52,456 | 48,717 | 600,218 | - | 18,337,028 |

The €271,827,000 remaining in the Eliminations column relates to dividends received from companies within the group (2017: €122,898,000).

# VI. Net interest income

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Interest income on financial instruments** | | | |
| - Cash and balances with central banks | | 4,356 | 2,951 |
| - Loans and advances at amortised cost | | 335,446 | 218,366 |
| - Available-for-sale financial assets | | - | 2,002 |
| - Debt instruments measured at FVOCI | | 13,264 | - |
| **Interest income on defined benefit plans** | XX | 9 | 9 |
| **Total interest income** | | **353,075** | **223,328** |
| **Interest expense on financial instruments** | | | |
| - Deposits from central banks | | (10,691) | (6,487) |
| - Deposits from banks and customers | | (16,523) | (13,158) |
| - Debt securities issued and funds borrowed | | (43,765) | (23,375) |
| - Available-for-sale financial assets | | - | (25,018) |
| - Financial assets at FVOCI | | (24,067) | - |
| **Interest expense on defined benefit plans** | XX | (2,270) | (2,140) |
| **Total interest expense** | | **(97,316)** | **(70,178)** |
| **Net interest income** | | **255,759** | **153,150** |

# VII. Net fee and commission income

| (€'000) | 2018 | 2017 |
|---|---|---|
| **Fee and commission income** | | |
| Clearing and settlement | 466,529 | 451,420 |
| Safekeeping | 715,278 | 683,045 |
| Other | 347,109 | 347,672 |
| **Total fee and commission income** | **1,528,916** | **1,482,137** |
| **Fee and commission expense** | | |
| Clearing and settlement | (102,849) | (101,563) |
| Safekeeping | (217,627) | (206,166) |
| Other | (180,036) | (168,603) |
| **Total fee and commission expense** | **(500,512)** | **(476,332)** |
| **Net fee and commission income** | **1,028,404** | **1,005,805** |

## VIII. Net gains/(losses) on financial assets and liabilities held for trading

| (€'000) | 2018 | 2017 |
|---|---|---|
| Equity instruments and related derivatives | | |
| Foreign exchange derivatives | 29,041 | 40,313 |
| **Total** | **29,041** | **40,313** |

Treasury swaps are derivatives that are not designated as hedging instruments. The net gains on foreign exchange trading mainly relate to treasury swaps initiated by Euroclear Bank in order to convert balances in non-core currencies into euro or US dollars for re-investment purposes. Under IFRS, these results may not be included within net interest income.

## IX. Administrative expenses

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| Staff costs | | | |
| - Wages and salaries | | 310,535 | 302,351 |
| - Social security costs | | 64,646 | 69,964 |
| - Defined benefit plans | XX | 25,598 | 24,334 |
| - Defined contribution plans | | 6,421 | 6,012 |
| - Other staff costs | | 26,194 | 23,653 |
| Royalty fees | XXVI | - | 7 |
| Auditors' remuneration | | 3,391 | 2,110 |
| Consultants fees | | 196,389 | 205,747 |
| Occupancy | | 37,335 | 40,813 |
| Maintenance and repairs | | 46,786 | 48,834 |
| Travel and training | | 15,498 | 16,885 |
| Communications | | 7,936 | 8,072 |
| Other rent and non capitalised expenses | | 11,802 | 12,402 |
| Other taxes | | 16,568 | 9,324 |
| Depreciation and amortisation | XVI, XVII | 48,091 | 37,671 |
| Other administrative expenses | | 24,126 | 26,191 |
| Provisions for liabilities and charges | XIX | (1,070) | (7,152) |
| Capitalised expenses | | (32,505) | (25,773) |
| **Total** | | **807,741** | **801,445** |

The average number of persons employed by the group during the year was 3,981 (2017: 3,922).

The auditors' remuneration for Euroclear Investments SA and its subsidiary undertakings was as follows:

| (€'000) | 2018 | 2017 |
|---|---|---|
| Fees payable to the Company's auditor and its associates for the audit of the parent company and consolidated financial statements | 48 | 19 |
| - The audit of the Company's subsidiaries, pursuant to legislation | 1,234 | 1,232 |
| - Other attest and assurance services | 1,003 | 772 |
| - Other non-audit services | 1,106 | 87 |
| Fees included in the consolidated financial statements | 3,391 | 2,110 |
| Fees in respect of the audit of investments accounted for using the equity method | 55 | 46 |
| **Total** | **3,446** | **2,156** |

The fees for the audit of the company's subsidiaries include a remuneration of €29,000 (2017: €0) to Revico Grant Thornton Oy, external auditors of Euroclear Finland.

Euroclear ensures that the independence of the external auditor is preserved through a specific policy adopted by the Board and agreed by the auditor. This policy adheres to the highest standards of independence. The engagement of the external auditor for non-core services is subject to specific controls, monitored by the Board's Audit Committee.

## X. Impairment

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Impairment charges** | | | |
| Property, plant and equipment | XVI | - | 94 |
| Goodwill and intangible assets | XVII | 27,563 | 607 |
| Financial assets | | (532) | - |
| Other assets | | 2,190 | 735 |
| **Total** | | **29,221** | **1,436** |

| (€'000) | | 2018 | 2017 |
|---|---|---|---|
| **Other assets impaired** | | | |
| At 1 January | | 2,662 | 2,066 |
| Adjustment on adoption of IFRS 9 | II | (1,604) | - |
| Charge to the income statement | | 2,190 | 735 |
| Amounts used | | (1,445) | (101) |
| Exchange differences | | (22) | (38) |
| **At 31 December** | | **1,781** | **2,662** |

The decision was taken in 2018 to impair part of the infrastructure rebuild project in Finland (€24,100,000) and the remaining portion of the infrastructure rebuild project in Sweden (see note XVII).

Other assets are principally made up of amounts invoiced to and receivable from third party clients, Euroclear Bank's coupons and redemption proceeds, advances paid to suppliers, recoverable VAT and guarantee deposits. For other assets, impairment mainly relates to the lifetime expected credit loss computed on fees receivable from clients in several group's (I)CSD subsidiaries.

The movements of expected credit losses on financial assets during the year are as follows:

| (€'000) | Cash and balances with central banks | Loans and advances at amortised cost | Financial assets at FVOCI - debt securities | Loan commitments & financial guarantees | Total |
|---|---|---|---|---|---|
| At 1 January 2018 | 2 | 899 | 129 | 28 | 1,058 |
| Fin.instruments originated/acquired during the period | 1 | 202 | 251 | 6 | 460 |
| Fin.instruments derecognised during the period | (2) | (836) | (101) | (28) | (967) |
| Change in methodology | - | - | - | - | - |
| Change due to change in credit risk | - | (24) | (23) | - | (47) |
| **At 31 December 2018** | **1** | **241** | **255** | **6** | **503** |

For details on the expected credit loss (ECL) per internal rating, please refer to note IV.

The rates used by the group entities to determine the expected credit losses on debtors are as follows:

| | Expected loss rate 2018 |
|---|---|
| Current | 0.01% |
| Less than 30 days | 0.50% |
| 30 to 60 days | 1.00% |
| 60 to 90 days | 5.00% |
| 90 to 360 days | 15%-30% |
| Over 360 days | 20%-90% |

## XI.Taxation

| (€'000) | 2018 | 2017 |
|---|---|---|
| Current income tax expense | 164,403 | 132,990 |
| Adjustments to tax charge in respect of previous years | (255) | (4,471) |
| | **164,148** | **128,519** |
| Deferred tax charge/(income) relating to the origination and reversal of temporary differences | (12,738) | 6,982 |
| Deferred tax charge/(income) resulting from change in tax rate | 726 | 27,273 |
| **Tax expense for the year** | **152,136** | **162,774** |

Further information on deferred tax is presented in Note XII.

The tax on the group's profit before tax differs from the theoretical amount that would arise from using the standard rate as follows:

| (€'000) | 2018 | 2017 |
|---|---|---|
| **Operating profit/(loss) before tax** | **492,300** | **403,299** |
| At standard rate of tax(1) | 145,622 | 137,081 |
| Effects of: | | |
| - Notional interest on capital | (65) | (1,225) |
| - Expenses not deductible for tax purposes | 8,698 | 8,428 |
| - Intercompany dividend eliminations (net tax effect) | (3,705) | 796 |
| - Internal disposal of subsidiaries | - | 137 |
| - Share of net tax (profit)/loss of investments accounted for using equity method | 2,018 | 6,110 |
| - Income not subject to tax | (159) | - |
| - Different rates in the companies in the group | (744) | (11,726) |
| - Change of tax rate on deferred taxation | 726 | 27,273 |
| - Impairment of deferred tax asset | - | 371 |
| - Adjustments to tax charge in respect of previous period | (255) | (4,471) |
| **Tax expense for the year** | **152,136** | **162,774** |

(1) A rate of 29.58% (2017: 33.99%) for the group, has been used as the standard rate.

The current income tax asset of €8,629,000 at 31 December 2018 (2017: €8,739,000) represents the total of amounts recoverable from the tax authorities relating to over-payments of income tax pre-payments, prior year adjustments and R&D tax credit.

The net tax effect linked to the intercompany dividends eliminated for consolidation purposes have been considered separately in order to adequately reflect the impact of this item of reconciliation on the tax expense. The expenses not deductible for tax purposes include the other tax effects of consolidation adjustments not subject to deferred tax.

The year-to-year variation of the effect of the different rates applicable to the companies within the group is explained by a combination of factors: decrease of the above group’s effective tax rate and changes in the taxable basis of certain sizeable entities.

The Belgian government enacted in December 2017 an important corporate tax reform which will decrease the corporate tax rate in Belgium of 33.99% down to 29,58% in 2018 and 25% as from 2020. Therefore, deferred taxes on temporary differences have been recalculated based both on the new tax rates and the timing of their expected reversals.

# XII. Deferred taxation

The details of deferred taxation are as follows:

| (€'000) | Total | Maturity on or before 31 December 2019 | Maturity after 31 December 2019 |
|---|---|---|---|
| At 31 December 2018 | | | |
| **Assets** | | | |
| Defined benefit plans | 37,085 | - | 37,085 |
| Financial assets at FVOCI | 181 | - | 181 |
| Financial assets (ECL) | 70 | 70 | - |
| Cash flow hedging reserve | (807) | (807) | - |
| Software development | 62 | 8 | 54 |
| Property, plant and equipment | 2,273 | 45 | 2,228 |
| Tax loss carried forward | 69,278 | 6,579 | 62,699 |
| Other temporary differences | 18,385 | 15,748 | 2,637 |
| **Total** | **126,527** | **21,643** | **104,884** |
| **Liabilities** | | | |
| Defined benefit plans | (2,596) | - | (2,596) |
| Other temporary differences | 3,054 | 987 | 2,067 |
| Insurance reserve of Euroclear Re SA | 2,924 | - | 2,924 |
| **Total** | **3,382** | **987** | **2,395** |

| (€'000) | Total | Maturity on or before 31 December 2018 | Maturity after 31 December 2018 |
|---|---|---|---|
| At 31 December 2017 | | | |
| **Assets** | | | |
| Defined benefit plans | 32,170 | - | 32,170 |
| Financial assets at FVOCI | 788 | 788 | - |
| Cash flow hedging reserve | (16) | (16) | - |
| Software development | 71 | 17 | 54 |
| Property, plant and equipment | 2,394 | 25 | 2,369 |
| Tax loss carried forward | 71,882 | 5,111 | 66,771 |
| Other temporary differences | 7,713 | 6,257 | 1,456 |
| **Total** | **115,002** | **12,182** | **102,820** |
| **Liabilities** | | | |
| Defined benefit plans | (2,641) | - | (2,641) |
| Other temporary differences | 4,402 | 1,095 | 3,307 |
| Insurance reserve of Euroclear Re SA | 2,959 | - | 2,959 |
| **Total** | **4,720** | **1,095** | **3,625** |

Deferred taxes are classified as assets or liabilities depending on the total net deferred tax asset or liability across all types of deferred tax at year-end for each entity. At 31 December 2018 and 31 December 2017, Euroclear Sweden had a net deferred tax liability.

Deferred taxation for tax losses carried forward mainly relates to Euroclear SA/NV.

Analysis of the movements of the net deferred tax asset and liability balances is as follows:

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| At 1 January | | 110,282 | 148,113 |
| Adjustment on adoption of IFRS 9 | II | (120) | - |
| Income statement | | 12,012 | (34,255) |
| - Defined benefit plans | XX | 2,372 | (4,784) |
| - Financial assets at FVOCI | | (645) | 1,205 |
| - ECL on financial assets | | - | - |
| - Cash flow hedging reserve | XXII | (791) | (172) |
| Exchange differences | | 35 | 175 |
| **At 31 December** | | **123,145** | **110,282** |

The deferred tax income/(charge) in the income statement comprises the following temporary differences:

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| Defined benefit plans | XX | 2,586 | (2,233) |
| Impairment of financial assets | | (158) | - |
| Software development | | (9) | (22) |
| Property, plant and equipment | | (121) | 1,734 |
| Tax losses carried forward | | (2,605) | (24,183) |
| Tax losses carried forward impaired | | - | (371) |
| Insurance reserve | | 34 | 79 |
| Other temporary differences | | 12,285 | (9,259) |
| **Total** | | **12,012** | **(34,255)** |

# XIII. Financial assets at FVOCI

| (€'000) | 2018 | 2017 |
|---|---|---|
| At 31 December | | |
| **Available-for-sale financial assets** | | |
| Equity shares | | |
| - Listed | - | 290,136 |
| - Unlisted but fair value determinable | - | 15,702 |
| **Financial assets at FVOCI** | | |
| Equity shares | | |
| - Listed | 281,680 | - |
| - Unlisted but fair value determinable | 14,044 | - |
| Equity funds | 439,448 | - |
| Listed debt instruments | 6,698,733 | 5,057,435 |
| **Total** | **7,433,905** | **5,363,273** |

All debt securities have fixed coupons.

For unlisted securities, the valuation is based on the prices at which the securities could probably be sold to willing and knowledgeable parties. These prices are determined using generally accepted valuation techniques, including discounted cash flow models and relevant market multiples.

The maturity profile of the financial assets at FVOCI can be found in Note IV.

The movement in financial assets at FVOCI can be summarised as follows:

| (€'000) | Notes | Equity shares | Fund units | Debt securities | Total |
|---|---|---|---|---|---|
| **At 1 January 2018** | | **305,838** | **-** | **5,057,435** | **5,363,273** |
| **Adjustment on adoption of IFRS 9** | | | | | |
| - reclassification to Non-trading financial assets mandatorily at fair value through profit or loss | II | (7,786) | - | - | (7,786) |
| **At 1 January 2018** | | **298,052** | **-** | **5,057,435** | **5,355,487** |
| Additions | | 9,453 | 681,675 | 17,141,045 | 17,832,173 |
| Redemptions and disposals | | - | (240,558) | (15,530,068) | (15,770,626) |
| FVOCI revaluation reserve | | | | | |
| - (Gains)/losses on redeemed or sold financial assets | | - | - | 1,900 | 1,900 |
| - Gains/(losses) on held financial assets | | (11,781) | (1,669) | 1,484 | (11,966) |
| Amortisation of discounts and (premiums) | | - | - | (32,673) | (32,673) |
| Net change in accrued interest | | - | - | 18,122 | 18,122 |
| Expected credit loss allowance | | - | - | (126) | (126) |
| Exchange difference | | - | - | 41,614 | 41,614 |
| **At 31 December 2018** | | **295,724** | **439,448** | **6,698,733** | **7,433,905** |

| (€'000) | Equity shares | Fund units | Debt securities | Total |
|---|---|---|---|---|
| At 1 January 2017 | 235,432 | - | 2,605,327 | 2,840,759 |
| Additions | 1,700 | - | 14,814,291 | 14,815,991 |
| Redemptions and disposals | - | - | (12,307,545) | (12,307,545) |
| Available-for-sale revaluation reserve | | | | |
| - (Gains)/losses on redeemed or sold financial assets | - | - | (14) | (14) |
| - Gains/(losses) on held financial assets | 68,706 | - | (2,503) | 66,203 |
| Amortisation of discounts and (premiums) | - | - | (56,054) | (56,054) |
| Net change in accrued interest | - | - | 3,933 | 3,933 |
| **At 31 December 2017** | **305,838** | **-** | **5,057,435** | **5,363,273** |

# XIV. Financial instruments held for trading

## XIV.1. Fair value and notional amounts

The fair value and notional amounts of the group's trading derivatives were as follows:

| (€'000) | Notional amount | Fair value Assets | Fair value Liabilities |
|---|---|---|---|
| At 31 December 2018 | | | |
| Foreign exchange derivatives | | | |
| - Forward foreign exchange | 4,147,907 | 14,475 | 20,316 |
| **Total** | **4,147,907** | **14,475** | **20,316** |
| At 31 December 2017 | | | |
| Foreign exchange derivatives | | | |
| - Forward foreign exchange | 3,677,966 | 8,383 | 23,828 |
| **Total** | **3,677,966** | **8,383** | **23,828** |

The notional amount related to forward foreign exchange contracts at 31 December 2018 and 31 December 2017 principally reflects outstanding currency swaps.

In certain circumstances, currency forward exchange contracts are used by certain companies of the Euroclear group to hedge the fair value of some specific liabilities expressed in foreign currencies. These transactions do however not qualify for hedge accounting.

# XV. Derivatives used for hedging

### XV.1. Cash flow hedges

Euroclear Bank uses the euro as functional currency and is exposed to foreign exchange exposure (changes in the relevant spot exchange rate) that could adversely influence net fee and net interest income streams.

The group applies hedge accounting for these revenue streams influenced by changes in foreign exchange rates for certain currencies. The policy foresees to hedge a minimum 75% threshold of the total net operating profit exposures in foreign currencies and a minimum 50% threshold of the total net interest exposures in foreign currencies.

Euroclear Bank enters into currency forward foreign exchange contracts whereby it sells the relevant currencies on a future date at a predetermined price. One contract is done per month, per currency and per nature of exposures (fees and interests) to offset the net currency stream (usually net income) of the same month. These contracts are done, since December 2018, on a rolling 12 month basis (or 3-month basis for less liquid currencies). Such transactions are classified as cash flow hedges.

Hedge effectiveness is assessed based on the critical terms of the contracts. The economic relationship is verified at inception of the deal confirming that the characteristics of the hedging instrument are aligned to those of the hedged item (forward contract with the same maturity and currency as expected revenues, notional of the derivatives matching the hedged positions). The hedged items create a net exposure to buy euros and sell foreign currencies at the payment date. The forward contract to sell euros for forex currencies on the payment date creates an offset for these two transactions. Values will thus generally move in the opposite direction.

The hedge ratio is determined by comparing the notional of the derivative with the quantity of hedged items. The following sources of ineffectiveness are identified and monitored:

- Change in timing and / or level of the incoming flows of any of the two items constituting the hedged item. To mitigate this risk, Euroclear Bank ensures that no material changes are observed in the timing and/or level of the incoming flows of the hedged item.
- Change in the credit risk of Euroclear Bank or the counterparty of the forward contract. The credit risk of both the counterparties and Euroclear Bank is monitored for adverse changes by Treasury. As all contracts must be entered with counterparties with a credit rating of A or higher, the credit risk is minimal and does not dominated the value change.
- Impact of foreign currency basis spreads (materialised through the forward points included in the hedging relationship). The hedging horizon is adapted to limit the impact of currency basis spread (3-month or 12-month basis, depending on the interest rate level associated to the hedged currency).

As 31 December 2018, Euroclear Bank monthly secures an average of €-equivalent 34,874,000 currency stream.

The fair value and notional amounts of the group's derivatives used for cash flow hedges were as follows:

| (€'000) | Notional amount | Fair value Assets | Fair value Liabilities |
|---|---|---|---|
| At 31 December 2018 | | | |
| Foreign exchange derivatives | | | |
| - Forward foreign exchange | 418,849 | 3,293 | 566 |
| **Total** | **418,849** | **3,293** | **566** |
| At 31 December 2017 | | | |
| Foreign exchange derivatives | | | |
| - Forward foreign exchange | 65,192 | 453 | 400 |
| **Total** | **65,192** | **453** | **400** |

The amounts recognised in the cash flow hedging reserve at year-end will be gradually released to the income statement (net gains/losses on foreign exchange) in the following year, when the related cash flows materialise.

There was no ineffectiveness arising from cash flow hedging to be recognised in profit or loss as at 31 December 2018 and 31 December 2017.

There were no transactions for which cash flow hedge accounting had to be ceased in 2018 or 2017 as a result of the highly probable cash flows no longer expected to occur.

The movements in the cash flow hedging reserve can be detailed as follows:

| (€'000) | Gross amount | Deferred tax | Net amount |
|---|---|---|---|
| At 1 January 2018 | 53 | (16) | 37 |
| Change of fair value directly recognised in other comprehensive income during the year | 5,753 | (1,702) | 4,051 |
| Amount released from other comprehensive income to profit or loss during the period | (3,079) | 911 | (2,168) |
| Change to cash flow hedging reserve during the year | 2,674 | (791) | 1,883 |
| **At 31 December 2018** | **2,727** | **(807)** | **1,920** |
| At 1 January 2017 | (458) | 156 | (303) |
| Amount released from other comprehensive income to profit or loss during the period | 6,381 | (2,169) | 4,212 |
| Change of fair value directly recognised in other comprehensive income during the year | (5,870) | 1,997 | (3,872) |
| Change to cash flow hedging reserve during the year | 512 | (172) | 340 |
| **At 31 December 2017** | **53** | **(16)** | **37** |

### XV.2. Hedges of net investments in foreign operations

The group has hedged, until July 2011, part of the currency translation risk of net investments in foreign operations (EMXCo, Euroclear UK & Ireland, the UK branch of Euroclear SA/NV and Euroclear Sweden).

The balance of the hedge of net investments in foreign operations reserve can be detailed as follows:

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| At 1 January and 31 December | XXII | (18,238) | (18,238) |

# XVI. Property, plant and equipment

| (€'000) | Notes | Land and buildings | Leasehold improvements | Furniture and fixtures | IT equipment | Other equipment | Total |
|---|---|---|---|---|---|---|---|
| **Cost** | | | | | | | |
| At 1 January 2018 | | 108,697 | 56,173 | 13,458 | 127,283 | 595 | 306,206 |
| Additions | | 2,069 | 742 | 992 | 35,859 | 9 | 39,671 |
| Capitalisation of dilapidation provision | XIX | - | - | - | - | - | - |
| Transferred to Non-current assets and assets of disposal groups classified as held for sale | | - | - | - | - | - | - |
| Transfer and disposals | | (1,005) | (1,417) | (286) | (8,362) | (6) | (11,076) |
| Exchange differences | | - | 7 | (83) | (13) | 1 | (88) |
| **At 31 December 2018** | | **109,761** | **55,505** | **14,081** | **154,767** | **599** | **334,713** |
| At 1 January 2018 | | (69,010) | (40,856) | (8,940) | (93,753) | (133) | (212,692) |
| Depreciation charge | | (3,128) | (3,677) | (1,418) | (17,291) | (23) | (25,537) |
| Transferred to Non-current assets and assets of disposal groups classified as held for sale | | - | - | - | - | - | - |
| Transfer and disposals | | 721 | 1,980 | 302 | 7,861 | 6 | 10,870 |
| Exchange differences | | - | (2) | 72 | 24 | (1) | 93 |
| **At 31 December 2018** | | **(71,417)** | **(42,555)** | **(9,984)** | **(103,159)** | **(151)** | **(227,266)** |
| **Net book value at 31 December 2018** | | **38,344** | **12,950** | **4,097** | **51,608** | **448** | **107,447** |

| (€'000) | Notes | Land and buildings | Leasehold improvements | Furniture and fixtures | IT equipment | Other equipment | Total |
|---|---|---|---|---|---|---|---|
| **Cost** | | | | | | | |
| At 1 January 2017 | | 107,608 | 56,166 | 14,654 | 120,449 | 605 | 299,482 |
| Additions | | 13,279 | 1,968 | 675 | 12,875 | 25 | 28,822 |
| Capitalisation of dilapidation provision | XIX | - | 259 | - | - | - | 259 |
| Transfer and disposals | | (12,190) | (1,763) | (1,814) | (5,846) | (32) | (21,645) |
| Exchange differences | | - | (457) | (57) | (195) | (3) | (712) |
| | | - | - | (1) | - | - | (1) |
| **At 31 December 2017** | | **108,697** | **56,173** | **13,458** | **127,283** | **595** | **306,206** |
| **Accumulated depreciation** | | | | | | | |
| At 1 January 2017 | | (65,906) | (38,997) | (9,418) | (83,909) | (115) | (198,345) |
| Depreciation charge | | (3,104) | (3,661) | (1,400) | (15,804) | (31) | (24,000) |
| Impairment | | - | - | - | (94) | - | (94) |
| Transfer and disposals | | - | 1,491 | 1,810 | 5,870 | 5 | 9,176 |
| Exchange differences | | - | 311 | 68 | 184 | 8 | 571 |
| **At 31 December 2017** | | **(69,010)** | **(40,856)** | **(8,940)** | **(93,753)** | **(133)** | **(212,692)** |
| **Net book value at 31 December 2017** | | **39,687** | **15,317** | **4,518** | **33,530** | **462** | **93,514** |

The figures above include cost of property, plant and equipment under construction for an amount of €4,544,000 (2017: €7,818,000).

# XVII. Goodwill and intangible assets

| (€'000) | Internally developed software | Purchased software | Know-how | Goodwill | Contractual customer relationship | Unpatented technology | Trademarks | Total |
|---|---|---|---|---|---|---|---|---|
| **Cost** | | | | | | | | |
| At 1 January 2018 | 101,886 | 90,805 | 45,916 | 1,413,432 | 21,965 | 59,725 | 10,200 | 1,743,929 |
| Additions | 22,381 | 15,057 | - | - | - | - | - | 37,438 |
| Transfer and disposals | (10,562) | (12,675) | - | - | - | - | - | (23,237) |
| Exchange differences | (233) | (51) | (48) | (9,018) | - | - | - | (9,350) |
| **At 31 December 2018** | **113,472** | **93,136** | **45,868** | **1,404,414** | **21,965** | **59,725** | **10,200** | **1,748,780** |
| **Accumulated amortisation and impairment** | | | | | | | | |
| At 1 January 2018 | (15,418) | (57,043) | (45,916) | (543,560) | - | (59,725) | - | (721,662) |
| Amortisation charges | (13,933) | (8,620) | - | - | - | - | - | (22,553) |
| Impairment charge | (27,563) | - | - | - | - | - | - | (27,563) |
| Transfer and disposals | 16,727 | 5,956 | - | - | - | - | - | 22,683 |
| Exchange differences | 3 | 57 | 48 | 2,235 | - | - | - | 2,343 |
| **At 31 December 2018** | **(40,184)** | **(59,650)** | **(45,868)** | **(541,325)** | **-** | **(59,725)** | **-** | **(746,752)** |
| **Net book value at 31 December 2018** | **73,288** | **33,486** | **-** | **863,089** | **21,965** | **-** | **10,200** | **1,002,028** |

| (€'000) | Internally developed software | Purchased software | Know-how | Goodwill | Contractual customer relationship | Unpatented technology | Trademarks | Total |
|---|---|---|---|---|---|---|---|---|
| **Cost** | | | | | | | | |
| At 1 January 2017 | 85,113 | 79,001 | 45,952 | 1,417,896 | 21,965 | 59,725 | 10,200 | 1,719,852 |
| Additions | 21,141 | 12,146 | - | - | - | - | - | 33,287 |
| Transfer and disposals | (4,178) | (112) | - | - | - | - | - | (4,290) |
| Exchange differences | (190) | (230) | (36) | (6,094) | - | - | - | (6,550) |
| **At 31 December 2017** | **101,886** | **90,805** | **45,916** | **1,411,802** | **21,965** | **59,725** | **10,200** | **1,742,299** |
| **Accumulated amortisation and impairment** | | | | | | | | |
| At 1 January 2017 | (10,215) | (51,524) | (45,952) | (542,390) | - | (59,725) | - | (709,806) |
| Amortisation charges | (7,915) | (5,756) | - | - | - | - | - | (13,671) |
| Impairment charge | (607) | - | - | - | - | - | - | (607) |
| Transfer and disposals | 3,319 | 2 | - | - | - | - | - | 3,321 |
| Exchange differences | - | 235 | 36 | 460 | - | - | - | 731 |
| **At 31 December 2017** | **(15,418)** | **(57,043)** | **(45,916)** | **(541,930)** | **-** | **(59,725)** | **-** | **(720,032)** |
| **Net book value at 31 December 2017** | **86,468** | **33,762** | **-** | **869,872** | **21,965** | **-** | **10,200** | **1,022,267** |

Some functionalities of the infrastructure rebuild project in Finland and Sweden were de-scoped in the course of 2018 (see note X).

Goodwill and the contractual customer relationship relate to the acquisition of EMXCo, Euroclear Belgium, Euroclear Finland, Euroclear France, Euroclear Nederland, Euroclear Sweden and Euroclear UK & Ireland.

The unpatented technology related to the infrastructure of Euroclear Finland and Euroclear Sweden, which was fully amortised by mid-2012.

### XVII.1. Determination of the cash-generating units

Goodwill impairment reviews are based on the cash-generating units (CGUs) for the group's three relevant operating segments: the ESES CSDs (Euroclear Belgium, Euroclear France, Euroclear Nederland), Euroclear UK & Ireland (Euroclear UK & Ireland and EMX Company Ltd, which was integrated into Euroclear UK & Ireland in 2010) and the Nordics (Euroclear Finland and Euroclear Sweden).

Except for Euroclear Sweden, goodwill and contractual customer relationship are expressed and tested for impairment purposes in euros. At the time of the acquisition of Euroclear UK & Ireland, the related goodwill was considered as a non-monetary asset of the acquirer and therefore expressed in euros. At the time of migration to IFRS, which considers goodwill to be a monetary asset of the acquired entity, Euroclear decided not to restate prior years' business combinations.

### XVII.2. Basis on which recoverable amounts have been determined

The recoverable amounts are based on the 'value in use' using the discounted cash flow methodology for each segment. The 2018 valuation of all the entities concerned is based on a five-year free cash flow forecast with projections for periods beyond this assuming a perpetual annuity ranging between 1.8% and 2% depending on the concerned entity.

The net book values of the goodwill, and Euroclear Belgium's contractual customer relationships, are set out in the table below:

| (€'000) | 2018 | 2017 |
|---|---|---|
| Euroclear UK & Ireland | 203,348 | 203,476 |
| ESES | 484,626 | 484,626 |
| Nordics | 197,080 | 203,735 |
| | 885,054 | 891,837 |

These are intangible assets considered to have indefinite useful lives.

### XVII.3. Key assumptions related to discount factors

The appropriate discount rates are determined by applying the Capital Asset Pricing Model (CAPM). In 2018, data source used to estimate the discount rate changed compared to 2017. The discount rates and perpetual growth rates used for each CGU in the 2018 and 2017 impairment reviews (adjusted for new methodology in 2017) were as follows:

| | 2018 | | 2017 | |
|---|---|---|---|---|
| | Discount rate | Perpetual growth rate | Discount rate | Perpetual growth rate |
| Euroclear UK & Ireland | 6.10% | 1.80% | 5.40% | 1.80% |
| ESES | 6.00% | 1.80% | 5.90% | 1.80% |
| Nordics | 5.50% | 1.80%-2.00% | 7.50% | 1.80%-2.00% |

### XVII.4. The 2018 impairment review

The key assumptions for the valuation exercise are based on both external sources of information and on internal expectations (assets held in custody, transaction volumes, interest rates, etc.). Forecasts are taken from Board approved plans which translate into resilient profitability trends throughout 2019 and over the next four years. For all operating segments, their valuation indicated that the current values of goodwill and related intangibles are fair and justified.

The Board concluded that in 2018, there is no goodwill impairment risk arising from the review.

As far as sensitivity analysis is concerned, neither an increase of the discount rate by 1% nor a decrease of the business drivers by 5% would have resulted in an impairment in one of the CGUs (all other factors being equal), except for EUI where a sensitivity on business drivers could lead to a small impairment considered as immaterial.

The changes in the parameters used for the sensitivity analysis set out above are based on management's estimates of what level of change is reasonably possible. For example, the choice of a 5% decrease for business volumes is justified by the highest yearly negative deviation observed between forecasts and actuals over the past four years while the increase of the discount rate is justified by the highest yearly variance over the past four years.

## XVIII. Debt securities issued and funds borrowed

| (€'000) | Maturity date | 2018 | 2017 |
|---|---|---|---|
| USD 15,000,000 Fixed rate certificates of deposits | 2019 | 13,051 | - |
| USD 50,000,000 Fixed rate certificates of deposits | 2019 | 43,483 | - |
| GBP 195,000,000 Fixed rate certificates of deposits | 2019 | 217,663 | - |
| GBP 200,000,000 Fixed rate certificates of deposits | 2019 | 223,240 | - |
| **Total certificates of deposits** | | **497,437** | **-** |
| GBP 325,000,000 1 Year floating rate medium term notes | 2019 | 364,085 | - |
| EUR 150,000,000 1.5 year Fixed rate medium term notes | 2020 | 150,375 | - |
| EUR 500,000,000 2 year Floating rate medium term notes | 2020 | 500,429 | - |
| EUR 500,000,000 2.5 year Floating rate medium term notes | 2021 | 501,267 | - |
| EUR 500,000,000 4 year Floating rate medium term notes | 2022 | 496,788 | - |
| EUR 500,000,000 5 year Floating rate medium term notes | 2023 | 498,130 | - |
| **Total medium term notes** | | **2,511,074** | **-** |
| EUR 600,000,000 10 year Fixed rate Senior Debt | 2026 | 595,483 | 594,895 |
| EUR 300,000,000 12 Year Fixed rate Senior Debt | 2030 | 300,847 | - |
| EUR 400,000,000 30 year Fixed rate Corporate Hybrid Debt | 2048 | 404,306 | - |
| **Total medium term notes** | | **1,300,636** | **594,895** |
| Overdrafts | | 3,531 | 273,466 |
| Overnight borrowings | | 295,490 | 291,914 |
| Fixed term borrowings | | 55,004 | 35,053 |
| Repos | | 293,224 | 472,215 |
| **Total funds borrowed** | | **647,249** | **1,072,648** |
| **Total debt securities issued and funds borrowed** | | **4,956,396** | **1,667,543** |

On 7 December 2016, Euroclear Investments SA issued a senior, unsecured and unsubordinated Eurobond on the Euronext Amsterdam stock exchange for an amount up to €600,000,000 (10 year maturity - fixed coupon).

In April 2018, Euroclear Investments also issued a €300,000,000 of unsecured and unsubordinated 12-year fixed rate senior note and a €400,000,000 of subordinated resettable 30-years fixed rate hybrid note callable at the option of the issuer after 10 years. These notes were listed on the Irish Stock Exchange.

The 2016 issuance was deemed to enhance the group funding flexibility, while the proceeds of the dual tranche issuance realised in 2018 were downstreamed by Euroclear Investments to Euroclear Bank for €600,000,000 and to Euroclear SA/NV for €100,000,000 in order to structure relevant loss absorption mechanisms to restore the capital position of these group entities in recovery and resolution scenarios in accordance with the Banking Recovery and Resolution Directive.

Euroclear Bank also successfully launched in 2018 Medium Term Notes and Certificates of Deposits programs.

## XIX. Provisions for liabilities and charges

| (€'000) | Notes | Onerous contracts | Early retirement | Dilapidation | Litigation | Commitments and guarantees given | Other provisions | Total |
|---|---|---|---|---|---|---|---|---|
| At 1 January 2018 | | 6,761 | - | 3,732 | 2,728 | - | 8,015 | **21,236** |
| **Adjustment on adoption of IFRS 9** | II | - | - | - | - | 28 | - | **28** |
| Additions | | - | 78 | - | 1,249 | - | 3,452 | **4,779** |
| Unused amounts reversed during the period | | (3,428) | - | (153) | (700) | (22) | (1,546) | **(5,849)** |
| Amounts used | | (2,146) | - | - | - | - | (28) | **(2,174)** |
| Exchange differences | | - | - | (9) | - | - | (216) | **(224)** |
| **At 31 December 2018** | | **1,187** | **78** | **3,571** | **3,277** | **6** | **9,677** | **17,796** |

The outstanding provision for onerous contract relates to an onerous lease for unoccupied floors in the building leased in Poland. The provision will be used over the next two years.

Provisions for dilapidation costs are recorded to reflect end-of-lease obligations in several countries.

The additions in 'other provisions' mainly relate to the increase of provisions to reflect the uncertainty as to the recovery of taxes. The amounts used reflect the use of a tax-related provision.

The group recognised for the first time a provision on loan commitments and financial guarantees in compliance with IFRS 9.

The current portion of the provisions for liabilities and charges is estimated at €5,550,000 (2017: €10,736,000).

## XX. Defined benefit plans

The group operates various post-employment schemes, including defined benefit (DB) and defined contribution (DC) pension plans, and post-employment medical plans.

The group has several DB pension plans covering employees in Belgium, France, Japan, the Netherlands and Sweden under broadly similar regulatory frameworks. The plans exclusively provide retirement and death benefits to the eligible participants. All of the DB pension plans are final or average salary pension plans, which provide benefits to members in the form of a lump sum payment or a guaranteed level of pension payable for life. The level of benefits provided generally depends on members' length of service and their salary in the final years leading up to retirement. The plans face broadly similar risks, as described below. The majority of benefit payments are from the administered funds; however, there are also a limited number of unfunded plans where the company meets the benefit payment obligation as it falls due (Japan). Plan assets are governed by local regulations and practice in each country, as is the nature of the relationship between the group and the pension funds Board of Directors. Responsibility for governance of the plans – including investment decisions and contribution schedules – lies jointly with the sponsoring companies and the Board of Directors. The Board of Directors must be composed of representatives of the company and plan participants in accordance with the plan's regulations.

The group also operates a number of post-employment medical benefit schemes, in Belgium and France. These plans are unfunded. The method of accounting, significant assumptions and the frequency of valuations are similar to those used for DB pension schemes with the addition of actuarial assumptions relating to the long-term increase in healthcare costs.

Finally, the group operates certain DC schemes in Belgium which present particular features usually associated with DB plans. These plans indeed foresee a legally guaranteed rate of return. As a result of the persisting low interest rate environment, this legally guaranteed return may not be matched by the return provided by the insurance companies. This means that the financial market risk related to these plans is partially borne by the employer, who therefore might face a net liability. The latter does however not materially impact the group's net DB liability as the insurance company continued to guarantee the total interest rate on the accrued accumulated reserves up to the legal minimum guaranteed level until 2016.

A Belgian DC scheme opened on 1 January 2019. All employees joining on or after 1 January 2019 will be affiliated to this new plan, while all other employees had the choice between staying in the existing DB plan, which turned from an annuity into a lump sum plan as of 1 January 2019, or joining to the new DC plan. The DC scheme presents features of a DB plan because of the Belgian legal guaranteed return of currently 1.75%. The DC plan is a regular pension plan, with premiums paid by the employer. The premium is a

fixed percentage per bracket of the base salary. Neither the DC plan nor the DB lump sum plan affect the benefits accrued for past service, which continue to be revalued with salary increases (so called dynamic management). The end date for both plans is age 67. Both plans are managed by the Euroclear Pension Fund OFP.

Mid 2018, the same DB annuity plan as the one for employees of Euroclear Bank and Euroclear SA/NV was set up for Euroclear Belgium. All Euroclear Belgium's employees have been transferred to this DB plan on 1 July 2018 and the DC plan with the insurance company has been reduced. Euroclear Belgium's employees joining as of 1 January 2019 will also be affiliated to the DC plan. The other Euroclear Belgium's employees also had the choice between staying in the DB plan turned into a lump sum plan, or transferring to the new DC plan.

About 45% of all employees stayed in the DB plan while 55% transferred to the DC plan.

A full actuarial valuation of the plans, under IFRS, was made by independent qualified professional actuaries as of 31 December 2018 and showed a deficit of €160,373,000 (2017: €133,419,000) offset by a pension surplus of €523,000 (2017: €541,000) (76% in Belgium, 6% in France, 7% in Sweden, 10% in NL). The valuation covered all the plans.

The pension cost in 2018 of €27,861,000 (2017: €26,465,000) has been fully recognised in the current year. The contribution, reflecting employer's contributions for funded plans and benefit disbursements for unfunded plans, amounted to €15,562,000 (2017: €18,251,000).

The major assumptions used by the actuaries in their valuations were:

| | **2018** | **2017** |
|---|---|---|
| Discount rate | 1.74% | 1.75% |
| Expected inflation rate | 1.89% | 1.82% |
| Future salary increases | 3.33% | 3.30% |
| Expected medical cost trend rate | 3.10% | 3.09% |

The above percentages are weighted averages of the assumptions used for the individual plans.

Assumptions regarding future mortality experience are set based on advice and published statistics in each territory (MR/FR table with an age set back of three years in Belgium for post-retirement, TGHF 05 table in France, AG Prognosetafel 2018 with 2016 experienced mortality in the Netherlands, EPF 2014 rates in Japan and PRI 2011 in Sweden).

The amounts recognised in the balance sheet are as follows:

| (€'000) | 2018 | 2017 |
|---|---|---|
| Present value of funded obligations | (417,728) | (392,493) |
| Fair value of plan assets | 317,536 | 318,006 |
| | (100,192) | (74,486) |
| Present value of unfunded obligations | (59,449) | (58,806) |
| Irrecoverable surplus | (209) | (586) |
| **Net pension deficit** | **(159,850)** | **(132,878)** |

The value of assets in all plans was:

| | **2018** | | | **2017** | | |
|---|---|---|---|---|---|---|
| (€'000) | **Quoted** | **Unquoted** | **Total** | **Quoted** | **Unquoted** | **Total** |
| Equity instruments | | | | | | |
| - European equities | 43,910 | - | 43,910 | 43,405 | - | 43,405 |
| - Global equities | 88,269 | - | 88,269 | 85,942 | - | 85,942 |
| - Emerging markets equities | 3,000 | - | 3,000 | 3,468 | - | 3,468 |
| - European real estate equities | 10,744 | - | 10,744 | 10,592 | - | 10,592 |
| Debt instruments | | | | | | |
| - EMU government bonds | 52,024 | - | 52,024 | 52,560 | - | 52,560 |
| - EMU corporate bonds | 48,901 | - | 48,901 | 51,438 | - | 51,438 |
| - Euro inflation-linked bonds | 21,489 | - | 21,489 | 21,184 | - | 21,184 |
| Property | 2,713 | - | 2,713 | 2,614 | - | 2,614 |
| Qualifying insurance policies | - | 870 | 870 | - | 920 | 920 |
| Other | 45,616 | - | 45,616 | 45,883 | - | 45,883 |
| **Total market value of assets** | **316,666** | **870** | **317,536** | **317,086** | **920** | **318,006** |

'Other' principally relate to qualifying insurance policies.

The assets of the funded plans are held separately from those of the group. The group ensures that the investment positions are managed within an asset-liability matching (ALM) framework that has been developed to achieve long-term investments that are in line with the obligations under the pension schemes. Within this framework, the group's ALM objective is to match assets to the pension obligations by investing in long-term fixed interest securities with maturities that match the benefit payments as they fall due and in the appropriate currency. The company actively monitors how the duration and the expected yield of the investments are matching the expected cash outflows arising from the pension obligations. A large proportion of assets consists of equities and bonds, although the group also invests in property, cash and holds some insurance assets. The group believes that equities offer the best returns over the long term with an acceptable level of risk.

The changes in the net deficit are as follows:

| (€'000) | Notes | Medical plans Present value of obligations | Medical plans Fair value of plan assets | Medical plans Total | Pension plans Present value of obligations | Pension plans Fair value of plan assets | Pension plans Total | Asset Ceiling | Net pension deficit |
|---|---|---|---|---|---|---|---|---|---|
| **At 1 January 2018** | | **56,088** | **-** | **56,088** | **394,210** | **(318,006)** | **76,204** | **586** | **132,878** |
| Current service cost | IX | 2,494 | - | 2,494 | 23,106 | - | 23,106 | - | 25,600 |
| Net interest expense/(income) | VI | 950 | - | 950 | 6,882 | (5,586) | 1,296 | 15 | 2,261 |
| **Income statement** | | **3,444** | **-** | **3,444** | **29,988** | **(5,586)** | **24,402** | **15** | **27,861** |
| **Remeasurements** | | | | | | | | | |
| Return on plan assets (excluding interest) | | - | - | - | - | 10,394 | 10,394 | - | 10,394 |
| Experience (gains)/losses | | (2,448) | - | (2,448) | 2,149 | - | 2,149 | - | (299) |
| (Gains)/losses due to change in demographic assumptions | | - | - | - | (651) | - | (651) | - | (651) |
| (Gains)/losses due to change in financial assumptions | | 907 | - | 907 | 4,843 | - | 4,843 | - | 5,750 |
| Changes in asset ceiling | | - | - | - | - | - | - | (392) | (392) |
| **Statement of other comprehensive income** | | **(1,541)** | **-** | **(1,541)** | **6,341** | **10,394** | **16,735** | **(392)** | **14,802** |
| Employer's contributions | | - | (418) | (418) | - | (15,144) | (15,144) | - | (15,562) |
| Exchange differences | | - | | - | (1,097) | 968 | (129) | - | (129) |
| Benefit payments | | (418) | 418 | - | (9,838) | 9,838 | - | - | - |
| **At 31 December 2018** | | **57,573** | **-** | **57,573** | **419,604** | **(317,536)** | **102,068** | **209** | **159,850** |

| (€'000) | Notes | Medical plans Present value of obligations | Medical plans Fair value of plan assets | Medical plans Total | Pension plans Present value of obligations | Pension plans Fair value of plan assets | Pension plans Total | Asset Ceiling | Net pension deficit |
|---|---|---|---|---|---|---|---|---|---|
| **At 1 January 2017** | | **53,637** | **-** | **53,637** | **368,128** | **(297,786)** | **70,342** | **673** | **124,652** |
| Current service cost | IX | 2,334 | | 2,334 | 21,786 | - | 21,784 | - | 24,118 |
| Past service cost | | 216 | | 216 | - | - | - | - | 216 |
| Net interest expense/(income) | VI | 909 | | 909 | 6,508 | (5,286) | 1,222 | - | 2,131 |
| **Income statement** | | **3,459** | **-** | **3,459** | **28,292** | **(5,286)** | **23,006** | **-** | **26,465** |
| **Remeasurements** | | | | | | | | | |
| Experience (gains)/losses | | (1,906) | - | (1,906) | 4,051 | (8,274) | (4,223) | - | 6,129 |
| (Gains)/losses due to change in demographic assumptions | | - | - | - | 3,625 | - | 3,625 | - | 3,625 |
| (Gains)/losses due to change in financial assumptions | | 1,305 | - | 1,305 | 1,680 | - | 1,680 | - | 2,985 |
| Changes in asset ceiling | | - | - | - | - | - | - | (87) | (87) |
| **Statement of other comprehensive income** | | **(601)** | **-** | **(601)** | **9,356** | **(8,274)** | **1,082** | **(87)** | **394** |
| Employer's contributions | | . | (407) | (407) | - | (17,844) | (17,844) | - | (18,251) |
| Exchange differences | | - | - | - | (703) | 321 | 382 | - | (382) |
| Benefit payments | | (407) | 407 | - | (10,863) | 10,863 | - | - | - |
| **At 31 December 2017** | | **56,088** | **-** | **56,088** | **394,210** | **(318,006)** | **76,204** | **586** | **132,878** |

The weighted average duration of the DB obligations is 16.9 years (2017: 17.3 years).

Funding levels are monitored on an annual basis and contributions are made to comply with minimum requirements as determined by local regulations and, if applicable, internal funding policy. The group considers that the contribution rates set at the last valuation date are sufficient to eliminate the deficit over the agreed period.

Expected contributions to post-employment benefit plans for the year ending 31 December 2019 are €22,083,000.

The cumulative actuarial loss recognised in other comprehensive income as at 31 December 2018 was €96,567,000 (2017: €81,765,000).

The sensitivity of the DB obligations to a 1% movement in the weighted principal assumptions is:

| | Increase in assumption | Decrease in assumption |
|---|---|---|
| Discount rate | -15.4% | 16.9% |
| Salary increase rate | 12.5% | -12.5% |
| Inflation rate | 9.1% | -9.1% |
| Medical trend rate | 3.6% | -2.7% |

The above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the DB obligations to significant actuarial assumptions, the same method (present value of the DB obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the pension liability recognised within the statement of financial position. As the majority of the liabilities are not affected by the life expectancy risk (because of lump sum payments), no life expectancy sensitivity is considered.

Through its DB pension plans and post-employment medical plans, the group is exposed to a number of risks, the most significant of which are detailed below:

- asset volatility: the risk is kept under control thanks to proper risk management procedures and strategic asset allocation driven by the financial characteristics of the plans, in particular the plans liabilities and the risk tolerance of the Board and the group. The plan liabilities are calculated using a discount rate set with reference to corporate bond yields; if plan assets underperform this yield, this will create a deficit. Belgian plans hold 60% of equities, which are expected to outperform corporate bonds in the long-term while providing volatility and risk in the short-term. The group believes that due to the long-term nature of the plan liabilities and the strength of the supporting group, a level of continuing equity investment is an appropriate element of the group's long term strategy to manage the plans efficiently. See above for more details on the group's asset-liability matching strategy.
- changes in bond yields: a decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.
- inflation risk: the plans' benefit obligations are linked to inflation (see sensitivity impact), and higher inflation will lead to higher liabilities. The impact is however limited and the assumptions are cautiously monitored annually.
- life expectancy: as mentioned, longevity risk is limited as the majority of the benefit payments are lump sums.
- medical trend rate risk: as the liabilities of the Belgian and French medical plans are very sensitive to the used medical trend rate, the evolution of this trend rate is monitored regularly to make sure that this trend rate properly reflects the long term expected evolution of the medical cost.
- salary increase: as the pension liabilities are quite sensitive to salary increase, the used assumptions are monitored closely and historic salary evolution is compared against the used assumptions.

The group has not changed the processes used to manage its risks from previous periods.

The movement in the deferred tax asset relating to the pension deficit is as follows:

| (€'000) | Notes | 2018 | 2017 |
|---|---|---|---|
| Amount credited/(charged) through equity | XII | 2,372 | (4,784) |
| Amount credited/(charged) through the income statement | XII | 2,586 | (2,233) |
| Exchange differences | | (88) | (81) |
| **Increase/(decrease) in deferred tax asset** | | **4,870** | **(7,098)** |

## XXI. Share capital and share premium

| Equity shares | Number of Ordinary shares | (€'000) Share Capital | Share Premium | Total |
|---|---|---|---|---|
| Issued, allotted and fully paid share capital | | | | |
| At 1 January and 31 December 2018 | **1,198,069** | **119,076,550** | **258,623,586** | **377,700,136** |
| At 1 January and 31 December 2017 | **1,198,069** | **119,076,550** | **258,623,586** | **377,700,136** |

At 31 December 2018 and 31 December 2017, there was no stock option plan on the shares of Euroclear Investments or any subsidiary.

The ordinary shares have attached to them full voting, dividend and capital distribution rights.

# XXII. Other reserves

| (€'000) | Notes | Equity instruments at FVOCI | Debt instruments at FVOCI | Cash flow hedging reserve | Hedge of net inv. in foreign operations reserve | Foreign currency translation reserve | Legal reserve | Total |
|---|---|---|---|---|---|---|---|---|
| **At 31 December 2017** | | **184,751** | **(1,875)** | **37** | **18,238** | **(35,850)** | **124,515** | **289,816** |
| - Financial assets reclassified from available-for-sale to FVPL | | (2,461) | - | - | - | - | - | (2,461) |
| - Debt instruments measured at FVOCI | | - | 91 | - | - | - | - | 91 |
| **At 1 January 2018** | | **182,290** | **(1,784)** | **37** | **18,238** | **(35,850)** | **124,515** | **287,446** |
| Fair value adjustments | XIII, XV | (13,450) | 3,384 | 2,674 | - | - | - | (7,392) |
| Deferred tax on fair value adjustments | XII | 346 | (992) | (791) | - | - | - | (1,437) |
| Foreign currency translation differences | | - | - | - | - | (9,833) | - | (9,833) |
| Transfer from retained earnings | | - | - | - | - | - | 102 | 102 |
| **At 31 December 2018** | | **169,186** | **608** | **1,920** | **18,238** | **(45,683)** | **124,617** | **268,886** |

| (€'000) | Notes | Available-for-sale equity instruments | Available-for-sale debt instruments | Cash flow hedging reserve | Hedge of net inv. in foreign operations reserve | Foreign currency translation reserve | Legal reserve | Total |
|---|---|---|---|---|---|---|---|---|
| **At 1 January 2017** | | **115,577** | **(96)** | **(303)** | **18,238** | **(25,044)** | **124,410** | **232,782** |
| Fair value adjustments | XIII, XV | 68,707 | (2,517) | 512 | - | - | - | 66,702 |
| Deferred tax on fair value adjustments | XII | 467 | 738 | (172) | - | - | - | 1,033 |
| Foreign currency translation differences | | - | - | - | - | (10,806) | - | (10,806) |
| Transfer to retained earnings | | - | - | - | - | - | 105 | 105 |
| **At 31 December 2017** | | **184,751** | **(1,875)** | **37** | **18,238** | **(35,850)** | **124,515** | **289,816** |

The hedge of net investment in foreign operations reserve and the foreign currency translation reserve relate to the group's subsidiaries in Sweden and the United Kingdom.

In addition to the translation of structural currency exposures relating to the group's subsidiaries and joint venture with a functional currency other than the euro, the foreign currency translation reserve includes the translation impact when other group entities moved to the euro as their functional currency. The foreign currency translation reserve also includes the translation impact of goodwill and intangible assets expressed in Swedish krona and sterling that were recognised at the time of acquisition of subsidiaries in Sweden, and EMXCo in the United Kingdom.

The legal reserve represents non-distributable amounts required to be established as separate reserves in compliance with local laws in certain countries where the group operates.

## XXIII. Dividends paid

| € per share | 2018 | 2017 |
|---|---|---|
| **Equity paid** | **133.54** | **-** |

| (€'000) | | |
|---|---|---|
| **Equity paid** | **159,990** | **-** |

A dividend of €129,990,000 (€108.50 per share) was paid in respect of financial year 2017. An intermediary dividend of €30,000,000 was paid in June 2018 cancelling a loan between Euroclear plc and Euroclear Investments.

See Note XXVII for details of the proposed 2018 equity dividend.

## XXIV. Contingent liabilities and commitments

| (€'000) | 2018 | 2017 |
|---|---|---|
| At 31 December | | |
| Collateral pledged, of which: | 4,273,299 | 4,327,380 |
| - Own assets | 1,778,167 | 1,850,592 |
| - Re-use of collateral received | 2,495,132 | 2,476,788 |
| Securities lending indemnifications | 26,448,880 | 25,912,288 |

The collateral pledged mainly relates to:

- securities deposited with the National Bank of Belgium as potential collateral, principally for Target2-related exposures. It includes investment securities with a market value of €1,777,967,000 (2017: €1,814,632,000) and the reuse of securities received as collateral for reverse repurchase agreements from participants with a market value of €2,495,132,000 (2017:€2,476,788,000); There was no exposure at 31 December 2018 (2017: €0); and
- a bank deposit of €200,000 (2017: €400,000) pledged by Euroclear Finland to a third-party registration fund in order to fulfil its obligations as account operator.

Under the terms of the Euroclear Securities Lending and Borrowing Programme, Euroclear Bank provides a guarantee to securities lenders whereby if a securities borrower is unable to return the securities, Euroclear Bank guarantees the lender to receive replacement securities or their cash equivalent. A similar guarantee applies to Euroclear Bank's GC Access Programme. The guarantee is valued at market value of the loan securities plus accrued interest. Euroclear Bank's policy is that all securities borrowings are covered by collateral pledged by the borrowing banks and clients.

# XXV. Operating lease commitments

| (€'000) | 2018 Property | 2018 Vehicles, software and equipment | 2017 Property | 2017 Vehicles, software and equipment |
|---|---|---|---|---|
| **Group company as lessee** | | | | |
| Future aggregate minimum lease payments under non-cancellable operating leases: | **90,610** | **62,533** | **103,574** | **68,899** |
| - up to one year | 16,599 | 21,961 | 18,064 | 18,108 |
| - later than one year and not later than five years | 47,937 | 40,563 | 47,333 | 50,791 |
| - over five years | 26,074 | 9 | 38,177 | - |

The total sublease payments receivable relating to the above operating leases amounted to €14,984 (2017:€98,622).

| | 2018 Property | 2018 Vehicles, software and equipment | 2017 Property | 2017 Vehicles, software and equipment |
|---|---|---|---|---|
| Minimum lease payments recognised as an expense | 17,359 | 19,993 | 18,673 | 19,607 |

# XXVI. Related party disclosures

Euroclear Investments SA is controlled by Euroclear AG, incorporated in Switzerland, which owns 100% of the shares. Euroclear AG is controlled by Euroclear Holding SA/NV, incorporated in Belgium, which is the ultimate parent and controlling party of the group since November 2018. Before that date, the ultimate parent company was Euroclear plc, incorporated in the United Kingdom.

Euroclear Investments SA's investments in its subsidiaries are set out in Note I.

Transactions with related parties, other than those between companies of the group eliminated on consolidation, principally relate to investments in subsidiaries and joint ventures and to key management compensation.

Besides this, the group considers its Belgian pension fund as a related party as it has the ability to exercise significant influence over it in taking financial or operational decisions. Disclosures related to the pension funds are presented in Note XX.

| (€'000) | 2018 | | | | | 2017 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Immediate parent | Ultimate parent company | Other group companies | Joint venture | Total | Immediate parent | Ultimate parent company | Other group companies | Joint venture | Total |
| **Assets** | | | | | | | | | | |
| Loans and advances at amortised cost | 10,002 | 250 | 116 | - | 10,368 | 30,000 | - | 351 | - | 30,351 |
| Non-trading financial assets mandatorily at FVPL | - | - | 2,363 | - | 2,363 | - | - | - | - | |
| Other assets | - | 62 | 70 | 36 | 168 | 110 | - | - | 744 | 854 |
| Prepayments and accrued income | - | 21 | 3 | 172 | 196 | 1 | - | 3 | 262 | 266 |
| Investments in subsidaries and joint ventures | - | - | 14,094 | 8,208 | 22,302 | - | - | 9,871 | 5,401 | 15,272 |
| **Total assets** | **10,002** | **333** | **16,646** | **8,416** | **35,397** | **30,111** | **-** | **10,225** | **6,407** | **46,743** |
| **Liabilities** | | | | | | | | | | |
| Deposits from banks and customers | - | - | - | - | - | 13 | - | - | - | 13 |
| Other liabilities | - | - | - | 1,029 | 1,029 | - | - | - | - | - |
| Accruals and deferred income | - | - | - | - | - | 193 | - | - | - | 193 |
| **Total liabilities** | **-** | **-** | **-** | **1,029** | **1,029** | **206** | **-** | **-** | **-** | **206** |
| **Income statement** | | | | | | | | | | |
| Interest income | 2 | - | 41 | - | 43 | 3 | - | - | - | 3 |
| Interest expense | - | - | (11) | - | (11) | (61) | - | - | - | (61) |
| Fee and commission income | - | 21 | 9 | - | 30 | - | - | 4 | - | 4 |
| Fee and commission expense | - | - | - | - | - | (3) | - | - | - | (3) |
| Other operating income / expense | - | - | 682 | 1,784 | 2,466 | 1,213 | - | 667 | 3,819 | 5,699 |
| Administrative expense | - | - | - | - | - | (141) | - | - | - | (141) |
| Impairment | - | - | 2 | - | 2 | - | - | - | - | - |
| **Total income statement** | **2** | **21** | **723** | **1,784** | **2,530** | **1,011** | **-** | **671** | **3,819** | **5,501** |
| **Off-balance sheet** | | | | | | | | | | |
| Liquidity facility given | - | (35,000) | (3,298) | - | (38,298) | - | - | (1,972) | - | (1,972) |
| **Total off-balance sheet** | **-** | **(35,000)** | **(3,298)** | **-** | **(38,298)** | **-** | **-** | **(1,972)** | **-** | **(1,972)** |

### XXVI.1.a. Administrative support

Certain administrative support costs are periodically recharged to and by other companies within the Euroclear group.

### XXVI.1.b. Loans and liquidity facilities provided

The two year GBP 300,000 liquidity facility provided by Euroclear SA/NV to Taskize Limited in April 2015 has been used in January 2017. Out of the GBP 300,000, GBP 200,000 have already been reimbursed. In June 2017, Euroclear SA/NV granted a new one-year liquidity facility of GBP 1,000,000 that was drawn in March 2018 under the form of an intra group convertible loan agreement. In August 2018, Euroclear SA/NV granted an intra group convertible loan of GBP 4,500,000, consisting of 1 tranche of GBP 1,200,000 and 3 tranches of GBP 1,100,000. The first two tranches were respectively paid in September and October 2018. There are no remaining liquidity facilities outstanding with Taskize Limited other than the last two tranches that are expected to be paid in January and April 2019. The first tranche of GBP 1,200,000 has been converted, granting Euroclear SA/NV an additional 14,000 newly issued shares.

In May 2017, Euroclear SA/NV provided a three year liquidity facility to Quantessence Limited for an amount up to GBP 750,000. The facility is not yet used.

In October 2018, Euroclear Investments SA granted a loan to Euroclear plc for an amount of €10,000,000. In December 2018, this loan agreement has been novated from Euroclear plc to Euroclear AG in the context of the group restructuring.

In October 2018, Euroclear Investments SA granted a credit facility to Euroclear Holding SA/NV for an amount of €35,000,000. This facility is currently not used.

#### XXVI.1.c. Liquidity facilities received

In July 2005, Euroclear plc provided a liquidity facility to Euroclear SA/NV for an aggregate principal amount of €20,000,000. This liquidity facility was terminated in April 2017, and replaced by a new liquidity facility of €20,000,000 granted by Euroclear Investments SA in favour of Euroclear SA/NV. The facility was made for an initial period of one year, automatically renewed. It has been terminated on 30 September 2018.

### XXVI.2. Key management compensation

The compensation of key management (members of the Management Committees of Euroclear SA/NV and its (I)CSD subsidiaries, group division heads and the Euroclear Investments SA and non-executive directors was as follows:

| (€'000) | 2018 | 2017 |
|---|---|---|
| Short-term employee benefits | 22,800 | 20,228 |
| Post-employment benefits | 1,792 | 1,963 |
| Other long-term benefits | 1,885 | 1,850 |
| Termination benefits | 2,683 | 5,536 |
| Total compensation of key management | 29,160 | 29,577 |
| Emoluments of non-executive directors | 1,280 | 1,479 |
| **Total compensation of key management and directors** | **30,440** | **31,056** |

The NBB has been informed of the compensation principles for the members of the Management Committees of Euroclear SA/NV and Euroclear Bank and of certain other Senior Management, taking into account the applicable regulations. The amounts - as approved by the respective Remuneration Committees/Boards - reflect these principles and more specifically the allocation between short-term and long-term benefits.

No loans or similar transactions occurred with directors, key management or their close family members.

The companies employing the Euroclear SA/NV non-executive directors are subject to the same terms, conditions and tariffs as other companies.

Directors' emoluments are in the form of fees with the exception of life insurance benefits for one director amounting to €12,000 (2017: €12,000).

## XXVII. Events after the balance sheet date

**Proposed dividend**

On 18 April 2019, the directors resolved not to propose a dividend in respect of the financial year ending 31 December 2018 (2017: €129,990,000 (€108.50 per equity share)).

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To the Board of Directors of
Euroclear Investments S.A.
12, rue Eugène Ruppert
L-2553 Luxembourg

# REPORT OF THE REVISEUR D'ENTREPRISES AGREE

## Report on the Audit of the Consolidated Financial Statements

### Opinion

We have audited the consolidated financial statements of Euroclear Investments S.A. and its subsidiaries (the "Group"), which comprise the consolidated statement of financial position as at December 31, 2018, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2018, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union.

### Basis for Opinion

We conducted our audit in accordance with the EU Regulation N° 537/2014, the Law of 23 July 2016 on the audit profession (Law of 23 July 2016) and with International Standards on Auditing (ISAs) as adopted for Luxembourg by the "Commission de Surveillance du Secteur Financier" (CSSF). Our responsibilities under those Regulation, Law and standards are further described in the "Responsibilities of the "Réviseur d'Entreprises Agréé" for the Audit of the Consolidated Financial Statements" section of our report. We are also independent of the Group in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) as adopted for Luxembourg by the CSSF together with the ethical requirements that are relevant to our audit of the consolidated financial statements, and have fulfilled our other ethical responsibilities under those ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Société à responsabilité limitée au capital de 35.000 €
RCS Luxembourg B 67.895
Autorisation d'établissement : 10022179

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## Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of the audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

| Key audit matters | How the matter was addressed in the audit |
|---|---|
| **First-time adoption of IFRS 9**<br>We refer to the summary of accounting policies in Note II, and in particular to Note II.3 on key impacts on transition to IFRS 9.<br><br>The Group adopted IFRS 9 on January 1, 2018, which introduced significant changes in the classification and measurement of financial assets, and in particular in the computation of expected credit losses that involves judgements.<br><br>First-time adoption of IFRS 9 resulted in an impact of EUR 5.355.487.000 EUR due to presentation, EUR 7.786.000 due to classification and measurement, and an impairment charge of EUR 901.000 on January 1, 2018.<br><br>Given the IFRS disclosure requirements on first time adoption of IFRS 9, significant judgements and complexity of accounting process, we determined that the valuation of financial assets in the context of IFRS 9 is a key audit matter. | We reviewed the implementation of IFRS 9 within the Group and in particular new procedures and accounting policies adopted.<br><br>We reviewed the first time adoption of IFRS 9, in particular the transition table made by the Group between IAS 39 and IFRS 9 on January 1, 2018.<br><br>For a sample of loans and equity instruments:<br>• We verified the classification of financial assets;<br>• We verified the measurement and correct implementation of business models selected by the Group;<br>• We performed an independent computation of expected credit losses on loans measured at amortised cost;<br><br>We verified the disclosures on the consolidated financial statements related to first time adoption of IFRS 9. |

| | |
|---|---|
| **Valuation of goodwill**<br>The Group's December 31, 2018 consolidated financial statements shows a "Goodwill" caption amounting to EUR 863.089.000, as further disclosed in note XVII. These goodwills have arisen as a result of the acquisitions of some of Euroclear Investments S.A.'s subsidiaries in previous accounting periods. The International Financial Reporting Standards prescribe that goodwill is subject to an annual impairment assessment.<br>We identified valuation of goodwill as a key audit matter due to the significance of the balance and because the impairment assessment requires significant judgment of management with regards to the valuation methodology applied and the underlying assumptions used, mainly those relating to the ability to generate future free cash flows, and to the discount factor applied to these cash flows, taking into account the appropriate risk factors. | We focused our audit effort on (i) the valuation model used for the assessment, (ii) the appropriateness of the discount rate and terminal growth rates used in the model and (iii) the judgements relating to the future cash flow forecasts:<br>• Together with our valuation experts, we have assessed the "Discounted Cash Flow" model used by management, and evaluated the underlying assumptions for the use of this model;<br>• We evaluated and challenged management's future cash flow forecasts, and the process by which they were drawn up and implemented, including the oversight and challenge by the Board of Directors. We compared the current year's results with the figures included in the prior years' forecasts to assess the organisation's ability to accurately forecast future cash flows;<br>• We challenged management's assumptions in their forecasts of the long term growth rates – by comparing those to publicly available economic and industry forecasts - and the discount rates - by comparing the cost of capital for the company with comparable organizations, as well as by considering territory specific factors;<br>• We considered the impact of regulatory and business evolutions that have the potential to significantly affect the future cash flows of these entities on which goodwill had been recognized;<br>• We challenged management on the adequacy of their sensitivity calculations. |

**Capitalisation of development costs for internally developed software**

The Group capitalized internally developed software relating to various projects for an aggregate amount of EUR 73.289.000. The costs capitalized during the accounting year 2018 amounts to EUR 22.381.000. Further details with respect to these intangible assets captions are disclosed in note XVII to the consolidated financial statements. The International Financial Reporting Standards prescribe very strict conditions to be met before such internally developed software costs can be recognised on the balance sheet. These encompass, amongst others, a high degree of probability that these costs will yield future economic benefits. The assets are subsequently amortised over their assessed useful economic life. An annual impairment assessment is furthermore required, which is also based on the forecast of future economic benefits.

We identified the capitalisation of these intangible assets as a key audit matter due to the significance of the balance and because the forecast of the said future economic benefits and the assessment of the useful economic life requires significant judgment by management.

In particular, we focused our audit effort on (i) identifying the most significant projects being capitalized, (ii) the appropriateness of the capitalization criteria in accordance with IFRS and (iii) the impairment assessment:

- We tested the internal controls put in place to ensure that only eligible costs are capitalized and that appropriate impairment tests are performed.
- For the most significant capitalized projects, we challenged management on compliance with the capitalization criteria. We tested that Euroclear fulfilled the following conditions for capitalizing the identified projects:
  - The technical feasibility of completing the intangible asset so that it will be available for use;
  - The intention to complete the intangible asset and use it;
  - The ability to use the intangible asset;
  - The ability of the intangible asset to generate probable future economic benefits. This includes that Euroclear could demonstrate the usefulness of the intangible assets;
  - The availability of adequate technical, financial and other resources to complete the development and to use the intangible asset;
  - The ability to measure reliably the expenditure attributable to the intangible asset during its development.
- We tested the impairment assessment of management and challenged the condition relating to the generation of future economic benefits for the most significant projects by reviewing and challenging management forecasts.

| Recoverability of Deferred Tax Assets | |
|---|---|
| The Group recognized an amount of EUR 126.527.000 of deferred tax assets to reflect the future tax benefit from unused tax losses or tax credits and other temporary differences. The particularities of the balance have been further detailed in Note XII of its financial statements. The International Financial Reporting Standards prescribe that such tax assets are to be recognised to the extent that it is probable that taxable profit will be available against which the temporary differences can be utilised.<br><br>We identified this area as a key audit matter because of the size of the balance and because the management assessment of the recoverability of these assets involves judgement, including the estimate relating to future taxable profits. | We focused our audit effort on the judgements supporting the forecasted future taxable profits:<br>• We evaluated the assessment relating to the estimated future taxable profits performed by management. More particularly, we tested that:<br>o Appropriate judgements were used to determine future taxable profits and the timing of those;<br>o We compared the current year's results of the Group with the figures included in the prior years' forecast to assess the organisation's ability to accurately forecast future taxable profits;<br>• We considered the impact of regulatory and business evolutions that have the potential to significantly affect the future taxable profits of the Group. Together with our tax experts, we assessed the interpretations of the tax rules (laws, jurisdiction and jurisprudence) on which management has based its future taxable profit forecast. |

| **Revenue recognition**<br>The Group's December 31, 2018 financial statements show "Interest income" and "Fee and commission income" captions amounting to EUR 353.075.000 EUR and EUR 1.528.916.000 respectively, as further disclosed in note VI and VII. The aggregated amount of these captions represent the vast majority of the revenues of Euroclear Bank.<br><br>We identified these revenues as a key audit matter due to (i) the significance of the balance and (ii) the dependency on IT systems. | We focused our audit effort on:<br>• Assessing the appropriateness of the design and operating effectiveness of the internal control framework relating to the billing system of the Group;<br>• Testing the IT Systems and IT General Controls over the fee income system infrastructure. We performed specific testing on the appropriateness of the access rights and the system changes brought to the IT systems;<br>• For the most significant revenue streams, performing substantive analytical procedures on the fee income charged by comparing monthly evolution of the volumes to the evolution of the related fee income;<br>• Recomputing the interest income for a representative sample of loans, on the basis of the data output of the operational systems;<br>• Tested for a representative sample of invoices, the existence and accuracy of the amount recorded in the general ledger;<br>• Assessing the adequacy of a representative sample of manual journals impacting the reported fee amount. |
|---|---|

| Technology risk | |
|---|---|
| The IT infrastructure of the Group is essential to the operations of the group and to its financial reporting. We have identified the operating systems, the applications, the databases and the application interfaces as key elements of the IT infrastructure. We consider the general computer controls and controls over application interfaces as being key in mitigating technology risk across the IT infrastructure.<br><br>We identified technology risk as a key audit matter given:<br>• The multiplicity of applications;<br>• The very high volume of transactions; and<br>• The fact that multiple applications are developed or tailored in house. | • Our procedures involved the participation of IT experts. We tested the design and operating effectiveness of internal control and governance procedures relating to General IT Controls applicable to the components considered as key in the financial reporting process. The scope include access management and change management procedures on:<br>o Operating systems<br>o Databases<br>o Applications<br>• We tested the implementation of adequate access management and segregation of duties controls. |

**Other information**

The Board of Directors is responsible for the other information. The other information comprises the information stated in the consolidated management report but does not include the consolidated financial statements and our report of the "Réviseur d'Entreprises Agréé" thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report this fact. We have nothing to report in this regard.

**Responsibilities of the Board of Directors and Those Charged with Governance for the Consolidated Financial Statements**

The Board of Directors is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with IFRSs as adopted by the European Union, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

**Responsibilities of the "Réviseur d'Entreprises Agréé" for the Audit of the Consolidated Financial Statements**

The objectives of our audit are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue a report of the "Réviseur d'Entreprises Agréé" that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the EU Regulation N° 537/2014, the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the EU Regulation N° 537/2014, the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.

- Conclude on the appropriateness of Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our report of the "Réviseur d'Entreprises Agréé" to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our report of the "Réviseur d'Entreprises Agréé". However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities and business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our report unless law or regulation precludes public disclosure about the matter.

Deloitte.

**Report on Other Legal and Regulatory Requirements**

We have been appointed as "Réviseur d'Entreprises Agréé" by the General Meeting of the Shareholders on April 30, 2018 and the duration of our uninterrupted engagement, including previous renewals and reappointments, is 1 year.

We confirm that the audit opinion is consistent with the additional report to the audit committee or equivalent.

We confirm that the prohibited non-audit services referred to in the EU Regulation N° 537/2014, on the audit profession were not provided and that we remain independent of the Group in conducting the audit.

For Deloitte Audit, *Cabinet de Révision Agréé*

Martin Flaunet, *Réviseur d'Entreprises Agréé*
Partner

April 18, 2019

# Euroclear Investments SA

## Financial Statements for the year ended 31 December 2018

12, Rue Eugène Ruppert
L-2453 Luxembourg
R.C.S. Luxembourg: B 24 839

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## DIRECTORS' REPORT FOR THE YEAR ENDED 31 DECEMBER 2018

The Directors present their report and the financial statements of Euroclear Investments SA (the ‘Company’) for the year ended 31 December 2018. Euroclear Investments SA is domiciled and incorporated in Luxembourg. The address of its registered office is 12, Rue Eugène Ruppert, L-2453 Luxembourg.

### *Euroclear Group*

The Company is part of the Euroclear group (the ‘group’) who is the world's leading provider of post-trade services. The group provides settlement, safekeeping and servicing of domestic and cross-border securities, with asset classes covered including bonds, equities and investment funds. The Euroclear group includes the International Central Securities Depositary (ICSD), Euroclear Bank, based in Brussels, as well as the domestic Central Securities Depositaries (CSDs) Euroclear Belgium, Euroclear Finland, Euroclear France, Euroclear Nederland, Euroclear Sweden and Euroclear UK and Ireland. Euroclear Bank is the only credit institution in the Euroclear group. Euroclear SA/NV provides system development and support services to the other companies of the group. Euroclear Holding SA/NV, which replaced Euroclear Limited (previously named Euroclear plc) at the end of 2018 as the top holding Company of the group is based in Brussels and owns, directly or indirectly, the entire issued share capital of these companies.

Euroclear group successfully restructured its holding structure by moving its top holding company from the United Kingdom to Belgium at the end of 2018 with the set-up of Euroclear Holding SA/NV as new group holding company.

Euroclear Investments SA is headquartered in Luxembourg and, after the group holding restructuring, is the intermediary holding company between Euroclear SA/NV and Euroclear AG.

### Business review and future developments

### Long Term Debt

*Senior Unsecured Debt*

On 7 December 2016, the Company issued a 10-year senior, unsecured and unsubordinated Eurobond on the Euronext Amsterdam stock exchange for a nominal amount up to €600,000,000 (10-year maturity – fixed coupon). Such issue was deemed to enhance the group funding flexibility, maintain a suitable level of investment capacity in the group and strengthen the recovery capacity of group operating entities.

On 7 December 2018, the Company paid the servicing of this instrument to bondholders.

*Dual tranche Debt Issuance*

On 11 April 2018, the Company issued a €300,000,000 of unsecured fixed rate senior note and a €400,000,000 of subordinated resettable fixed rate hybrid note. These notes were listed on the Irish Stock Exchange and their respective proceeds were downstreamed by the Company to Euroclear Bank for €600,000,000 and to Euroclear SA/NV for €100,000,000 in order to structure relevant loss absorption mechanisms to restore the capital position of these group entities in recovery and resolution scenarios in accordance with the Banking Recovery and Resolution Directive.

### Loans and advances

*Investment in intragroup Recovery and Resolution instruments*

On 29 June 2018, the Company subscribed to various intra-group recovery and resolution instruments issued by Euroclear Bank SA/NV under Belgian law registered note formats for €600,000,000 in total on top of the €200,000,000 contingent loan arranged in 2016 that was simultaneously converted into a registered note format. Out of the €800,000,000 debt instruments issued by the Bank and subscribed by the Company, €200,000,000 were recognised by the National Bank of Belgium (NBB) as regulatory capital category 2.

Mid October 2018, the Company subscribed to an intra-group recovery instrument issued by Euroclear SA/NV for €100,000,000 under a Belgian law registered note format. Such instrument received a category 2 regulatory capital recognition by the Belgian regulator.

*Third Party funding*

On 28 November 2014, the Board approved the terms of the lending agreement with Leaseplan Fleet Management NV/SA who exclusively uses the funds as sole car lease service provider for the group, to finance the initial purchase costs of the car fleet leased by the Bank and Euroclear SA/NV. Euroclear Investments granted initially a €16,000,000 credit facility to Leaseplan Fleet Management SA/NV.

On 23 November 2017, the board of the Company approved to increase the total amount of the credit facility to €28,000,000 in total. As at 31st December 2018, €27,268,076 out of the €28,000,000 available were drawn-down by Leaseplan.

*Operational funding to group subsidiaries*

*Euroclear Limited (previously Euroclear Plc)*

On 16 December 2016, a €100,000,000 6-month renewable loan was granted to Euroclear Limited under the form of a loan automatically renewed in June 2017 for 6 months. On 20 December 2017, Euroclear Limited reimbursed €70,000,000 out of €100,000,000 borrowed. On 7 June 2018, Euroclear Limited reimbursed the remaining balance of €30,000,000 through an intermediary dividend payment from Euroclear Investments.

On 26 October 2018, a €10,000,000 1-year intra-group loan was granted to Euroclear Limited. On 5 December 2018, the loan was transferred to Euroclear AG as part of the group restructuring transaction.

*Euroclear SA/NV*

On 7 February 2018, a €100,000,000 2-year intra-group credit facility was granted to ESA. At 31 December 2018, €70,000,000 were drawn-down by Euroclear SA/NV, leaving an available balance of €30,000,000.

*Calar Belgium SA/NV*

On 30 January 2018, a €6,000,000 9-year intra-group loan was granted to Calar Belgium SA/NV. On 22 October 2018, Calar Belgium SA/NV reimbursed anticipatively €2,000,000 leaving an outstanding loan balance of €4,000,000.

*Euroclear Properties France SAS*

On 13 December 2017, a €18,000,000 9-year intra-group bullet loan was granted to Euroclear Properties France SAS. On 22 October 2018, Euroclear Properties SAS reimbursed anticipatively €3,000,000 leaving an outstanding loan balance of €15,000,000.

*Euroclear Holding SA/NV*

On 4 October 2018, a €35,000,000 1-year intra-group credit facility was granted to Euroclear Holding SA/NV. At the end of December 2018, no drawdown on this facility was requested by Euroclear Holding SA/NV.

*Other treasury Investments (Euroclear Treasury Fund)*

In 2018, the Company invested part of its available cash into two funds, a Belgian Common Investment Fund with three different compartments and a Luxembourg RAIF with two compartments at end 2018, the total value of the investments in the various compartments of the two funds totalised €173,753,346 as described in note XI.

**Subsequent events to closing**

See note XXIV.

**Results and dividends**

As per the statutory accounts, the year ended 31 December 2018 presented a net profit of €92,165,735 compared to net profit of €613,351 for the previous year.

The Company's income reached €134,021,583 in 2018 compared to €2,597,287 in 2017. Income increase is driven by an increase of dividend income at €136,172,629 (2017: €636) but partially offset by lower other income at €216,356 (2017: €919,109) and lower net interest at -€2,367,402 (2017: €1,677,542).

Dividend income in 2018 corresponded mainly to the ordinary dividend payment on 2017 results paid by Euroclear SA/NV in 2018 for €135,163,789.

Other income represented fees received on credit facilities provided to other group companies.

The net interest expense mainly represented the interest on the two Senior Unsecured debt instruments and on the corporate Hybrid debt deduction made of interests earned on outstanding Senior loans, Senior Non Preferred Convertible Contingent loans, Tier 2 Subordinated loans and Senior Non Preferred notes, loans granted to group subsidiaries and to Leaseplan. The Income Statement reported a net interest expense at the end of 2018 due the delay between the dual tranche debt in April and the subscription by the Company to the intragroup Recovery and Resolution instruments issued by Euroclear Bank SA/NV and Euroclear SA/NV at the end of June and October 2018 respectively. The Company's administrative expenses decreased from €1,665,523 in 2017 to €920,727 in

2018 (see note V). The lowering of administrative expenses comes mainly from less Recharge from Euroclear SA/NV, less Non Recoverable VAT and less Tax other than income tax.

IFRS 9 Financial Instruments accounting obligation was introduced in 2018. It had an impact on the intragroup Recovery and Resolution instruments that are valued at fair market price and the resulting value gains or losses have to be recognised in the P&L of the Company as described in Note XII.

Statement of Financial position: Total assets amounted €1,869,858,043 on 31 December 2018 up by €661,265,880 compared to last year. The increase is mainly driven by Treasury Investments (Note XI) and Intragroup Recovery and Resolution instruments (Note XII), in addition to long term debt issued in 2018 for a total of €700,000,000 (Note XVIII).

Total shareholders' equity is lower at €568,735,026 in 2018 compared to €613,199,122 in 2017. The decrease is mainly driven by €159,990,486 dividends paid out in 2018, only partially offset by the current year profit of €92,165,735 and around €24,000,000 positive impact on adoption of IFRS 9.

**Risk management**

Euroclear Investments SA is closely monitoring the quality of its financial data by performing daily and monthly controls, among which cash reconciliations and trend analysis.

Enterprise risk management

Euroclear Investments SA's Board considers that a strong and effective risk governance framework, underpinned by a sound risk culture, is critical to the overall effectiveness of its activities.

To ensure the organisation's risk arrangements continue to meet Board, market and regulatory expectations, Euroclear group has initiated a group-wide risk transformation programme. The programme aims to reinforce the entities robust risk management framework whilst further clarifying the roles and responsibilities of the Board and its Committees, Senior Management, Line Management, and the Control Functions.

The Euroclear group oversees that effective and independent control functions are in place. In particular, it ensures that the Risk Management Function provides robust, independent oversight of risk-taking activities to help group entities - among which Euroclear Investments SA- achieve its goals and deliver its strategy within the Board's risk appetite. The Risk Management Function does this by: aiming to deliver and maintain a leading Enterprise Risk Management (ERM) framework; providing the Board and Senior Management with high quality, independent risk advice and guidance; and helping foster a healthy risk culture throughout the organisation.

The ERM framework structures the way the Company manages its risks, within the Board's risk appetite, whilst pursuing its strategy and corporate objectives. It also details the roles and responsibilities of the three lines of defence, in line with the Board's expectations and the governance arrangements. The first line of defence is the primary source of (non-independent) assurance on the adequacy and effectiveness of the control environment to Senior Management and the Board. The first line of defence provides this assurance through amongst others regular risk and control self-assessment. The assurance on the adequacy of the control environment is complemented by independent Risk Management (second line of defence) and Internal Audit (third line of defence) opinions.

*Risks affecting the Company*

Euroclear Investments SA faces limited operational risks (the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events). Euroclear Investments SA does not provide services to external clients. The Company is mainly engaged in financial operations with market counterparties to raise funding, provide financial assistance to group entities and invest the available capacity of the group in a prudent and efficient manner. Effective identification, monitoring, management and appropriate reporting are nevertheless key.

The exposure of the Company to credit, market and liquidity risks is discussed in note IV.

*Compliance*

The group-wide ethical and compliance risk management framework allows Euroclear Investments SA to adequately identify, monitor and manage the full spectrum of compliance risks. These include, fraud, market abuse and money laundering. In addition, a specific focus is devoted to assess the controls linked to economic sanctions taken by authorities. This framework is supported by communication efforts (e-learning, case-based compliance tests, etc.) that help maintain high levels of staff awareness.

**Acquisition of own shares**

During the financial year, neither the Company nor a person acting in his own name but on behalf of the Company acquired any shares of the Company.

**Research and development**

The Company does not invest in research and development.

**Existence of branches**

None

**Going concern**

After making enquiries, the Directors have formed a judgement, at the time of approving the financial statements, that there is a reasonable expectation that the Company has adequate resources to continue to operate for the foreseeable future. For this reason, the Directors continue to adopt the ‘going concern’ basis in preparing the financial statements.

**Dividends**

The Directors are not recommending to shareholders to approve the payment of an ordinary dividend at the Annual General Meeting as part of the usual yearly profit allocation process. Instead, the Board envisages approving the payment of such a dividend in the fourth quarter of 2019 under the form of an interim distribution, in accordance with the Luxembourg Companies Code and Euroclear Investments SA’s Articles of Association.

**Directors and their interests**

The Company is administrated by a Board of Directors which is vested with the broadest powers to perform all acts necessary or useful for accomplishing the Company’s object. The Board of Directors is composed of at least three members and held office throughout the year. In 2018, its members were Mr Koenraad Geebels (Chairman of the Board), Mr Danilo Giuliani, Mr Tsutomu Suzuki who resigned on 31 July 2018 and Mr Sota Suzuki who was appointed on 14 March 2018. The Board meetings of the Company took place eight times in 2018, i.e. on 7 February, 14 March, 12 April, 07 June, 6 September, 17 September, 22 October and 23 November, respectively.

**Independent auditor**

Deloitte Audit, *Société à Responsabilité Limitée*, acted as Euroclear Investments SA’s auditor during the year 2018.

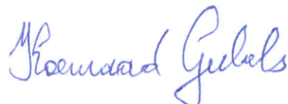
**International financial reporting standards**

The Company, as allowed by the Luxembourg legislation, prepares its financial statements in accordance with International Financial Reporting Standards and International Accounting Standards (IAS) issued by the International Accounting Standards Board, and interpretations issued by the International Financial Reporting Interpretation Committee (together IFRS), endorsed for use by the European Union (EU).

We ask you to grant discharge to the Directors and Statutory Auditor for the proper performance of their duties.

18 April 2019

By order of the Board,



Koenraad Geebels
**Chairman of the Board**

**INCOME STATEMENT**
For the year ended 31 December

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Administrative expenses** | V | **(920,727)** | **(1,665,523)** |
| **Net interest income/(expense)** | VII | **(2,367,402)** | **1,677,542** |
| **Net gains/(losses) on loans mandatorily at FVPL** | XII | (56,348,437) | **-** |
| **Dividend income** | VI | 136,172,629 | 636 |
| **Other income** | | **216,359** | **919,109** |
| **Impairment** | | **119,258** | **-** |
| **Profit/(loss) before income tax** | | **76,871,680** | **931,764** |
| **Income tax** | VIII, IX | **15,294,055** | **(318,413)** |
| **Profit/(loss) after income tax** | | **92,165,735** | **613,351** |

The accompanying notes form an integral part of these financial statements.

**STATEMENT OF COMPREHENSIVE INCOME**
For the year ended 31 December

| (€) | Notes | 2018 Gross | 2018 Tax | 2018 Net | 2017 Gross | 2017 Tax | 2017 Net |
|---|---|---|---|---|---|---|---|
| **Profit for the year** | | **76,871,679** | **15,294,055** | **92,165,734** | **931,764** | **(318,413)** | **613,351** |
| **Derecognised equity funds designated at FVOCI** | | **(603,503)** | **-** | **(603,503)** | **-** | **-** | **-** |
| **Adjustment on adoption of IFRS 9** | II | **33,220,541** | **(8,640,663)** | **24,579,878** | **-** | **-** | **-** |
| **Changes in Other comprehensive income/expense** | | | | | | | |
| Not recyclable to profit/(oss) | | | | | | | |
| - Net gains/(losses) on equity funds at FVOCI | | (832,165) | 216,446 | (615,719) | - | - | - |
| **Other comprehensive income/(expense) for the year** | | **(832,165)** | **216,446** | **(615,719)** | **-** | **-** | **-** |
| **Total Comprehensive income/(expense) for the year** | | **108,656,552** | **6,869,838** | **115,526,390** | **931,764** | **(318,413)** | **613,351** |

**STATEMENT OF FINANCIAL POSITION**
As at 31 December

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Assets** | | | |
| **Non-current assets** | | | |
| Loans and advances at amortised cost | X | 236,950,318 | 261,718,142 |
| Equity funds designated at FVOCI | XI | 173,753,346 | - |
| Loans mandatorily at FVPL | XII | 780,962,342 | - |
| Property, plant and equipment | XIII | 6,519 | 5,602 |
| Investments in subsidiaries | XIV | 637,238,708 | 637,238,708 |
| Deferred income tax assets | IX | 6,864,412 | - |
| **Total non-current assets** | | **1,835,775,645** | **898,962,452** |
| **Current assets** | | | |
| Trade and other receivables | XV | 284,312 | 181,443 |
| Loans and advances at amortised cost | XVI | 33,788,456 | 309,438,638 |
| - of which cash and cash equivalents | | 23,745,037 | 279,395,207 |
| Current income tax assets | | 9,630 | 9,630 |
| **Total current assets** | | **34,082,398** | **309,629,711** |
| **Total assets** | | **1,869,858,043** | **1,208,592,163** |
| **Equity** | | | |
| Ordinary shares | XVII | 119,076,550 | 119,076,550 |
| Share premium | XVII | 258,623,586 | 258,623,586 |
| Other reserves | | 11,291,936 | 11,907,655 |
| Retained earnings | | 179,742,954 | 223,591,331 |
| **Total equity** | | **568,735,026** | **613,199,122** |
| **Liabilities** | | | |
| **Non current liabilities** | | | |
| Long term debt | XVIII | 1,300,807,506 | 595,079,967 |
| **Total non-current liabilities** | | **1,300,807,506** | **595,079,967** |
| **Current liabilities** | | | |
| Trade and other payables | XIX | 315,511 | 305,172 |
| Current income tax liabilities | | - | 7,902 |
| **Total current liabilities** | | **315,511** | **313,074** |
| **Total liabilities** | | **1,301,123,017** | **595,393,041** |
| **Total equity and liabilities** | | **1,869,858,043** | **1,208,592,163** |

The accompanying notes form an integral part of the financial statements.

**STATEMENT OF CHANGES IN EQUITY**
For the year ended 31 December 2018

| (€) | Notes | Share capital | Share premium account | Legal reserve | FVOCI reserve | Retained earnings | Total Equity |
|---|---|---|---|---|---|---|---|
| **At 31 December 2017** | | **119,076,550** | **258,623,586** | **11,907,655** | **-** | **223,591,331** | **613,199,122** |
| Adjustment on adoption of IFRS 9 | II | - | - | - | - | 24,579,878 | 24,579,878 |
| **At 1 january 2018** | | **119,076,550** | **258,623,586** | **11,907,655** | **-** | **248,171,209** | **637,779,000** |
| - Equity instruments designated at FVOCI | | - | - | - | (615,719) | - | (615,719) |
| Profit/(loss) for the year | | - | - | - | - | 92,165,735 | 92,165,735 |
| Derecognised equity funds designated at FVOCI | | - | - | - | - | (603,504) | (603,504) |
| Dividends paid | XX | - | - | - | - | (159,990,486) | (159,990,486) |
| **Balance as at 31 December 2018** | | **119,076,550** | **258,623,586** | **11,907,655** | **(615,719)** | **179,742,954** | **568,735,026** |

| (€) | Notes | Share capital | Share premium account | Legal reserve | FVOCI reserve | Retained earnings | Total Equity |
|---|---|---|---|---|---|---|---|
| **Balance as at 1 January 2017** | | **119,076,550** | **258,623,586** | **11,907,655** | **-** | **222,977,980** | **612,585,771** |
| Profit/(loss) for the year | | - | - | - | - | 613,351 | 613,351 |
| **Balance as at 31 December 2017** | | **119,076,550** | **258,623,586** | **11,907,655** | **-** | **223,591,331** | **613,199,122** |

The total equity is attributable to the owners of the parent company.

Under Luxembourg law, a minimum of 5% of the annual net profit must be transferred to a legal reserve until this reserve equals 10% of the issued share capital. The reserve is not available for distribution.

The accompanying notes form an integral part of these financial statements.

**STATEMENT OF CASH FLOWS**
As at 31 December

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Profit/(loss) before income tax** | | **76,871,680** | **931,764** |
| Adjustments for: | | | |
| - Depreciation and amortisation | XIII | 1,582 | 1,262 |
| - Impairment | | (119,258) | - |
| - Net gains/(losses) on loans mandatorily at FVPL | | 56,348,437 | - |
| - Dividends received | VI | (136,172,629) | (636) |
| - Interest on loans and advances | | (17,162,544) | - |
| - Interest on financing activities | | 18,848,606 | - |
| Other non-cash movements | | 724,557 | - |
| *of which effect of exchange rate changes* | | *(279)* | - |
| Trade and other receivables | XV | (102,867) | 1,294,124 |
| Trade and other payables | XIX | 10,339 | (1,983,785) |
| **Cash generated from operating activities** | | **(752,097)** | **242,729** |
| Tax paid | | 5,426 | (191) |
| **Net cash generated from operating activities (a)** | | **(746,671)** | **242,538** |
| **Cash flow generated from/(used in) investing activities** | | | |
| - Purchase of property, plant and equipment | XIII | (2,499) | (4,110) |
| - Ownership in subsidiary undertakings | XIV | - | (56,000,000) |
| - Net (increase)/decrease in loans and advances | | (761,621,668) | 213,119,980 |
| - Dividends received | VI | 136,172,629 | 636 |
| - Equity instruments at FVOCI | | (174,585,511) | - |
| - Proceeds from disposals of equity instruments at FVOCI | | (603,504) | - |
| **Net cash generated from/(used in) investing activities (b)** | | **(800,640,553)** | **157,116,506** |
| - Long term debt | XVIII | 705,727,539 | 566,273 |
| - Equity dividend paid | XX | (159,990,487) | - |
| **Net cash generated from financing activities (c)** | | **545,737,052** | **566,273** |
| **Net increase in cash and cash equivalents (a+b+c)** | | **(255,650,172)** | **157,925,317** |
| Cash and cash equivalents at beginning of the year | | 279,395,207 | 121,469,890 |
| **Cash and cash equivalents at end of the year** | | **23,745,035** | **279,395,207** |

The accompanying notes form an integral part of the financial statements.

**NOTES TO THE FINANCIAL STATEMENTS**

## I. General information

Euroclear Investments SA (the 'Company') may participate in any form whatsoever in Luxembourg and foreign companies and enterprises of whatever nature and in whatever legal form. The Company may also acquire in whatever manner, own, administer, develop and manage its investments or any industrial or intellectual property rights. It may perform any kind of financial and administrative assistance and services in favour of its parent companies and of any other company or entity that is part of its parent group.

Currently, the Company manages its financial participations within the Euroclear group, i.e. Euroclear SA/NV, Euroclear Properties France SAS, Euroclear Re SA, Euroclear Bank SA/NV, Euroclear Belgium SA/NV and Calar Belgium SA/NV.

## II. Accounting policies

8. Basis of preparation

The financial statements of Euroclear Investments SA have been prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union (EU), International Financial Reporting Interpretations Committee ("IFRIC") interpretations and with the Luxembourg legal and regulatory requirements applicable to companies reporting under IFRS.

In preparing the financial statements for the current year, consideration was given to new IFRSs as well as amendments to IFRS and IFRIC interpretations. There is no standard that has been early adopted.

The following amendments to standards became effective on 1 January 2018:
- IFRS 9 Financial Instruments. IFRS 9 introduces key changes in the following areas:
1. Classification and measurement requires asset classification and measurement based upon both business model and product characteristics.
2. Impairment introduces an expected credit loss model using forward-looking information which replaces an incurred loss model.
3. Hedge accounting introduces changes to, and wider eligibility criteria to hedging of financial instruments
Section II.1 Summary of significant accounting policies describes more in detail the previous IAS 39 and new IFRS 9 rules.
Section II.2 Transition to IFRS 9 describes the key impacts arising from the implementation of IFRS 9 on 1 January 2018.
- IFRS 15 Revenue from Contracts with Customers. IFRS 15 had not impact on the Company's financial statements, considering the straightforward link between the services provided and the billing.
- IFRIC 23 Uncertainty over Income Tax Treatments. The adoption of IFRIC 23 had no impact on the Company's financial statements.

IFRS 16 on Leases will become effective for financial years commencing on 1 January 2019. The standard will revise the accounting model for lessees through the measurement of right-of-use (ROU) asset and lease liability at present value of lease payments. The Company has one building lease contract in scope of the standard, but has elected to apply the short term exemption as at 1 January 2019 (lease expiring within 12 months and not yet renegotiated as at transition date).

*Summary of significant accounting policies*

**Foreign currency translation**
1) Functional and presentation currency

Items included in the financial statements of the Company are measured using the currency of the primary economic environment in which it operates ('the functional currency'). The financial statements are presented in euro, which is the Company's functional and presentation currency.

2) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement, except when deferred in equity as qualifying cash flow hedges and qualifying net investment hedges. Translation differences on non-monetary items measured at fair value through profit or loss are reported as part of the fair value gain or loss. Translation differences on other non-monetary items are included in the foreign currency translation reserve.

**Interest income and expense**
Interest income and expense are recognised in the income statement for all instruments measured at amortised cost and FVPL using the effective interest rate method. The effective interest rate is the rate that exactly discounts the estimated cash payments or receipts over the expected life of the instrument to the net carrying amount of the financial asset or financial liability.

When calculating the effective interest rate for financial assets, the Company estimates future cash flows considering all contractual terms of the financial instrument, but not expected credit losses. For credit impaired financial assets, a credit-adjusted effective interest rate is calculated using estimated future cash flows including expected credit losses.
The calculation of the effective interest rate includes transaction costs and fees and points paid or received that are an integral part of the effective interest rate. Transaction costs include incremental costs that are directly attributable to the acquisition or issue of a financial asset or financial liability.

The 'amortised cost' of a financial asset or liability is the amount at which the financial asset or liability is measured on initial recognition minus the principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount and, for financial assets, adjusted for any expected credit losses allowance.

The gross carrying amount of a financial asset is the amortised cost of a financial asset before adjusting for any expected credit loss allowance.

**Taxation**
Corporation tax payable is provided at the current rate on the profits arising in the period.

Deferred income tax is provided in full on a non-discounted basis, using the liability method, on temporary differences arising between the tax bases of assets and liabilities at the anticipated rate of recovery and their carrying amount in the financial statements. Deferred tax assets, including those related to income tax losses available for carry forward, are recognised when it is probable that future taxable profit will be available against which the temporary differences can be utilised.

**Dividend income**
Dividend income is recognised in the income statement within dividend income when the Company's right to receive payments is established.

**Financial instruments**

**Accounting policy applied from 1 January 2018**

**Classification and measurement**

On initial recognition, a financial asset is classified as measured at amortised cost, Fair Value through Other Comprehensive Income ('FVOCI') or Fair value through profit and loss ('FVPL'). The classification results from a two-step approach: The "characteristics" test will check whether the cash flows can be considered as Solely Payments of Principal and Interest ('SPPI'), and the business model for managing the asset.

A financial asset is classified and measured at amortised cost if it is not designated as FVPL, and if it meets both of the following conditions: it is held for collection of contractual cash flows (Held to Collect) and its contractual terms give rise to cash flows that represent solely payments of principal and interest ('SPPI'). A financial asset classified and measured at amortised cost is recognised in the balance sheet on settlement date at fair value plus any directly related transaction costs. It is subsequently measured at amortised cost using the effective interest method less any loss allowances. The Company uses this category to classify its loans and advances.

A financial asset is classified and measured at Fair value through other comprehensive income (FVOCI) if it is not designated as FVPL, and if it meets both of the following conditions: it is held for collection of contractual cash flows and for selling the assets, and its cash flows represent solely payments of principal and interest. A financial asset classified and measured at Fair value through other comprehensive income (FVOCI) is recognised in the balance sheet on settlement date at fair value. Gains or losses arising from changes in the Fair value of instruments other than equity instruments are recognised directly in equity, until the asset is either sold or matures, at which time the cumulative gain or loss previously recognised in equity is released to the income statement. Interest revenues are recognised using the effective yield method.

The Company may irrevocably elect to designate an equity instrument at FVOCI, if it not held for trading. This election is made on an investment by investment basis. In this case, dividends are recognised in profit and loss, but gains and losses are not recycled to

profit and loss on derecognition and no impairment is recognised. The revaluation gains/losses accumulated in other comprehensive income are transferred to distributable reserves in case of sale of the investment. The Company has designated its equity funds at FVOCI.

All other financial assets are measured at FVPL. These assets are initially recognised and subsequently measured at fair value. The movements in fair value are recognised in the income statement.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When available, the Company measures the fair value of an instrument as the published price at the balance sheet date. In the case of investments with no listed market price, a valuation technique that maximise the relevant use of observable inputs (e.g. discounted cash flows and market multiples) is applied. In case of fund units, the Company uses the Net Asset Value (NAV) of the fund to determine the fair value.

#### Business model assessment

A business model refers to how the Company manages its financial assets in order to generate cash flows. It is determined on a level that reflects how financial assets are managed to achieve a particular business objective.

The Company's objective can be:

- solely to collect the contractual cash flows from the assets ('Held to Collect');
- to collect both the contractual cash flows and cash flows arising from the sale of assets ('Held to Collect and Sell');
- neither of above (e.g. financial assets are held for trading purposes), then the financial assets are classified as part of 'other' business model.

Factors considered by the Company in determining the business model for a group of assets include objectives for the portfolios, how the asset's performance and risks are evaluated, managed and reported to management, and past experience.

#### Assessment whether contractual cash flows are solely payment of principal and interest ('SPPI')

The Company assesses whether the contractual cash flows are consistent with a basic lending arrangement i.e. interest includes only consideration for the time value of money, credit risk, other basic lending risks and a profit margin that is consistent with a basic lending arrangement. This assessment is done on an instrument-by-instrument basis. Where the contractual terms introduce exposure to risk or volatility that are inconsistent with a basic lending arrangement (e.g. write off feature), the related financial asset must be classified and measured at fair value through profit or loss.

#### Reclassifications

Financial assets are not reclassified subsequently to their initial recognition, except in the period after the Company changes its business model for managing financial assets.

### Accounting policy applied prior to 1 January 2018

Loans and advances are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are initially recognised in the balance sheet on settlement date at fair value plus directly related transaction costs, if any, when cash is advanced to the borrowers. They are subsequently measured at amortised cost using the effective interest method. If maturity or collection is expected in one year or less, they are classified as current assets. If not, they are presented as non-current assets.

### Impairment of financial assets

### Accounting policy applied from 1 January 2018

The Company recognises loss allowances on its loans and advances measured at amortised cost. No impairment loss is recognised on equity instruments.

The expected credit loss (ECL) is estimated as the difference between all contractual cash flows that are due to the Company in accordance with the contract and all the cash flows that the Company expects to receive, discounted at the original effective interest rate.

IFRS 9 requires the recognition of 12 month expected credit losses if credit risk has not significantly increased since initial recognition (stage 1), and lifetime expected credit losses for financial instruments for which the credit risk has increased significantly since initial recognition (stage 2) or which are credit impaired (stage 3). Lifetime ECL represents the expected credit losses that will result from all possible default events over the expected life of a financial instrument. In contrast, 12 month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

The measurement of expected credit losses is a function of the probability of default, loss given default (i.e. the magnitude of the loss if there is a default) and the exposure at default. Expected credit losses on financial assets are individually assessed.

The impairment requirements are complex and require management judgements, estimates and assumptions that are detailed in note III Critical accounting estimates and judgements.

A financial asset is credit impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Evidence that a financial asset is credit-impaired includes observable data about the following events:
- significant financial difficulty of the issuer or the borrower;
- a breach of contract, such as a default or past due event;
- it is becoming probable that the borrower will enter bankruptcy or other financial reorganisation; or
- the disappearance of an active market for that financial asset because of financial difficulties.

For trade receivables with no significant financing component, a simplified approach requiring the recognition of lifetime ECLs at all times applies. The expected credit losses on these assets are collectively assessed and estimated using a provision matrix based on the Company's historical credit loss experience. Macro-economic factors are not considered as historical observations show that they are non-relevant. Expected credit losses are based on the age of the receivables. If all or part of a client's receivable is confirmed as being irrecoverable, the value of that receivable will be reduced accordingly.
The Company writes off financial assets and trade receivables, in whole or in part, when it has exhausted all practical recovery efforts and has concluded there is no reasonable expectation of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings.

The aggregate of provisions made (less amounts released and recoveries of bad debts previously written off) is charged against operating profit in the profit and loss account.

**Accounting policy applied prior to 1 January 2018**

The Company assesses at each balance sheet date whether there is objective evidence that assets are impaired. Where there is an indication of impairment, an assessment of the difference between the carrying amount and the present value of estimated future cash flows is performed. Any excess of carrying amount over the present value of estimated future cash flows is reduced through the use of an allowances account. Where appropriate, the group has recourse to adequate valuation techniques (e.g. discounted cash flows, market multiples) to estimate the value of non-quoted available-for-sale equity investments.

**Property, plant and equipment**
Property, plant and equipment are stated at cost less accumulated depreciation. Depreciation is calculated using the straight-line method of cost less estimated residual value in equal annual instalments over the expected useful economic life of the assets.

**Investments in subsidiaries**
These assets are investments in subsidiary undertakings which are intended to be held for an indefinite period of time, but which may be sold in response to changes in the group's financial environment. The Company has elected to account for its investments in subsidiary undertakings at cost in compliance with IAS 27. The group determines that investments in subsidiaries are impaired when there has been a decline in the fair value below its cost.

**Trade and other receivables**
Trade and other receivables are amounts due from debtors for goods or services performed in the ordinary course of business. If collection is expected in one year or less, they are classified as current assets. If not, they are presented as non-current assets.

**Cash and cash equivalents**
For the purposes of the cash flow statement, cash and cash equivalents comprise balances including: cash on hand; deposits held on call with banks; and other short-term, highly liquid investments which are subject to insignificant risk of change in fair value. These balances are assumed to have a maturity of less than 3 months.

**Long term debts**
Long term debts are recognised initially at fair value, being the issue proceeds (fair value of consideration received) net of transaction costs incurred. Long term debts are subsequently stated at amortised cost; any difference between proceeds net of transaction costs and the redemption value is recognised in the income statement over the period of the debt using the effective interest rate method.

**Trade and other payables**
Trade and other payables are obligations to pay for goods or services that have been acquired in the normal course of business. Accounts payables are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities.

**Pensions**
The Company operates a Company Personal Pension scheme for employees. This is a defined contribution scheme, and the costs of the scheme are charged to the income statement as incurred.
**Dividend distribution**
Dividends on ordinary shares are recognised in equity and as a liability in the period in which they are approved by the Company's shareholders.

### II.3. Key impacts on transition to IFRS 9

The classification and measurement of the Company's financial assets remained unchanged, with the exception of the measurement of the contingent convertible loan granted By Euroclear Investments to Euroclear Bank which is not SPPI-compliant (Solely Payment of Principal and Interest) due to its convertible features. As a result, the contingent convertible loan has been reclassified from instruments measured at amortised cost to instruments measured at fair value through profit and Loss (FVPL). A positive fair value of €33,393,723 (before tax impact) has been recognised in retained earnings on 1 January 2018.

The new impairment model requires the recognition of impairment provisions based on expected credit losses (ECL) rather than only incurred credit losses as is the case under IAS 39. The new model results in an earlier recognition of credit losses.

As permitted by IFRS 9, comparative periods have not been restated. Differences on the carrying amount of financial assets resulting from the adoption of IFRS have been recognised in retained earnings and reserves as at 1 January 2018. Accordingly, the information presented for 2017 in the primary financial statements and the notes still reflects the requirements of IAS 39 and are not fully comparable to the information presented under IFRS 9 in 2018.

Below table provides a reconciliation of the statement of financial position between 31 December 2017 and 1 January 2018.

| (€'000) | Notes | 31 December 2017 | Classification and measurement | Impairment charge | 1 January 2018 |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| **Non-current assets** | | | | | |
| Loans and receivables at amortised cost | X | 261,520,198 | (199,867,250) | (173,182) | 61,479,766 |
| Loans mandatorily at FVPL | | - | 233,260,973 | - | 233,260,973 |
| Property, plant and equipment | XIII | 5,602 | - | - | 5,602 |
| Investments in subsidiaries | XIV | 637,238,708 | - | - | 637,238,708 |
| **Total non-current assets** | | 898,764,508 | 33,393,723 | (173,182) | 931,985,049 |
| **Current assets** | | | | | |
| Trade and other receivables | XV | 181,443 | - | - | 181,443 |
| Loans and advances | XVI | 309,636,582 | - | - | 309,636,582 |
| Current income tax assets | | 9,630 | - | - | 9,630 |
| **Total current assets** | | 309,827,655 | - | - | 309,827,655 |
| **Total assets** | | **1,208,592,163** | **33,393,723** | **(173,182)** | **1,241,812,704** |
| **Equity** | | - | - | - | - |
| Ordinary shares | XVII | 119,076,550 | - | - | 119,076,550 |
| Share premium | XVII | 258,623,586 | - | - | 258,623,586 |
| Other reserves | | 11,907,655 | - | - | 11,907,655 |
| Retained earnings | | 223,591,331 | 24,708,016 | (128,138) | 248,171,209 |
| **Total equity** | | 613,199,122 | 24,708,016 | (128,138) | 637,779,000 |
| **Liabilities** | | | | | |
| **Non-current liabilities** | | - | - | - | - |
| Long term debt | XVIII | 595,079,967 | - | - | 595,079,967 |
| Deferred income tax liabilities | | - | 8,685,707 | (45,044) | 8,640,663 |
| | | - | - | - | - |
| **Total non-current liabilities** | | 595,079,967 | 8,685,707 | (45,044) | 603,720,630 |
| | | - | - | - | - |
| **Current liabilities** | | - | - | - | - |
| Trade and other payables | XIX | 305,172 | - | - | 305,172 |
| Current income tax liabilities | | 7,902 | - | - | 7,902 |
| | | - | - | - | - |
| **Total current liabilities** | | 313,074 | - | - | 313,074 |
| **Total liabilities** | | **595,393,041** | **8,685,707** | **(45,044)** | **604,033,704** |
| **Total equity and liabilities** | | **1,208,592,163** | **33,393,723** | **(173,182)** | **1,241,812,704** |

## III. Critical accounting estimates

Euroclear Investments SA makes estimates and assumptions that affect the reported amounts of assets and liabilities. These estimates are considered to be important to understand the Company's financial condition, since they require management to make complex and subjective judgements, some of which may relate to matters that are inherently uncertain. Estimates and judgements are continually evaluated and based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

### III.1. Deferred tax assets

Deferred tax assets are recognised to reflect the future tax benefit from unused tax losses or tax credits and other temporary differences. If there is a concern about the relevant entities' capacity to utilise the tax assets within a reasonable (10-year) period, the assets are impaired, even when there remains a possibility to benefit longer term if sufficient taxable profits arise. The 10-year period is considered reasonable in view of the activities of the Company.

### III.2. Impairment of financial assets

The impairment requirements require management judgements, estimates and assumptions, including:
- Determining a significant increase in credit risk since initial recognition
In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the Company compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition. In making this assessment, the Company considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

IFRS 9 requires the recognition of 12 month expected credit losses (the portion of lifetime expected credit losses from default events that are expected within 12 months of the reporting date) if credit risk has not significantly increased since initial recognition (stage 1), and lifetime expected credit losses for financial instruments for which the credit risk has increased significantly since initial recognition (stage 2) or which are credit impaired (stage 3).

The following information is taken into account when assessing whether credit risk has increased significantly since initial recognition:
- a significant deterioration in the financial instrument's external or internal credit rating;
- a significant deterioration in external market indicators of credit risk for a particular financial instrument, e.g. a significant increase in the credit default swap prices for the debtor, existing or forecast adverse changes in business, financial or economic conditions.
Irrespective of the outcome of the above assessment, the Company presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the Company has reasonable and supportable information that demonstrates otherwise.
Despite the afore going, the Company assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the reporting date. The Company considers a financial asset to have low credit risk when it has an internal or external credit rating of 'investment grade' as per globally understood definition. For all exposures considered as low risk and classified in Stage 1, credit will verify that the exemption is relevant through management judgment. In case it considers that the exposure should still be classified in Stage 2, even if it is eligible to the low risk exemption, credit will override the stage.

#### Forward-looking information

Euroclear is mainly exposed to highly-rated financial institutions. Credit losses are not sensitive to small variations of macro-economic conditions. The ECL model has been calibrated to reflect the low likelihood but potentially high severity of its credit losses. A close monitoring of key market indicators is done to evaluate the possibility of facing stress situations similar to the one experienced during the 2008 financial crisis. Expected credit losses are the unbiased probability-weighted credit losses determined by evaluating a range of possible outcomes and considering future economic conditions. Three scenarios are modelled to ensure an unbiased representative sample of the complete distribution when determining the expected loss.

#### Definition of default

IFRS 9 does not give explicit definition of default, but clearly states that it must be consistent with the one used for internal credit risk management purposes, with the rebuttable presumption that 90 days past due is a default criterion. This definition must be used when assessing whether the credit risk on a financial instrument has increased significantly. Euroclear uses the default definition as stated in the Financial Risk Policy Handbook and used for regulatory capital purposes, to ensure consistency with Basel Committee guidelines.

#### Expected life

In order to assess the lifetime of the instrument and on which time horizon probability of default (PD) must be calculated, a maturity assessment is required. The maturity is the maximum contractual period over the entity is exposed to risk, that should take into account the ability to demand repayment and the possible extensions. When determining the period over which an entity is expected to be exposed to credit risk, Euroclear uses historical information and experience, and notably the period over which the entity was exposed on similar financial instruments. Euroclear mainly holds non committed open-ended lines, for which no maximum contractual period

has been defined. For those, an expected lifetime has been defined based on historical data. For others, the period of exposure has been set to the contractual maturity.

**Discounting**

Expected credit losses are discounted at the effective interest rate determined at initial recognition or an approximation thereof.

**Calculation methodology**

The measurement of expected credit losses is a function of the probability of default, loss given default (i.e. the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information. As for the exposure at default, for financial assets, this is represented by the assets' gross carrying amount at the reporting date. For loan commitments and financial guarantee contracts, the exposure includes the amount drawn down as at the reporting date, together with any additional amounts expected to be drawn down in the future by default date determined based on historical averages, and other relevant forward-looking information.

The regulatory Basel Committee of Banking Supervisors (BCBS) ECL calculations are leveraged and adjusted for IFRS 9. While BCBS requires 12 month through the economic cycle losses, IFRS 9 requires 12 months or lifetime point-in-time losses based on conditions at the reporting date and multiple forecasts of the future economic conditions over the expected lives. IFRS 9 also requires discounting to the reporting date at the original effective interest rate rather than using the cost of capital to the date of default.

**Simplified approach for trade receivables**

For trade receivables, the expected credit losses are assessed per entity and estimates of loss rates are based on the loss experience observed by each of the (I)CSDs and split over various time buckets.

## IV. Risk management

Euroclear Investments SA's financial risk framework ensures that financial risks (i.e. credit, liquidity and market risks) remain within an accepted level.

***Credit risk***

Credit risk is defined as the risk of loss arising from the failure of a counterpart to meet its obligations to the Company.

Euroclear Investments SA, as interim group holding entity, mainly provides financial assistance to Euroclear group entities. The company has no direct business relationship with third party clients. In this context, the Company faces credit risk which arises mainly from the non-payment of interest and principal on the various funding arrangements with its subsidiaries, and reinvestment of excess cash.

The Company does not operate commercial cash accounts and does not extend credit to third parties. The risks are limited by their duration, as well as policy limits. Except for the €800 million loans to Euroclear Bank SA/NV and the €100 million loan to Euroclear SA/NV (see below), the duration of the investments cannot exceed 3 years, and the types of instruments to be used are limited to cash deposits, investments in the Euroclear Treasury Funds or similar products. To limit the credit risk taken on counterparties, the banks that are considered for the cash deposits should at least have a rating in A range or above. For investments in the Euroclear Treasury Funds, rating should be in a range in BBB- or above. The credit quality of Euroclear's credit exposures is assessed by reference to the internal rating system adopted by the Euroclear group[5] or ratings assigned by the three major rating agencies (Standard & Poor's, Moody's and Fitch ratings).

The Company has also limited credit exposure related to the loans granted to Leaseplan Fleet Management NV/SA for €28 million, €70 million to Euroclear SA/NV, €10 million to Euroclear AG, €15 million to Euroclear Properties SAS and €4 million to Calar Belgium SA/NV.

The Company is also exposed to credit risk related to the reinvestment of its cash with its bank counterparties. In addition, in 2018, the Company also reinvested a part of its available cash in dedicated common investment funds. Credit risk arising from such investments is however mitigated through a strict and conservative investment policy in line with the group risk and credit rating profiles.

[5] Euroclear bank's internal rating scale and definitions are in accordance with the Long-term Issuer Default Rating (LT IDR) scale of the three major rating agencies.

The table below presents the maximum gross exposure to credit risk which is defined as the gross carrying amount. After application of impairment losses recognised in accordance with IFRS 9, it equals to the carrying amount as reported in the financial statements.

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| At 31 December | | | |
| **Financial assets** | | | |
| **Non-current assets** | | | |
| Loans and advances at amortised cost | X | 236,950,318 | 261,718,142 |
| Equity instruments at FVOCI | XI | 173,753,346 | - |
| Loans mandatorily at FVPL | XII | 780,962,342 | - |
| **Current assets** | | | |
| Loans and advances at amortised cost | XVI | 33,788,456 | 309,438,638 |
| **Total financial assets** | | **1,225,454,462** | **571,156,780** |

***Market risk***

Market risk is the uncertainty on future earnings and on the value of assets and liabilities (or on off balance sheet) due to changes in interest rates and foreign exchange rates.

The Company's exposure to interest rate risk increased with the direct investment of the debt proceeds for €43 million with external banking counterparties, €174 million in the Euroclear Treasury Funds and for €980 million intra-group loans.

The long term debts being recognised at amortised cost, a movement in interest rates would have no impact on the profit and loss account or on equity.

The reinvestment of the underlying cash of the debt proceeds recognised at fair market value for €800 million, movement in interest rates would impact the profit and loss account or on equity.

The Company has no currency exposure as at 31 December 2018. The Company uses the euro as functional currency. To avoid the potential foreign exchange risk that would arise from the investment of their surplus cash, the investments can only be made in their local currency, i.e. in euro.

***Liquidity risk***

Liquidity risk is the risk of loss arising from the Company being unable to settle an obligation for full value when due. Liquidity risk does not imply that the Company is insolvent since it may be able to settle the required debit obligations at some unspecified time thereafter.

The investment policy followed by the Company ensures at all times that sufficient funds are available, to cover obligations arising from its outstanding funding arrangements. Available surplus cash can also be invested in plain vanilla corporate fixed income securities with maturities up to 5 years and not exceeding 3 years on average following strict and conservative investment policy principles in line with the group risk and credit rating profiles.

### Fair value of financial instruments

The Company measures fair values using the following fair value hierarchy, which reflects the significance of the inputs used in making the measurements:

**Level 1:** Inputs that are quoted market price in active markets for the same instruments. A market is regarded as active if quoted prices are readily and regularly available (exchange, dealer, broker, pricing service or regulatory agency) and if these prices represent actual and regularly occurring market transactions on an arm's length basis.

**Level 2:** The fair value of these instruments is determined by using quoted prices included within level 1 that are observable either directly (i.e. as prices) or indirectly (i.e. derived from prices). This category includes instruments valued using: quoted prices in active markets for similar instruments, quoted prices for similar instruments in markets that are less active, or other valuation techniques. The valuation techniques maximise the use of observable market data where it is available. If all significant inputs that are required to fair value an instrument are observable, the instrument is included in level 2.
**Level 3:** If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3. Specific valuation techniques used to value financial instruments include:
- quoted market prices or dealer quotes for similar instruments;
- the present value of the estimated future cash flows based on observable yield curves, for the fair value of interest rate swaps;
- the forward exchange rates at the balance sheet date, with the resulting value discounted back to present value, for the fair value of forward foreign exchange contracts;
- other techniques, such as discounted cash flow analysis, used to determine the fair value of remaining financial instruments.

### Financial instruments measured at fair value

The table below shows the three-level hierarchy of the financial instruments measured at fair value.

| (€) | Notes | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|---|
| At 31 December 2018 | | | | | |
| **Financial assets** | | | | | |
| **Financial assets at FVOCI** | XI | | | | |
| Equity funds | | - | 173,753,346 | - | 173,753,346 |
| **Nontrading financial assets mandatorily at FVPL** | XII | | | | |
| Debt instruments | | - | - | - | - |
| Loans | | - | - | 780,962,342 | 780,962,342 |
| **Total financial assets** | | **-** | **173,753,346** | **780,962,342** | **954,715,688** |

The fair valuation of the Loans (Level 3) is based on a discounted cash flow analysis. The discount rates used are retrieved from financial instruments with comparable features. The model incorporates a large range of data points for Additional Tier-1 (AT1) instruments that are used to help guiding towards the indicative cost of high trigger features.
AT1 instruments follow specific trading dynamics due to the fact that (among other reasons such as supply expectations):

- Investors trade them in cash price rather in spreads;
- They are more likely reflective of general market/equity sentiment than other credit instruments and subject to a much larger volatility;
- Their price is impacted by market perception of the likelihood of the instrument to be refinanced or extended at call date based on the comparison of refinancing cost versus post-reset cost, with the consequence to see bonds trading (on a spread basis) versus call date or versus maturity/perpetuity (or in between).

For the reconciliation of the level 3 fair value movements, please refer to note XII.

### Financial instruments not measured at fair value

The table below show the three-level hierarchy of the financial instruments not measured at fair value.

| (€) | Notes | Level 1 | Level 2 | Level 3 | Total | Carrying amount |
|---|---|---|---|---|---|---|
| At 31 December 2018 | | | | | | |
| **Financial assets** | | | | | | |
| **Non-current assets** | | | | | | |
| Loans and advances at amortised cost | X | - | 236,950,318 | - | 236,950,318 | 236,950,318 |
| **Current assets** | | | | | | |
| Loans and advances at amortised cost | XVI | - | 33,788,456 | - | 33,788,456 | 33,788,456 |
| **Total financial assets** | | **-** | **270,738,774** | **-** | **270,738,774** | **270,738,774** |
| **Financial liabilities** | | | | | | |
| **Non-current liabilities** | | | | | | |
| Long term debt | XVIII | 1,291,197,000 | - | - | 1,291,197,000 | 1,300,807,506 |
| **Total financial liabilities** | | **1,291,197,000** | **-** | **-** | **1,291,197,000** | **1,300,807,506** |

| (€) | Notes | Level 1 | Level 2 | Level 3 | Total | Carrying amount |
|---|---|---|---|---|---|---|
| At 31 December 2017 | | | | | | |
| **Financial assets** | | | | | | |
| **Non-current assets** | | | | | | |
| Loans and advances at amortised cost | X | - | 261,718,142 | - | 261,718,142 | 261,718,142 |
| **Current assets** | | | | | | |
| Loans and advances at amortised cost | XVI | - | 309,438,638 | - | 309,438,638 | 309,438,638 |
| **Total financial assets** | | **-** | **571,156,780** | **-** | **571,156,780** | **571,156,780** |
| **Financial liabilities** | | | | | | |
| **Non-current liabilities** | | | | | | |
| Long term debt | XVIII | 607,854,000 | - | - | 607,854,000 | 595,079,967 |
| **Total financial liabilities** | | **607,854,000** | **-** | **-** | **607,854,000** | **595,079,967** |

## V. Administrative expenses

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Staff costs** | | **221,856** | **190,826** |
| - Wages and salaries | | 169,659 | 153,766 |
| - Social security costs | | 21,079 | 17,679 |
| - Defined benefit plans | | - | 1,811 |
| - Defined contribution plans | | 17,697 | 13,879 |
| - Other staff costs | | 13,421 | 3,691 |
| Auditors' remuneration | | 70,830 | 29,500 |
| Consultants fees | | 169,752 | 205,296 |
| Services provided by group entities | XXII | 80,107 | 497,984 |
| Occupancy | | 83,786 | 75,995 |
| Depreciation and amortisation | XIII | 1,582 | 1,262 |
| Other taxes | | 232,478 | 557,172 |
| Other administrative expenses | | 60,336 | 107,488 |
| **Total** | | **920,727** | **1,665,523** |

The Company employed in average 0.5 employee and 1 manager in 2018 against 0.5 employee and 1 manager in 2017.

| (€) | 2018 | 2017 |
|---|---|---|
| Fees payable to the Company's auditor for the audit of the Company's annual accounts | 70,830 | 19,000 |
| Fees payable to the Company's auditor and its associates for other services: | | |
| - The audit of the Company's subsidiaries, pursuant to legislation | - | - |
| - Other assurance services | - | 10,500 |
| **Total** | **70,830** | **29,500** |

€45,180 out of the total 2018 audit fees were paid to the Company's new auditor (Deloitte).

## VI. Dividend income

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| Dividend income | XXII | 136,172,629 | 636 |

Dividend income was received in 2018 from several group entities:

- €135,163,789 from Euroclear SA/NV Brussels compared to €0 in 2017;
- €1,007,066 from Calar Belgium SA/NV. Nothing received in 2017 as the shares were acquired at the end of November 2017;
- €1,735 from Euroclear Bank SA/NV compared to €636 in 2017;
- €40 from Euroclear Belgium SA/NV compared to €0 in 2017.

## VII. Net interest income/(expense)

| (€) | 2018 | 2017 |
|---|---|---|
| **Total interest income** | **17,384,154** | **9,906,998** |
| - Other loans and advances at amortised cost | 444,564 | 332,025 |
| - Equity funds designated at FVOCI | 4,153,141 | - |
| - Intercompany loan | 1,412,537 | 9,574,973 |
| - Loans mandatorily at FVPL | 11,373,912 | - |
| **Total interest expense** | **(19,751,555)** | **(8,229,456)** |
| - Other loans and advances at amortised cost | (1,208,195) | (913,184) |
| - Long-term debt | (18,543,360) | (7,316,272) |
| **Net interest income/(expense)** | **(2,367,401)** | **1,677,542** |

## VIII. Taxation

| (€) | 2018 | 2017 |
|---|---|---|
| Current income tax income/(charge) | (1,785) | (8,094) |
| Adjustments to current tax of prior period | 7,211 | - |
| Deferred tax income/(charge) relating to the origination and reversal of temporary differences | 15,288,629 | (310,319) |
| **Tax income/(charge) for the year** | **15,294,055** | **(318,413)** |

| (€) | 2018 | 2017 |
|---|---|---|
| **Operating profit before tax** | **76,871,680** | **931,764** |
| At standard tax rate [1] | (19,994,323) | (252,322) |
| - Expenses not deductible for tax purposes | 7,107 | (42,452) |
| - Non taxable dividend income | 35,305,612 | 86 |
| - Deferred tax income/(charge) - other | (31,019) | (15,631) |
| - Withholding tax on dividend received | (533) | (191) |
| - Adjustments to current tax of prior period | 7,211 | - |
| - Other | - | (7,903) |
| **Tax income/(charge) for the year** | **15,294,055** | **(318,413)** |

[1] A rate of 26.01% (in 2017: 27.08%), representing the effective corporate tax rate, has been used.
The current income tax charge is calculated on the basis of the Luxembourg tax laws enacted at the end of the reporting period.

## IX. Deferred taxation

Analysis of the movements of the net deferred tax balance is as follows:

| (€) | 2018 | 2017 |
|---|---|---|
| **At 1 January** | - | 310,319 |
| Adjustment on adoption of IFRS 9 | (8,640,663) | - |
| Income statement | 15,288,629 | (310,319) |
| - Equity instruments at FVOCI | 216,446 | - |
| **At 31 December** | **6,864,412** | **-** |

The asset will be recovered against the expected future profits of the Company. Maturity of deferred tax asset has been estimated based on forecasts (estimation excludes any computation of disallowed expenses).
The Company is subject to the general tax regulations applicable to all commercial companies in Luxembourg.

| (€) | Total | Maturity before 31 December 2019 | Maturity after 31 December 2019 |
|---|---|---|---|
| At 31 December 2018 | | | |
| Equity instruments at FVOCI | 216,446 | - | 216,446 |
| Financial assets (ECL) | 14,026 | 14,026 | - |
| Debt instruments mandatorily at FVPL | 2,199,525 | - | 2,199,525 |
| Tax loss carried forward | 4,434,415 | - | 4,434,415 |
| **Total** | **6,864,412** | **14,026** | **6,850,386** |

## X. Non-current loans and advances at amortised cost

| (€) | 2018 | 2017 |
|---|---|---|
| Intercompany loans | 189,507,885 | 217,878,429 |
| Other loans and advances | 47,496,357 | 43,839,713 |
| Expected credit loss | (53,924) | - |
| **Total** | **236,950,318** | **261,718,142** |

| Lender | Opening Balance 2018 | Interest accrued, net of payments | Expected Credit Loss | Change in Value | Amortized Costs | New Loan/ (repayment) | Closing Balance 2018 |
|---|---|---|---|---|---|---|---|
| (€) | | | | | | | |
| Euroclear Bank | - | 901,973 | (6,248) | - | (642,908) | 100,000,000 | 100,252,816 |
| Lease Plan | 23,839,642 | 228,170 | (39,043) | 3,428,434 | - | - | 27,457,203 |
| Calar Belgium | - | 46,111 | - | - | - | 4,000,000 | 4,046,111 |
| Euroclear Properties France | 18,011,250 | (3) | - | - | - | (3,000,000) | 15,011,246 |
| Euroclear SA/NV | - | 191,464 | (4,375) | - | - | 70,000,000 | 70,187,089 |
| BNP (3 year deposit) | 20,000,000 | 111 | (4,258) | - | - | - | 19,995,853 |
| **Total** | **61,850,892** | **1,367,825** | **(53,924)** | **3,428,434** | **(642,908)** | **171,000,000** | **236,950,318** |

*Euroclear Bank*

On 29 June 2018, the Company subscribed to a €100,000,000 10-year Senior Non Preferred issued by Euroclear Bank SA/NV for a principal of €99,325,000 net of €675,000 of issue costs.

This loan bears interest from and including 30 March 2019 (but excluding) the interest payment date falling on 30 March 2028 at the rate of 1.77% per annum.

Accrued interest for the year amount to €901,973 (2017: €0). Accrued interests are payable within one year.

The fees are amortised on an actuarial basis until 30 March 2028. The amortisation for the current year amounted to €642,908 (2017:€0).

The fair value of the senior non preferred loan at 31 December 2018 was €99,864,840 (2017: €0). The fair value is based on a revised pricing in applicable market conditions. Such revised pricing will then be used to discount the future expected cash flows of the loan.

*Lease Plan*
Euroclear Investments SA granted a credit facility (maximum amount of €28,000,000) to Leaseplan Fleet Management NV/SA of which €27,268,076 has been drawn as of end of 2018 (2017: €23,641,768). The carrying value of the loans and advances is a reasonable approximation of their fair value.

*Calar Belgium*
*On 30 January 2018, the Company granted a €6,000,000 9-year intra-group loan to Calar Belgium SA/NV. On 22 October 2018, Calar Belgium SA/NV reimbursed €2,000,000 leaving a loan balance of €4,000,000.*

*Euroclear Properties France SAS*
The Company lent €18,000,000 to Euroclear Properties France for a period of 9 years with a fixed rate of 1.25%. An amount of €3,000,000 was reimbursed in October 2018. The remaining balance at the end of December 2018 is €15,000,000.

*Euroclear SA/NV*
On 07 February 2018, the Company granted a 2 year intra-group loan agreement with Euroclear SA/NV for €100,000,000 of which €70,000,000 were drawdown at the end of 2018.

*BNP Deposit (3 year deposit)*
Since 2017, Euroclear Investments placed €20,000,000 on a 3 year deposit with BNP Paribas. The deposit offers positive interest rate and no redemption penalty.

### XI. Equity funds designated at FVOCI

| (€) | |
|---|---|
| At 31 December 2017 | - |
| Additions | 314,999,029 |
| Redemptions and disposals | (140,413,518) |
| Gains/losses from changes in fair value | - |
| - (Gains)/losses on redeemed or sold financial assets | - |
| - Gains/(losses) on held financial assets | (832,165) |
| **At 31 December 2018** | 173,753,346 |

## XII. Loans mandatorily at FVPL

| (€) | Maturity | 2018 | 2017 |
|---|---|---|---|
| **Loans mandatorily at FVPL** | | | |
| EUR 200,000,000 8.5 year Fixed rate senior non-preferred contingent convertible loan | 2026 | 195,532,162 | - |
| EUR 300,000,000 12 year Fixed rate senior non-preferred contingent convertible loan | 2030 | 297,806,246 | - |
| EUR 200,000,000 15 year Fixed rate convertible Tier 2 subordinated liability | 2033 | 187,656,062 | - |
| EUR 100,000,000 15 year Fixed rate convertible Tier 2 subordinated liability | 2033 | 99,967,872 | - |
| **Loans mesured at amortised cost** | | - | 199,867,250 |
| **Total** | | **780,962,342** | **199,867,250** |

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| Adjustment on adoption of IFRS 9 | II | 233,260,973 | - |
| **At 1 January** | | **233,260,973** | |
| Additions | | 592,675,894 | - |
| Income statement | | | |
| - Net interest income | VII | 11,373,912 | |
| - Fair value adjustment | | (56,348,437) | - |
| **At 31 December** | | **780,962,342** | **-** |

*Convertible Contingent loans*

On 16 December 2016, a €200,000,000 10-year contingent convertible loan corresponding to one third of the proceeds of the senior unsecured debt instrument issued by Euroclear Investments SA on 07 December 2016 was granted to Euroclear Bank (principal amount of €198,955,000, net of €1,045,000 of issue costs). On 29 June 2018, a €200,000,000 8.5-year Senior Non Preferred Contingent Convertible loan replacing the €200,000,000 10-year contingent convertible loan was granted to Euroclear Bank with revised rates and features to meet markets conditions and regulatory requirements.

On 30 November 2018, the Company received €7,598,247 as coupon payment.

On 29 June 2018, a €300,000,000 12-year Senior Non Preferred Contingent Convertible loan was granted to EB (principal amount of €297,978,000, net of €2,022,000 of issue costs).

*Tier 2 Subordinated Loans*

On 29 June 2018, a €200,000,000 15-year Tier 2 Subordinated Loan was granted to EB (principal amount of €198,649,000, net of €1,351,000 of issue costs).

On 29 June 2018, a €100,000,000 15-year Tier 2 Subordinated Loan was granted to ESA (principal amount of €99,494,000, net of €506,000 of issue costs).

## XIII. Property, plant and equipment

| (€) | Furniture and fixtures | IT equipment | Other equipment | Total |
|---|---|---|---|---|
| **Cost** | | | | |
| At 1 January 2018 | 18,694 | 46,689 | 4,110 | 69,493 |
| Additions | - | 2,499 | - | 2,499 |
| Transfer and disposals | - | - | - | - |
| **At 31 December 2018** | **18,694** | **49,188** | **4,110** | **71,992** |
| **Accumulated depreciation** | | | | |
| At 1 January 2018 | (16,898) | (46,689) | (304) | (63,891) |
| Depreciation charge | (958) | (167) | (457) | (1,582) |
| Transfer and disposals | - | - | - | - |
| **At 31 December 2018** | **(17,856)** | **(46,856)** | **(761)** | **(65,473)** |
| **Net book value at 31 December 2018** | **838** | **2,332** | **3,349** | **6,519** |

| (€) | Furniture and fixtures | IT equipment | Other equipment | Total |
|---|---|---|---|---|
| **Cost** | | | | |
| At 1 January 2017 | 18,694 | 46,689 | - | 65,383 |
| Additions | - | - | 4,110 | 4,110 |
| Transfer and disposals | - | - | - | - |
| **At 31 December 2017** | **18,694** | **46,689** | **4,110** | **69,493** |
| **Accumulated depreciation** | | | | |
| At 1 January 2017 | (15,940) | (46,689) | - | (62,629) |
| Depreciation charge | (958) | - | (304) | (1,262) |
| Transfer and disposals | - | - | - | - |
| **At 31 December 2017** | **(16,898)** | **(46,689)** | **(304)** | **(63,891)** |
| **Net book value at 31 December 2017** | **1,796** | **-** | **3,806** | **5,602** |

## XIV. Investments in subsidiaries

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| At 1 January | | 637,238,708 | 581,238,708 |
| Acquisition of subsidiaries | | - | 56,000,000 |
| **At 31 December** | | **637,238,708** | **637,238,708** |

On 23 November 2017, Euroclear Investments has acquired 99.99% of Calar Belgium, a company owning 51% of the Calar Cabesa Partners that owns the Euroclear head Office and a data centre in Brussels for a total amount of €56,000,000 representing the fair value of its share of the building. The net book value of the entity amount to €22,834,000 on the date of acquisition.

| Shares | Registered Office | % of Participation | Net Book Value 31/12/2018 (€) | Net Book Value 31/12/2017 (€) |
|---|---|---|---|---|
| Euroclear Bank SA/NV | Belgium | 0.0014 | 6,045 | 6,045 |
| Euroclear SA/NV | Belgium | 99.9999 | 566,233,117 | 566,233,117 |
| Euroclear Re SA | Luxembourg | 99.9900 | 9,999,000 | 9,999,000 |
| Euroclear Properties France SAS | France | 100.0000 | 5,000,000 | 5,000,000 |
| Euroclear Belgium SA | Belgium | 0.0018 | 546 | 546 |
| Calar Belgium SA/NV | Belgium | 99.9994 | 56,000,000 | 56,000,000 |
| | | | **637,238,708** | **637,238,708** |

As far as above investments are concerned, no indicator of impairment has been detected. The group therefore estimates that their values in the accounts of the Company are still justified.

| Shares | Registered Office | Net equity as of 31/12/2018 (€ '000) | Result of the year (€ '000) |
|---|---|---|---|
| Euroclear Bank SA/NV | Belgium | 1,699,515 | 288,373 |
| Euroclear SA/NV | Belgium | 2,672,831 | 76,054 |
| Euroclear Re SA | Luxembourg | 10,020 | - |
| Euroclear Properties France SAS | France | 12,570 | 1,141 |
| Euroclear Belgium SA | Belgium | 23,190 | 1,016 |
| Calar Belgium SA/NV | Belgium | 23,024 | 1,100 |

## XV. Trade and other receivables

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| Amounts due from group entities | XXII | 140,541 | 96,079 |
| Prepayments | | 71,770 | 29,958 |
| Other assets | | 72,001 | 55,406 |
| **At 31 December** | | **284,312** | **181,443** |

Trade and other receivables consist of amounts due from affiliated undertakings and non-affiliated undertakings. These amounts are short-term, hence their carrying value is a reasonable approximation of their fair value.

## XVI. Current loans and advances at amortised cost

| (€) | 2018 | 2017 |
|---|---|---|
| Cash at bank and in hand | 23,745,035 | 21,191,442 |
| Short-term bank deposits | - | 258,203,764 |
| **Total cash and cash equivalents** | **23,745,035** | **279,395,206** |
| Other current loans and advances | 10,043,421 | 30,043,432 |
| **At 31 December** | **33,788,456** | **309,438,638** |

*Current loans and advances relate to short term deposits and loans with a maturity of less than 1 year.*

Other current loans and advances include a €10,000,000 1-year intra-group loan granted to Euroclear Limited on 26 October 2018. On 05 December 2018, Euroclear AG took over the €10,000,000 1-year intra-group loan from Euroclear Limited (previously Euroclear plc) via a novation agreement (see Note XXI).

The carrying value of the loans and advances is a reasonable approximation of their fair value.

## XVII. Share capital and share premium

| Equity shares | Number of shares | (€) Share Capital | Share Premium | Total |
|---|---|---|---|---|
| Issued and fully paid share capital | | | | |
| At 1 January and 31 December 2018 | **1,198,069** | **119,076,550** | **258,623,586** | **377,700,136** |
| At 1 January and 31 December 2017 | **1,198,069** | **119,076,550** | **258,623,586** | **377,700,136** |

The Company's capital management objectives are primarily to ensure the Company's ability to continue as a going concern. The Company has a budgeting process in place by which the forecasted cash needs are communicated to the equity holders who then provide the necessary funding to the Company by way of equity contributions.

## XVIII. Long term debt

| (€) | Maturity | 2018 Book value | 2018 Fair value | 2017 Book value | 2017 Fair value |
|---|---|---|---|---|---|
| EUR 600,000,000 10 year Fixed rate Senior Debt | Dec-26 | (595,079,967) | (597,522,000) | (595,079,967) | (607,854,000) |
| EUR 300,000,000 12 Year Fixed rate Senior Debt | Apr-30 | (301,421,463) | (296,643,000) | - | - |
| EUR 400,000,000 30 year Fixed rate Corporate Hybrid Debt | Apr-48 | (404,306,076) | (397,032,000) | - | - |
| **Total** | | **(1,300,807,506)** | **(1,291,197,000)** | **(595,079,967)** | **(607,854,000)** |

*Senior Unsecured Debt*

On 7 December 2016, the Company issued a 10-year senior, unsecured and unsubordinated Eurobond on the Euronext Amsterdam stock exchange for an amount up to €600,000,000 (10 year maturity – fixed coupon). Such issue is deemed to enhance the group funding flexibility over the next 10-year period, maintain a suitable level of investment capacity in the group and strengthen the recovery capacity of operating entities. The issue was realised at a re-offer price slightly below par (€598,536,000), leading to a re-offer yield of 1.151% or 2.6 bps above the annual interest rate. A combined management and underwriting commission of 0.55% was levied on the nominal amount of the securities. These fees (€3,300,000) together with other transactions costs (€1,219,000) are amortised on an actuarial basis. The amortisation charge for the current year amounted to €574,064 (€566,272 in 2017).

The €600,000,000 senior unsecured debt instrument bears an interest rate of 1.125% per annum. Interest cost for the year amounts to €462,329 (€462,329 in 2017).

On 7 December 2018, the Company paid the yearly coupon of €6,750,000 to the bond holders.

*Dual tranche Debts*

On 11 April 2018, the Company issued a 12-year senior, unsecured and unsubordinated Eurobond on the Irish stock exchange for an amount up to €300,000,000 (12 year maturity – fixed coupon). Such issue is deemed to strengthen the capital structure of Euroclear Bank (EB) and Euroclear SA/NV (ESA). The issue was realised at a re-offer price slightly below par (€298,151,000), leading to a re-offer yield of 1.526% or 2.6 bps above the annual interest rate. A combined advisory and underwriting commission of 0.40% was levied on the nominal amount of the securities. These fees (€1,200,000) together with other transactions costs (€1,353,353) are amortised on an actuarial basis. The amortisation charge for the current year amounted to €133,627 (€0 in 2017).
The €300,000,000 senior non preferred unsecured and unsubordinated instrument bears an interest rate of 1.50% per annum. Interest cost for the year amounts to €3,267,123 (€0 in 2017).

On 11 April 2018, the Company issued a 30-year non-callable 10-year hybrid, unsecured and unsubordinated Eurobond on the Irish stock exchange for an amount up to €400,000,000 (30 year maturity non-callable 10 year – fixed coupon). Such issue is deemed to strengthen the capital structure of Euroclear Bank and Euroclear SA/NV. The issue was realised at par (€400,000,000). A combined advisory and underwriting commission of 0.68% was levied on the nominal amount of the securities. These fees (€2,700,000) together with other transactions costs (€812,471) are amortised on an actuarial basis. The amortisation charge for the current year amounted to €195,259 (€0 in 2017).

The €400,000,000 hybrid unsecured and unsubordinated instrument bears an interest rate of 2.625% per annum. Interest cost for the year amounts to €7,623,288 (€0 in 2017).

The proceeds of the long term debts issued in 2016 and 2018 were mainly downstreamed to Euroclear Bank and Euroclear SA/NV via registered notes instruments (€780,962,342), via various intra-group loans (€236,950,318) as described in note IX and treasury investments in the EOC Treasury Funds (€173,753,346).

*Convertible Contingent loans*

On 16 December 2016, a €200,000,000 10-year contingent convertible loan corresponding to one third of the proceeds of the senior unsecured debt instrument issued by Euroclear Investments SA on 07 December 2016 was granted to Euroclear Bank (principal amount of €198,955,000, net of €1,045,000 of issue costs). On 29 June 2018, a €200,000,000 8.5-year Senior Non Preferred Contingent Convertible loan replacing the €200,000,000 10-year contingent convertible loan was granted to Euroclear Bank with revised rates and features to meet markets conditions and regulatory requirements.

On 30 November 2018, the Company received €7,598,247 as coupon payment.

On 29 June 2018, a € 300,000,000 12-year Senior Non Preferred Contingent Convertible loan was granted to EB (principal amount of €297,978,000, net of €2,022,000 of issue costs).

*Tier 2 Subordinated Loans*

On 29 June 2018, a €200,000,000 15-year Tier 2 Subordinated Loan was granted to EB (principal amount of €198,649,000, net of €1,351,000 of issue costs).

On 29 June 2018, a €100,000,000 15-year Tier 2 Subordinated Loan was granted to ESA (principal amount of €99,494,000, net of €506,000 of issue costs).

*Senior Non Preferred Loan*

On 29 June 2018, a €100,000,000 10-year Senior Non Preferred Loan was granted to EB (principal amount of €99,325,000, net of €675,000 of issue costs).

## XIX. Trade and other payables

| (€) | Note | 2018 | 2017 |
|---|---|---|---|
| Amounts due to related parties | XXII | 2,426 | 15,866 |
| Social security and other taxes | | 212,895 | 187,126 |
| Accruals and deferred income | | 99,849 | 102,112 |
| Other liabilities | | 340 | 68 |
| **At 31 December** | | **315,511** | **305,172** |

All amounts owed to group entities are due on receipt of invoice. All current trade and other payables are due within three months and hence their carrying value is reasonable approximation of their fair-value.

## XX. Dividends paid

| € per share | 2018 | 2017 |
|---|---|---|
| **Equity paid** | **133.54** | **-** |
| (€) | | |
| **Equity paid** | **159,990,486** | **-** |

In 2018, Euroclear Investments SA paid an ordinary dividend to its parent company of €159,990,486 compared to €0 in 2017.

## XXI. Ultimate parent company

Euroclear Investments SA is a wholly owned subsidiary of Euroclear Holding SA/NV. Euroclear Holding is a limited liability company. The address of its registered office is 1 Boulevard du Roi Albert II, 1210 Brussels, Belgium.

The Company prepared consolidated financial statements, which are published according to the provisions of the Luxembourg law.

## XXII. Related party disclosures

| (€) | Notes | 2018 | 2017 |
|---|---|---|---|
| **Assets** | | | |
| **Non-current assets** | | **1,607,655,011** | **855,117,137** |
| Investment in subsidiaries | XIV | 637,238,708 | 637,238,708 |
| Loans and receivables at amortized cost | X | 189,453,961 | 217,878,429 |
| Loans mandatorily at FVPL | XII | 780,962,342 | - |
| **Current assets** | | **10,143,010** | **50,130,365** |
| Trade and other receivables | XV | 140,541 | 96,079 |
| Loans and advances at amortised cost | | 10,000,000 | 30,000,000 |
| Cash and cash equivalents | | 2,469 | 20,034,286 |
| **Total assets** | | **1,617,798,021** | **905,247,502** |
| **Liabilities** | | | |
| **Current liabilities** | | | |
| Trade and other payables | XIX | 2,426 | 15,866 |
| **Total liabilities** | | **2,426** | **15,866** |
| **Comprehensive income** | | | |
| Administrative expenses | V | (80,107) | (497,984) |
| Dividend income | VI | 136,172,629 | 636 |
| Other operating income | | 216,077 | 919,440 |
| Net interest income/(expense) | VII | 16,863,498 | 9,509,062 |
| **Total Comprehensive income** | | **153,172,097** | **9,931,154** |

The Company has entered into various agreements with group entities for the provision of services. These are priced on an arm's length basis in accordance with the group's intercompany transaction policy.

The gross income represents the recuperation of costs from the Euroclear entities principally for the group insurance management function monitored out of Euroclear Investments SA.

Euroclear Bank SA/NV is one of the Company's bank counterparties for cash deposits.
Euroclear Holding SA/NV entered into a loan agreement with the Company for a total amount of €35,000,000. No amount was drawn down at the end of 2018.

**Directors' emoluments**

The emoluments of the Euroclear Investments non-executive directors amounted to €3,750 as of 31 December 2018 (2017: €2,500). In 2018, two directors waived the right to receive emoluments (2017: 1). No loans or similar transactions occurred with directors, key management or their close family members.

## XXIII. Contingent liabilities and commitments

Euroclear Investments established a banking guarantee of €36,720 in favour of Immo Cristal Luxembourg SA.

In accordance with the pledge agreement dated 28 November 2014, the Company agreed to make available a term loan facility to Leaseplan Fleet Management NV/SA up to a total commitment amounting to €28,000,000 as at 31 December 2018 and periodically reassessed (See Note IX). At 31 December 2018, €27,268,076 were drawn-down by Leaseplan Fleet Management NV/SA, leaving an available balance of €731,924.

On 4 October 2018, a €35,000,000 1-year intra-group credit facility was granted to Euroclear Holding SA/NV. At the end of December 2018, no drawdown on this facility was requested by Euroclear Holding SA/NV.

On 7 February 2018, a €100,000,000 2-year intra-group credit facility was granted to ESA. At 31 December 2018, €70,000,000 were drawn-down by Euroclear SA/NV, leaving an available balance of €30,000,000.

## XXIV. Events after balance sheet date

There were no events after balance sheet date.

# Deloitte.

Deloitte Audit
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To the Shareholders of
Euroclear Investments S.A.

## REPORT OF THE REVISEUR D'ENTREPRISES AGREE

### Report on the Audit of the annual accounts

#### Opinion

We have audited the annual accounts of Euroclear Investments S.A. (the "Company"), which comprise the statement of financial position as at December 31, 2018, and the statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and notes to the annual accounts, including a summary of significant accounting policies.

In our opinion, the accompanying annual accounts present fairly, in all material respects, the financial position of the Company as at December 31, 2018, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union.

#### Basis for Opinion

We conducted our audit in accordance with the EU Regulation N° 537/2014, the Law of 23 July 2016 on the audit profession (Law of 23 July 2016) and with International Standards on Auditing (ISAs) as adopted for Luxembourg by the "Commission de Surveillance du Secteur Financier" (CSSF). Our responsibilities under those Regulation, Law and standards are further described in the "Responsibilities of the "Réviseur d'Entreprises Agréé" for the Audit of the annual accounts" section of our report. We are also independent of the Company in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) as adopted for Luxembourg by the CSSF together with the ethical requirements that are relevant to our audit of the annual accounts, and have fulfilled our other ethical responsibilities under those ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the annual accounts of the current period. These matters were addressed in the context of the audit of the annual accounts as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Société à responsabilité limitée au capital de 35.000 €
RCS Luxembourg B 67.895
Autorisation d'établissement : 10022179

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<table>
<tr><th>Key audit matter</th><th>How the matter was addressed in the audit</th></tr>
<tr><td>First-time adoption of IFRS 9<br>We refer to the summary of accounting policies in Note II and to Note III on Risk management.<br><br>The Company adopted IFRS 9 on January 1, 2018, which introduced significant changes in the classification and measurement of financial assets, and in particular in the computation of expected credit losses that involves judgements.<br><br>First-time adoption of IFRS 9 resulted in an impact of EUR 33.393.723 due to classification and measurement, and an impairment charge of EUR 173.182 on January 1, 2018. Besides, the Company has an impairment income of EUR 119.258 and net loss on loans at FVTPL of EUR 56.348.437 on December 31, 2018.<br><br>Given the IFRS disclosure requirements on first time adoption of IFRS 9, significant judgements and complexity of accounting process, we determined that the valuation of financial assets in the context of IFRS 9 is a key audit matter.</td><td>We reviewed the implementation of IFRS 9 within the Company and in particular new procedures and accounting policies adopted.<br><br>We reviewed the first time adoption of IFRS 9, in particular the transition table made by the Company between IAS 39 and IFRS 9 on January 1, 2018.<br><br>For a sample of loans and equity instruments:<br>• We verified the classification of financial assets;<br>• We verified the measurement and correct implementation of business models selected by the Company;<br>• We performed an independent computation of expected credit losses on loans measured at amortised cost;<br>• We involved specialists regarding the valuation of the loans measured at Fair value through profit and loss (FVTPL).<br><br>We verified the disclosures on financial statements related to first time adoption of IFRS 9.</td></tr>
<tr><td>Valuation of investments in subsidiaries<br>We refer to the summary of accounting policies in Note II.<br><br>Investments in subsidiaries are recorded at cost less durable impairments. The book value of these investments is EUR 637.238.708 on December 31, 2018. The impairment assessment on investments in subsidiaries is a key area of judgement for the Board of Directors.<br><br>Given the significance of investments in subsidiaries and judgement involved in the impairment assessment, we determined that the valuation of investments in subsidiaries is a key audit matter.</td><td>We obtained an understanding of the accounting policy and evaluated the valuation method applied by the Company.<br><br>We obtained the valuation recorded for each subsidiary on December 31, 2018 and for a sample of investments in subsidiaries:<br>• We obtained Company's valuation analysis on subsidiaries;<br>• We obtained and reviewed the latest audited financial statements;<br>• We inspected the latest financial information available;<br>• We performed our own independent assessment and verified the existence of any durable impairment.</td></tr>
</table>

**Other information**

The Board of Directors is responsible for the other information. The other information comprises the information stated in the annual report including the management report but does not include the annual accounts and our report of the "Réviseur d'Entreprises Agréé" thereon.

Our opinion on the annual accounts does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the annual accounts, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the annual accounts or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report this fact. We have nothing to report in this regard.

**Responsibilities of the Board of Directors and Those Charged with Governance for the annual accounts**

The Board of Directors is responsible for the preparation and fair presentation of these annual accounts in accordance with IFRSs as adopted by the European Union, and for such internal control as the Board of Directors determines is necessary to enable the preparation of annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts, the Board of Directors is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

**Responsibilities of the "Réviseur d'Entreprises Agréé" for the Audit of the annual accounts**

The objectives of our audit are to obtain reasonable assurance about whether the annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue a report of the "Réviseur d'Entreprises Agréé" that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the EU Regulation N° 537/2014, the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts.

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As part of an audit in accordance with the EU Regulation N° 537/2014, the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.
- Conclude on the appropriateness of Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our report of the "Réviseur d'Entreprises Agréé" to the related disclosures in the annual accounts or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our report of the "Réviseur d'Entreprises Agréé". However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the annual accounts, including the disclosures, and whether the annual accounts represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the annual accounts of the current period and are therefore the key audit matters. We describe these matters in our report unless law or regulation precludes public disclosure about the matter.

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**Report on Other Legal and Regulatory Requirements**

We have been appointed as "Réviseur d'Entreprises Agréé" by the General Meeting of the Shareholders on April 30, 2018 and the duration of our uninterrupted engagement, including previous renewals and reappointments, is 1 year.

The management report is consistent with the annual accounts and has been prepared in accordance with applicable legal requirements

We confirm that the audit opinion is consistent with the additional report to the audit committee or equivalent.

We confirm that the prohibited non-audit services referred to in the EU Regulation N° 537/2014, on the audit profession were not provided and that we remain independent of the Company in conducting the audit.

For Deloitte Audit, *Cabinet de Révision Agréé*

Martin Flaunet, *Réviseur d'Entreprises Agréé*
Partner

April 18, 2019

**© 2019 Euroclear Investments SA is a "société anonyme" incorporated in Luxembourg and registered with the Luxembourg Register of Commerce (Company n° B 24 839) with registered office at 12 Rue Eugène Ruppert, 2453 Luxembourg, Luxembourg.**

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