RISK REPORT

2020

PILLAR 3 2019

SOCIETE GENERALE

CONTENTS

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ABBREVIATIONS USED

Millions of euros: EUR m / **Billions of euros:** EUR bn / **FTE :** Headcount in Full-Time Equivalents
Rankings: the source for all references to rankings is given explicitly. Where it is not, rankings are based on internal sources.

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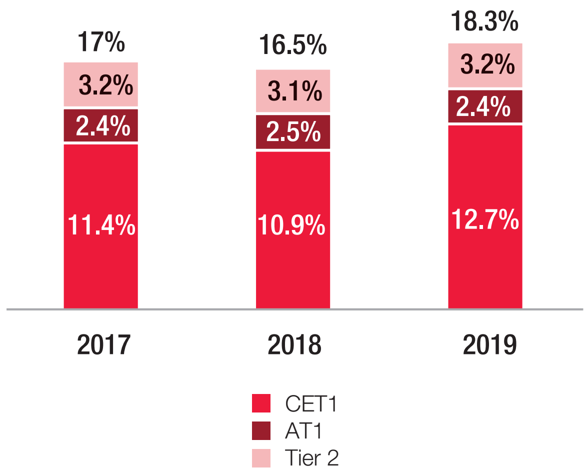
KEY FIGURES

IN BRIEF

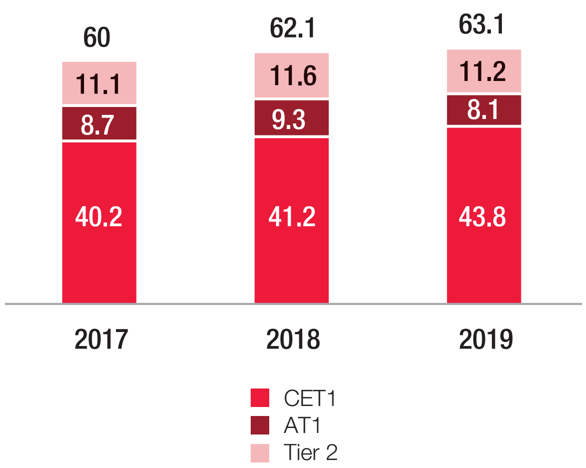
The Risk Report provides in-depth information on Societe Generale's approach and strategy for managing its equity capital and risks.

The report also aims to meet the requirements of various stakeholders, including supervisors (in compliance with Part 8 of the CRR), investors and analysts.

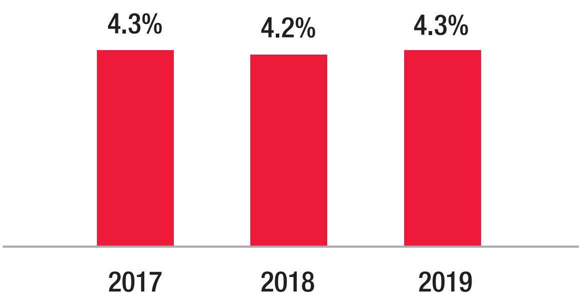
Solvency ratio
(In %)



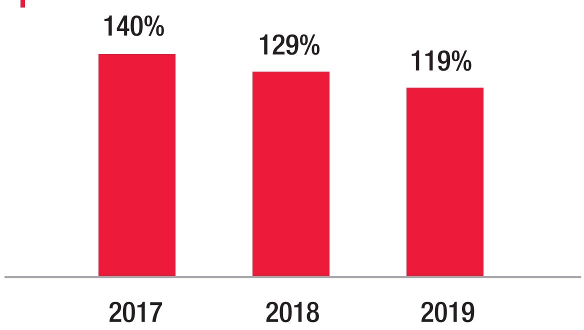
Regulatory capital
(In EURbn)



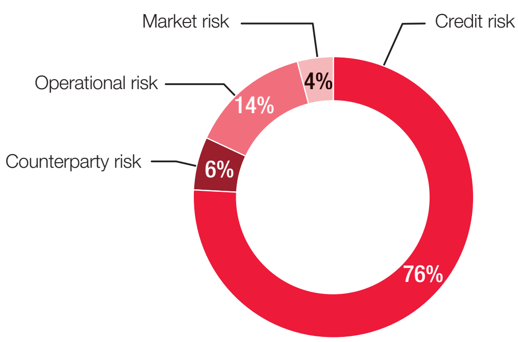
Leverage ratio



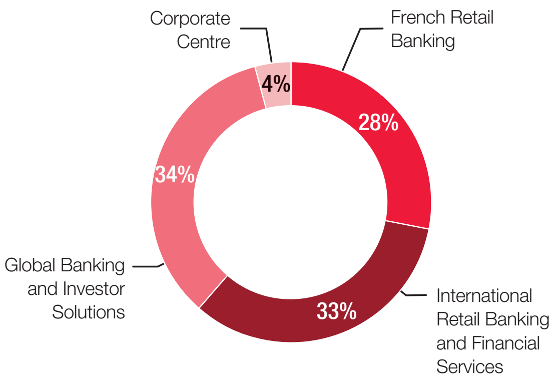
LCR ratio



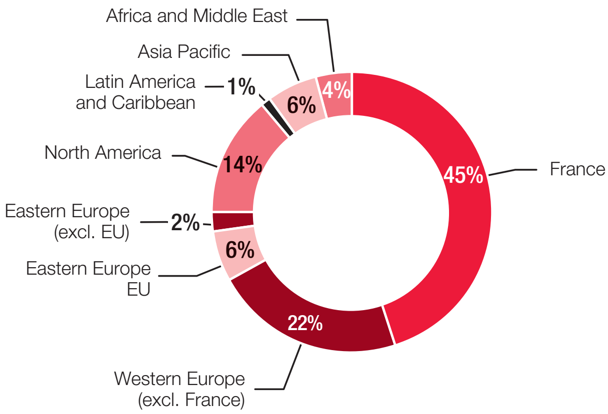
Distribution of RWA by risk type
(RWA at end 2019: EUR 345bn
RWA at end 2018: EUR 376bn)



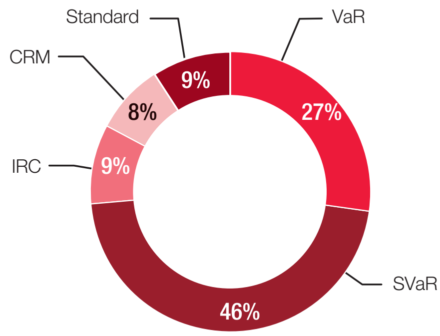
Distribution of RWA by core business
(RWA at end 2019: EUR 345bn
RWA at end 2018: EUR 376bn)



Geographical distribution of credit risk EAD
Credit risk exposure (EAD) at end 2019:
EUR 918bn ***(EUR 920bn at end 2018)***



Distribution of market risk RWA by risk factor
Market risk RWA at end 2019:
EUR 14.5bn ***(EUR 27.5bn at end 2018)***



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RISK FACTORS

IN BRIEF

This section describes the various types of risks and the risks to which Societe Generale is exposed.

2.1 TYPES OF RISKS

TYPES OF RISKS

The Group's risk management framework involves the following main categories:

- **Credit and counterparty risk:** risk of losses arising from the inability of the Group's customers, issuers or other counterparties to meet their financial commitments. Credit risk includes the counterparty risk linked to market transactions and securitisation activities. In addition, credit risk may be further amplified by individual, country and sector concentration risk;
- **Market risk:** risk of a loss of value on financial instruments arising from changes in market parameters, the volatility of these parameters and correlations between them. These parameters include but are not limited to exchange rates, interest rates, the price of securities (equity, bonds), commodities, derivatives and other assets;
- **Operational risk:** risk of losses resulting from inadequacies or failures in processes, personnel or information systems, or from external events. It includes:
  - **non-compliance risk (including legal and tax risks):** risk of court-ordered, administrative or disciplinary sanctions, or of material financial loss, due to failure to comply with the provisions governing the Group's activities,
  - **reputational risk:** risk arising from a negative perception on the part of customers, counterparties, shareholders, investors or regulators that could negatively impact the Group's ability to maintain or engage in business relationships and to sustain access to sources of financing,
  - **misconduct risk:** risk resulting from actions (or inactions) or behaviour of the Bank or its employees inconsistent with the Group's Code of Conduct, which may lead to adverse consequences for our stakeholders, or place the Bank's sustainability or reputation at risk,
  - **IT and Information Systems Security risk** (cybercrime, IT systems failures, etc.);
- **Model risk:** potential for adverse consequences from decisions based on incorrect or misused model outputs and reports;
- **Risk related to insurance activities:** through its insurance subsidiaries, the Group is also exposed to a variety of risks linked to this business. In addition to balance sheet management risks (interest rate, valuation, counterparty and exchange rate risk), these risks include premium pricing risk, mortality risk and the risk of an increase in claims;
- **Risk on Private Equity and related transactions:** risk of reduction in the value of our equity ownership interests;
- **Structural risk:** risk of losses in interest margin or banking book value if interest rates, exchange rates, or credit spreads change. This risk is related to the commercial and own activities of the Bank, it includes the distortion of the structural difference between assets and liabilities related to pension obligations, as well as the risk related to longer terms of future payments;
- **Liquidity and funding risk:** liquidity risk is defined as the inability of the Group to meet its financial obligations: debt repayments, collateral supply, etc. Funding risk is defined as the risk that the Group will not be able to finance its business growth on a scale consistent with its commercial objectives and at a cost that is competitive compared to its competitors;
- **Strategic/business risk:** risks resulting from the Group's inability to execute its strategy and to implement its business plan for reasons that are not attributable to the other risks in this list; for instance, the non-occurrence of the macroeconomic scenarios that were used to construct the business plan or sales performance that was below expectations;
- **Residual value risk:** through its Specialised Financial Services Division, mainly in its long-term vehicle leasing subsidiary, the Group is exposed to residual value risk (where the net resale value of an asset at the end of the leasing contract is less than expected).

In addition, **risks associated with climate change**, both physical (increase in the frequency of extreme climatic events) and transition-related (New Carbon Regulation), have been identified as factors that could aggravate the Group's existing risks.

2.2 RISK FACTORS

This section identifies the main risk factors that the Group estimates could have a significant effect on its business, profitability, solvency or access to financing.

The risks inherent to the Group's activity are presented below under six main categories, in accordance with Article 16 of the "Prospectus 3" regulation 2017/1129 of 14 June 2017 applicable since 21 July 2019 to risk factors:

- risks related to the macroeconomic, market and regulatory environments;
- credit and counterparty risk;
- market and structural risks;
- operational (including risk of inappropriate conduct) and model risks;
- liquidity and funding risks;
- risks related to insurance activities.

Risk factors are presented on the basis of an evaluation of their materiality, with the most material risks indicated first within each category. The risk exposure or measurement figures included in the risk factors provide information on the Group's exposure level but are not necessarily representative of future evolution.

2.2.1 RISKS RELATED TO THE MACROECONOMIC, MARKET AND REGULATORY ENVIRONMENTS

2.2.1.1 The global economic and financial context, as well as the context of the markets in which the Group operates, may adversely affect the Group's activities, financial position and results of operations.

As a global financial institution, the Group's activities are sensitive to changes in financial markets and economic conditions generally in Europe, the United States and elsewhere around the world. The Group generates 47% of its business in France (in terms of 2018 net banking income), 34% in Europe, 6% in the Americas and 13% in the rest of the world. The Group could face a significant deterioration in market and economic conditions resulting from, in particular, crises affecting capital or credit markets, liquidity constraints, regional or global recessions, sharp fluctuations in commodity prices (notably oil), currency exchange rates or interest rates, inflation or deflation, rating downgrades, restructuring or defaults of sovereign or private debt, or adverse geopolitical events (including acts of terrorism and military conflicts). Such events, which may develop quickly and thus potentially may not be anticipated and hedged, could affect the operating environment for the Group for short or extended periods and have a material adverse effect on the Group's financial position, cost of risk and results of operations. In recent years, the financial markets have thus experienced significant disruptions resulting from concern over the trajectory of the sovereign debt of several euro-zone countries, Brexit (refer to the risk factor "Brexit and its impact on the financial markets and the economic environment could have repercussions on the Group's activity and results of operations . "), the persistence of commercial tensions (especially between the United States and China), fears of a cyclical slowdown growth (particularly in China) and more recently the economic effects of the spread of the Covid-19 coronavirus. These factors are likely to weaken several economic sectors and consequently the credit quality of the players concerned, which could negatively affect the Group's activities and results. Geopolitical risks also remain high and the accumulation of different risks is an additional source of instability which could also weigh on economic activity and demand for credit, while increasing the volatility of financial markets. Developments related to the Covid-19 coronavirus remain a source of uncertainty. It has already resulted in a sharp drop in activity in the most affected areas (China, South Korea, Japan, Italy and Iran to date) and should have repercussions on world demand and via the disruption of value chain. This crisis affects both supply and demand, which complicates the appropriate economic policy response. Authorities in the most affected countries could take measures to support businesses in difficulty. The financial markets can be an accelerator of the economic crisis in the event of a marked and lasting fall in asset prices. If the epidemic were to be contained in the coming weeks of March 2020, the effects on global activity would be concentrated in the first or possibly second quarter of 2020 and a rebound in the second half would partially offset the effects observed in the first semester. For information, 6% of the Group's exposure (Exposure at Default or EAD) is concentrated in the Asia Pacific region and 2% is in Italy.

The long period of low interest rates in the Eurozone and the United States, driven by accommodating monetary policies, has affected, and could continue to affect, the Group's net interest margin (which stood at EUR 4 billion in 2019 for Retail Banking in France). Furthermore, this context of low interest rates tends to lead to an increased risk appetite of some participants in the banking and financial system which could result in excessive risk-taking, lower risk premiums compared to their historical average and high valuation levels of certain assets. The current economic slowdown could also lead to excessive risk-taking.

Furthermore, the environment of abundant liquidity that has been at the origin of the upturn in credit growth in the Eurozone and particularly in France could lead to additional regulatory measures from the supervisory authorities in order to limit the extension of credit or to further protect banks against a financial cycle downturn.

Lastly, the increase or accumulation of geopolitical or political risks (in particular in the Middle East) is another source of uncertainty which, in case of military conflict, could impact global economic activity and credit demand, while increasing the volatility of financial markets.

The Group's results are significantly exposed to economic, financial and political conditions in the principal markets in which it operates.

At 31 December 2019, 90% of the Group's credit and counterparty risk EAD was concentrated in Europe and the United States (accounting for 90% of EAD), with a predominant exposure to France (45% of EAD). The other exposures concern Western Europe excluding France (accounting for 22%), North America (accounting for 14%), Eastern European members of the European Union (accounting for 7%) and Eastern Europe excluding the European Union (accounting for 2%).

In France, the Group's principal market, the good growth performance during the 2016-2019 period and low interest rates have fostered an upturn in the housing market. A reversal of activity in this area could have a material adverse effect on the Group's asset value and business, by decreasing demand for loans and in higher rates of non-performing loans.

The Group also operates in emerging markets, such as Russia (2% of the Group's exposure to credit and counterparty risk at 31 December 2019) and Africa and the Middle East (4% of the Group's credit exposure at 31 December 2019). A significant adverse change in the political, macroeconomic or financial environment in these emerging markets could have a material adverse effect on the Group's business, results and financial position. These markets may be adversely affected by uncertainty factors and specific risks, such as a significant decline in oil prices since the beginning of coronavirus Covid-19 epidemic, which, if it were to last beyond several quarters, would deteriorate the financial health of producing countries. The correction of macroeconomic or budgetary imbalances that would result could be imposed by the markets with an impact on growth and on exchange rates. Another source of uncertainty comes from the enforcement of international sanctions against certain countries such as Russia. In the longer term, the energy transition to a "low-carbon economy" could adversely affect fossil energy producers, energy-intensive sectors of activity and the countries that depend on them. In addition, capital markets (including foreign exchange activity) and securities trading activities in emerging markets may be more volatile than those in developed markets and may also be vulnerable to certain specific risks, such as political instability and currency volatility. These elements could negatively impact the Group's activity and results of operations.

2.2.1.2 The Group is subject to an extensive supervisory and regulatory framework in each of the countries in which it operates and changes in this regulatory framework could have a negative effect on the Group's businesses, financial position, costs, as well as on the financial and economic environment in which it operates.

The Group applies the regulations of the jurisdictions in which it operates. French, European and U.S. regulations as well as other local regulations are concerned, given the cross-border activities of the Group. The application of existing regulations and the implementation of future regulations requires significant resources that could affect the Group's performance.

In addition, non-compliance with regulations could lead to fines, damage to the Group's reputation, forced suspension of its operations or the withdrawal of operating licences.

By way of illustration, as at 31 December 2019, exposures to credit and counterparty risk (Exposure at Default (EAD)) in France, the 27-member European Union (including France) and the United States represented 45%, 66% and 14%, respectively.

Among the recent regulations that have a significant influence on the Group:

- the implementation of prudential reforms, notably in the context of the finalisation of the Basel Agreement, including the Fundamental Review of the Trading Book and the IRB repair initiative (including the new definition of defaults), could result in increased capital and liquidity requirements, revised standards for calculating risk-weighted assets and a restriction on the use of internal models for calculating capital requirements;
- in the United States, the implementation of the Dodd-Frank Act has not yet been finalised and additional regulations (including new Securities and Exchange Commission (SEC) regulations) have yet to be introduced. These developments could in particular have an impact on the Group's U.S. market activities;
- the constant evolution of the legal and regulatory framework for activities on the financial markets (such as the European regulations and directives EMIR, MIFID 2 and MIFIR or the Volcker regulation in the United States) increases the Group's obligations, notably in the areas of transparency and reporting. This regulatory context, combined with the strengthening of controls exercised by various authorities, notably European and American, could have a significant impact on the conduct of some of the Group's activities, such as through the obligation to offset some of its derivative transactions or the introduction of additional collateral requirement;
- new European measures aimed at restoring banks' balance sheets through active management of non-performing loans ("NPLs"), which are leading to a rise of prudential requirements and an adaptation of the Group's strategy for managing NPLs. Additional regulatory provisions (as indicated in the Guidelines of the European Banking Authority), the scope of which remains to be determined, are being considered to define a framework of good practices for granting and monitoring loans;
- the strengthening of the supervisor's requirements (through the adoption of best practices) within the Single Supervisory Mechanism (SSM) could have an impact on the management costs and risk-weighted exposure levels of internal models;
- a strengthening of requirements related to internal control as well as the Group's rules of governance and good conduct, with a potential impact on costs;
- the strengthening of data quality and protection requirements and a potential strengthening of cyber-resilience requirements in relation to the consultation on "digital operational resilience framework for financial services" initiated by the European Commission in December 2019;
- sustainable finance considerations on the European political and regulatory agenda, with uncertainty for the Group regarding the inclusion of environmental and social issues in the supervisory review and assessment process (Supervisory Review and Evaluation Process - SREP) as well as the computation of the prudential capital requirement of credit institutions;
- the strengthening of the crisis prevention and resolution regime set out in the Bank Recovery and Resolution Directive of 15 May 2014 ("BRRD"), as revised, gives the Single Resolution Board ("SRB") the power to initiate a resolution procedure when the point of non-viability is reached which could, in order to limit the cost to the taxpayer, result in creditors and shareholders of the Group incurring losses in priority. Should the resolution mechanism be triggered, the Group could, in particular, be forced to sell certain of its activities, modify the terms and conditions of its debt instruments, issue new debt instruments, or result in the total or partial depreciation or conversion of debt instruments into equity securities. Furthermore, the Group's contribution to the annual financing of the Single Resolution Fund ("SRF") is significant and will grow steadily until 2023, with 2024 being the year of the full endowment of the fund. The contribution to the banking resolution mechanisms is described on p. 427 of the 2020 Universal Registration Document.

The Group is also subject to complex tax rules in the countries in which it operates. Changes in applicable tax rules, uncertainty regarding the interpretation of such changes or their impact may have a negative impact on the Group's business, financial position and costs.

Moreover, as an international bank that handles transactions with "US persons", denominated in US dollars, or involving US financial institutions, the Group is subject to US laws and regulations relating in particular to compliance with economic sanctions, the fight against corruption and market abuse. More generally, in the context of agreements with US and French authorities, the Group has undertaken to implement, through a dedicated program and organisation, corrective actions to address identified deficiencies, the cost of which will be significant, and strengthen its compliance program. In the event of a failure to comply with relevant US laws and regulations, or a breach of the Group's commitments under these agreements, the Group could be exposed to the risk of (i) administrative sanctions, including fines, suspension of access to US markets, and even withdrawals of banking licences, (ii) criminal proceedings, and (iii) damage to its reputation.

As at 31 December 2019, the Group had CET1 own funds of EUR 43.8 billion (for a CET1 ratio of 12.7%) and total regulatory capital of EUR 63.1 billion (for a total ratio of 18.3%).

2.2.1.3 Brexit and its impact on financial markets and the economic environment could have an adverse effect on the Group's activities and results of operations.

Pursuant to the agreement between the United Kingdom and the European Union on a new "flexible extension" of the United Kingdom's withdrawal from the European Union until 31 January 2020 (or earlier upon approval of the updated withdrawal agreement), the UK Withdrawal Agreement Bill (WAB) has now received the Queen's royal assent, thus confirming the United Kingdom's withdrawal from the European Union on Friday, 31 January 2020. The WAB received the final approval of the European parliament on 29 January 2020.

The transition period during which the United Kingdom and the European Union will define the future of their relationship began on 1 February 2020 and is scheduled to end on 31 December 2020 (unless extended). Even after the withdrawal agreement's approval, there is no guarantee that a trade agreement will be concluded by the end of the transition period, and the nature of future relations between the United Kingdom and the European Union remains unclear beyond the end of the transition period. The possibility of a "no-deal" Brexit remains in the event that no trade agreement is reached and no extension to the transition period is agreed.

At 31 December 2019, the Group had an Exposure at Default of EUR 39 billion in the United Kingdom (4% of the Group's credit exposure). Beyond a direct impact on our credit exposure in the United Kingdom, Brexit is likely (depending on the scenarios considered) to considerably disrupt the European and global economies and financial markets and thus have an impact on the Group's overall activity and results.

2.2.1.4 Risks related to the implementation of the Group's strategic plan.

On 28 November 2017, the Group announced a strategic and financial plan for 2017-2020. This plan includes a number of strategic objectives, in particular a plan to accelerate the digital transformation of the Group's model, the streamlining of its French Retail Banking network, the implementation of the program to refocus activities, the improvement of operational efficiency, the strengthening of its internal control function and the embedding of a culture of corporate responsibility. It also includes a certain number of financial objectives related to return on equity, net income, cost savings and regulatory ratios.

This strategic plan is based on a number of assumptions, in particular relating to the macroeconomic environment and the development of the Group's activities. Failure to achieve these objectives (including as a result of the realisation of one or more of the risks described in this section) or the occurrence of unexpected events could compromise the achievement of the strategic plan and have a material adverse effect on the Group's business, results of operations and financial position.

Upon publication of the 2019 annual results on 6 February 2020, the Group communicated on its outlook for 2020 in terms of revenues (slight growth expected), cost management (lower costs at Group level, lower cost/income ratio and a positive jaws effect at Group level and across all pillars) and cost of risk (expected between 30 bp and 35 bp) as well as an improvement in return on tangible equity (ROTE) and a new shareholder return policy.

In addition, the Group aims to steer above a CET1 ratio of 12%, which remains its current target.

Global Markets & Investor Solutions has confirmed the successful execution of its restructuring plan, in line with financial targets, including:

- EUR 500 million in cost savings (of which 44% was already achieved in 2019 and is fully secured for 2020);
- EUR 10 billion of risk-weighted assets (RWA) by 2020 (including EUR 8 billion of RWA allocated to Market Activities) was reached in Q3 2019.

The Group is committed to becoming a leading bank in the field of responsible finance through, among others:

- a new commitment to raise EUR 120 billion for energy transition between 2019 and 2023 (including EUR 100 billion in sustainable bond issues and EUR 20 billion for the renewable energy sector in the form of advisory and financing);
- a planned total exit from thermal coal;
- the signing as co-founder of the Principles for a Responsible Banking Sector, through which the Group undertakes to strategically align its business with the Sustainable Development Objectives set by the United Nations and the Paris Agreement on Climate Change.

These actions (or similar actions that may be taken in the future) could in some cases decrease the Group's results in the sectors concerned.

For more details on the Group's revised profit objectives, see paragraph "The Group is fully engaged to deliver its strategic plan" in Chapter 1.3 of the 2020 Universal Registration Document. A quarterly statement on the execution of these objectives is included in the Group's financial communications.

2.2.1.5 Increased competition from banking and non-banking operators could have an adverse effect on the Group's business and results, both in its French domestic market and internationally.

Due to its international activity, the Group faces intense competition in the global and local markets in which it operates, whether from banking or non-banking actors. As such, the Group is exposed to the risk of not being able to maintain or develop its market share in its various activities. This competition may also lead to pressure on margins, which is detrimental to the profitability of the Group's activities.

In France and in the other main markets in which the Group operates, the presence of major domestic banking and financial actors, as well as new market participants (notably online banking and financial services providers), has increased competition for virtually all products and services offered by the Group (particularly our online banking activities, with Boursorama, which had 2,100,000 customers at the end of 2019). Driven by new market participants such as "fintechs", new services that are automated, scalable and based on new technologies are developing rapidly and are fundamentally changing the relationship between consumers and financial services providers, as well as the function of traditional retail bank networks. To address these challenges, the Group has implemented a strategy that includes developing digital technologies and the establishment of commercial or equity partnerships with these new players (such as the platform Lumo proposing green investments) which could, if it proves ineffective or poorly executed, lead to a weakened competitive position. This intensification of competition could have an adverse effect on the Group's business and results, both in the French market and internationally.

Consolidation in the financial services industry could result in the Group's remaining competitors benefiting from greater capital, resources and an ability to offer a broader range of products and services. In addition, competition is increasing from emerging non-banking actors that, in some cases, may benefit from a regulatory framework that is more flexible and in particular less demanding in terms of equity capital requirements.

2.2.2 CREDIT AND COUNTERPARTY RISK

Weighted assets subject to credit and counterparty risks amounted to EUR 282 billion at 31 December 2019.

2.2.2.1 The Group is exposed to counterparty and concentration risks, which may have a material adverse effect on the Group's business, results of operations and financial position.

Due to its financing and market activities, the Group is exposed to credit and counterparty risk The Group may therefore realise losses in the event of default by one or more counterparties, particularly if the Group encounters legal or other difficulties in enforcing its collateral or if the value of the collateral is not sufficient to fully recover the exposure in the event of default. Despite the Group's vigilant efforts to limit the concentration effects of its credit portfolio exposure, it is possible that counterparty defaults could be amplified within the same economic sector or region of the world due to the interdependence effects of these counterparties. Moreover, some economic sectors could, in the longer term, be particularly impacted by the measures implemented to promote energy transition or by the physical risks related to climate change (more information is available in the Group's Task Force on Climate-related Financial Disclosures report).

Consequently, the default of one or more significant counterparties of the Group could have a material adverse effect on the Group's cost of risk, results of operations and financial position.

For information, as at 31 December 2019, the Group's exposure at default (EAD, excluding counterparty risk) was EUR 801 billion, with the following breakdown by type of counterparty: 32% on corporates, 24% on sovereigns, 25% on retail customers and 7% on credit institutions and similar. Risk-weighted assets (RWA) for credit risk totalled EUR 264 billion.

Regarding counterparty risks resulting from market transactions (excluding CVA), at the end of December 2019, the exposure value (EAD) was EUR 118 billion, mainly to credit institutions and similar entities (42%) and corporates (38%), and to a lesser extent to sovereign entities (20%). Risk-weighted assets (RWA) for counterparty risk amounted to EUR 16 billion.

The main sectors to which the Group was exposed in its corporate portfolio included finance and insurance (accounting for 17% of exposure), business services (11%), real estate (10%), wholesale trade (7%), transport and logistics (7%), the oil and gas sector (6%) and collective services (6%).

In terms of geographical concentration, the five main countries in which the Group is exposed at 31 December 2019 were France (45% of the Group's total EAD, mainly related to retail customers and corporates), the United States (14% of EAD, mainly related to corporates and sovereign customers), the Czech Republic (5% of the Group's total EAD, mainly related to sovereigns, retail clients and corporates) the United Kingdom (4% of EAD, mainly related to corporates and financial institutions) and Germany (4% of the Group's total EAD, mainly related to corporates and financial institutions).

For more details on credit and counterparty risk, see section 6.7 "Additional quantitative information on global credit risk (credit and counterparty risk)".

2.2.2.2 The financial soundness and conduct of other financial institutions and market participants could adversely affect the Group.

For information, at 31 December 2019, the Group's exposure (EAD) to credit and counterparty risk on financial institutions amounted to EUR 107 billion, representing 12% of EAD in respect of the Group's credit risk.

Financial institutions are important counterparties for the Group in capital and inter-bank markets. Financial services institutions are closely interrelated as a result of trading, clearing, counterparty and funding relationships. As a result, defaults by one or several actors in the sector or a crisis of confidence affecting one or more actors may result in market-wide liquidity scarcity or chain defaults.

The Group is also exposed to clearing institutions and their members because of the increase in transactions traded through these institutions. For information, the Group's exposure to clearing houses amounted to EUR 32 billion of EAD at 31 December 2019. The default of a clearing institution or one of its members could generate losses for the Group and have an adverse effect on the Group's business and results of operations.

2.2.2.3 The Group's results of operations and financial position could be adversely affected by a late or insufficient provisioning of credit exposures.

The Group regularly records provisions for doubtful loans in connection with its lending activities in order to anticipate the occurrence of losses and moderate the volatility of its results. The amount of provisions is based on the most accurate assessment at the time of the recoverability of the debts in question. This assessment relies on an analysis of the current and prospective situation of the borrower as well as an analysis of the value and recovery prospects of the debt, taking into account any security interests. In some cases (loans to individual customers), the provisioning method may call for the use of statistical models based on the analysis of historical loss and recovery data. Since 1 January 2018, the Group has also been recording provisions on performing loans under the IFRS 9 accounting standard. This assessment is based on statistical models for assessing probabilities of default and potential losses in the event of default, which take into account a prospective analysis based on macroeconomic scenarios.

As at 31 December 2019, the stock of provisions relating to outstanding amounts (on- and off-balance sheet) amounted to EUR 2.3 billion on performing assets and EUR 9.3 billion on assets in default. Outstanding loans in default (stage 3 under IFRS 9) represented EUR 17.4 billion, including 57% in France, 19% in Africa and Middle East and 11% in Western Europe (excluding France). For more details, see Chapter 6 "Credit and counterparty credit risk" of the present document. The gross ratio of doubtful loans on the balance sheet was 3.2% and the gross coverage ratio of these loans was approximately 55%.

Net changes in provisions are recorded as net cost of risk in the Group's consolidated income statement. Over the last three years, the Group has recorded a historically low net cost of risk (25 bp in 2019), partly due to an economic environment that is generally favourable to credit risk. Depending on its intensity, an economic slowdown and the expected reversal of the credit cycle could lead to an increase in provisions for doubtful outstanding, reflecting both an increase in borrowers' defaults and a potential deterioration in the value of collateral. This increase could have an adverse effect on the Group's results of operations and financial position.

In addition, IFRS 9 accounting standard principles and provisioning models could be pro-cyclical in the event of a sharp and sudden deterioration in the environment or result in enhanced volatility in the event of fluctuations in economic prospects. This could lead to a significant and/or not fully anticipated variation in the cost of risk and therefore in the Group's results of operations.

2.2.3 MARKET AND STRUCTURAL RISKS

Market risk corresponds to the risk of impairment of financial instruments resulting from changes in market parameters, the volatility of these parameters and the correlations between these parameters. The concerned parameters include exchange rates, interest rates, as well as the prices of securities (shares, bonds) and commodities, derivatives and any other assets.

2.2.3.1 Changes and volatility in the financial markets may have a material adverse effect on the Group's business and the results of market activities.

In the course of its market activities, the Group is exposed to "market risk". For information, Global Markets & Investor Services activities, which account for the bulk of the Group's market risks, represented EUR 5 billion of net banking income in 2019, or 21% of the Group's total revenues. At 31 December 2019, risk-weighted assets (RWA) subject to market risk represented EUR 15 billion, or 4% of the Group's total RWA.

Volatility in the financial markets can have a material adverse effect on the Group's market activities. In particular:

- significant volatility over a long period of time could lead to corrections on risky assets and generate losses for the Group; and
- a sudden change in the levels of volatility could make it difficult or more costly to hedge certain structured products and thus increase the risk of loss for the Group.

Severe market disruptions and high market volatility have occurred in recent years and may occur again in the future, which could result in significant losses for the Group's markets activities. Such losses may extend to a broad range of trading and hedging products, including swaps, forward and future contracts, options and structured products.

In the event that a low-volatility environment emerges, reflecting a generally optimistic sentiment in the markets and/or the presence of systematic volatility sellers, increased risks of correction may also develop, particularly if the main market participants have similar positions on certain products. Such corrections could result in significant losses for the Group's market activities.

The volatility of the financial markets makes it difficult to predict trends and implement effective trading strategies; it also increases risk of losses from net long positions when prices decline and, conversely, from net short positions when prices rise. Such losses could have a material adverse effect on the Group's results of operations and financial position.

The assessment and management of market risks in the Group is based on a set of risk indicators that make it possible to evaluate the potential losses incurred at various time horizons and given probability levels, by defining various scenarios for changes in market parameters impacting the Group's positions. These scenarios are based on historical observations or are theoretically defined. However, these risk management approaches are based on a set of assumptions and reasoning that could turn out to be inadequate in certain configurations or in the case of unexpected events, resulting in a potential underestimation of risks and a significant negative effect on the results of the Group's market activities.

Furthermore, in the event of a deterioration of the market situation, the Group could experience a decline in the volume of transactions carried out on behalf of its customers, leading to a decrease in the revenues generated from this activity and in particular in commissions received.

2.2.3.2 Changes in interest rates may adversely affect retail banking activities.

The Group generates a significant part of its income through net interest margin and as such remains highly exposed to interest rate fluctuations as well as to changes in the yield curve, particularly in its retail banking activities. The Group's results are influenced by changes in interest rates in Europe and in the other markets in which it operates. In Europe in particular, a protracted environment of low or even negative interest rates has affected and could continue to adversely affect the Group's retail banking income, notably in France.

For information, net banking income (NBI) of French retail banking amounted to EUR 7.7 billion in 2019, or 31% of the Group's total NBI.

For more details on structural interest rate risks, see section 2 of Chapter 10 "Structural interest rate and exchange rate risks" and Note 8.1 "Segmented reporting" of the 2020 Universal Registration Document.

2.2.3.3 Fluctuations in exchange rates could adversely affect the Group's results.

As a result of its international activities and its geographic implantation in many countries, the Group's revenues and expenses as well as its assets and liabilities are recorded in different currencies, which exposes it to the risk of exchange rate fluctuations.

Because the Group publishes its consolidated financial statements in euros, which is the currency of most of its liabilities, it is also subject to translation risk for items recorded in other currencies, in the preparation of its consolidated financial statements. Exchange rate fluctuations of these currencies against the euro may adversely affect the Group's consolidated results, financial position and cash flows. Exchange rate fluctuations may also negatively affect the value (denominated in euros) of the Group's investments in its subsidiaries outside the Eurozone.

For information, at 31 December 2019, out of a total of EUR 1,356 billion of assets on the balance sheet, 61% was recorded in euros, 19% in USD and 4% in JPY.

See section 5 "Risk-weighted assets and capital requirements" of Chapter 8 and section 3 "Structural exchange rate risk" of Chapter 10 of the present document, as well as Note 8.5 "Foreign exchange transactions" of Chapter 6 of the 2020 Universal Registration Document.

2.2.4 OPERATIONAL (INCLUDING RISK OF INAPPROPRIATE CONDUCT) AND MODEL RISKS

At 31 December 2019, risk-weighted assets subject to operational risk amounted to EUR 48 billion, or 14% of the Group's total RWA. These risk-weighted assets relate mainly to Global Markets & Investor Services (67% of total operational risk).

Between 2015 and 2019, the Group's operational risks were primarily concentrated in five risk categories, representing 96% of the Group's total operating losses over the period: fraud and other criminal activities (29%), execution errors (23%), disputes with the authorities (18%), commercial disputes (14%), errors in pricing or risk evaluation including model risk (12%).

The Group's other categories of operational risk (unauthorised activities in the markets, failure of information systems and loss of operating resources) remain minor, representing 4% of the Group's losses on average over the 2015 to 2019 period.

See Chapter 9 "Operational risk" for more information on the allocation of operating losses.

2.2.4.1 The Group is exposed to legal risks that could have a material adverse effect on its financial position or results of operations.

The Group and certain of its former and current representatives may be involved in various types of litigation, including civil, administrative, tax, criminal and arbitration proceedings. The large majority of such proceedings arise from transactions or events that occur in the Group's ordinary course of business. There has been an increase in client, depositor, creditor and investor litigation and regulatory proceedings against intermediaries such as banks and investment advisors in recent years, in part due to the challenging market environment. This has increased the risk, for the Group, of losses or reputational harm arising from litigation and other proceedings. Such proceedings or regulatory enforcement actions could also lead to civil, administrative, tax or criminal penalties that could adversely affect the Group's business, financial position and results of operations.

In preparing its financial statements, the Group makes estimates regarding the outcome of civil, administrative, tax, criminal and arbitration proceedings in which it is involved, and records a provision when losses with respect to such matters are probable and can be reasonably estimated. It is inherently difficult to predict the outcome of litigation and proceedings involving the Group's businesses, particularly those cases in which the matters are brought on behalf of various classes of claimants, cases where claims for damages are of unspecified or indeterminate amounts, or cases involving unprecedented legal claims. Should such estimates prove inaccurate or should the provisions set aside by the Group to cover such risks prove inadequate, the Group's financial position or results of operations could be adversely affected.

The provision recorded in the Group's financial statements for public rights disputes amounted to EUR 340 million at 31 December 2019.

For a description of the most significant ongoing proceedings, see Chapter 12 "Compliance and reputational risk, litigation" of this document, Note 8.3.2 "Other provisions" of Chapter 6 and Note 9 "Information on risks and litigation" of Chapter 6 of the 2020 Universal Registration Document.

2.2.4.2 Operational failure, termination or capacity constraints affecting institutions the Group does business with, or failure or breach of the Group's information technology systems, could have an adverse effect on the Group's business and result in losses and damages to the reputation of the Group.

The Group relies heavily on communication and information systems to conduct its business and this is reinforced by the widespread use of remote banking. Any failure, dysfunction, interruption of service or breach in security of its systems, even if only brief and temporary, could result in significant disruptions to the Group's business. Despite the Group's preventive measures and backup solutions, such incidents could result in significant costs related to information retrieval and verification, loss of revenue, loss of customers, litigation with counterparties or customers, difficulties in managing market operations and short-term refinancing, and ultimately damage to the Group's reputation.

The Group is exposed to the risk of operational failure or capacity constraints in its own systems and in the systems of third parties, including those of financial intermediaries that it uses to facilitate cash settlement or securities transactions (such as clearing agents and houses and stock exchanges), as well as of clients and other market participants.

The interconnectivity of multiple financial institutions with clearing agents and houses and stock exchanges, and the increased concentration of these entities, increases the risk that an operational failure at one institution or entity may cause an industry-wide operational failure that could adversely affect the Group's ability to conduct business and could therefore result in losses. Industry concentration, whether among market participants or financial intermediaries, can exacerbate these risks, as disparate complex systems need to be integrated, often on an accelerated basis.

The Group is also exposed to risks relating to cybercrime and has experienced fraudulent attempts to break into its information systems. Every year, the Group experiences numerous cyber-attacks to its systems, or via those of its clients, partners or suppliers. The Group could be subject to targeted and sophisticated attacks on its IT network, resulting in embezzlement, loss, theft or disclosure of confidential or customer data (in particular in violation of the European Data Protection Regulation "GDPR"). Even if the Group has the means to monitor and to effectively respond to these issues, such actions are likely to result in operational losses and have an adverse effect on the Group's business and results of operations.

See, in Chapter 9 of this document, "Risks related to information security" part in section 9.1 "Organisation of operational risk management", "Quantitative data" part in section 9.3 "Operational risk measurement" for a breakdown of operational risk losses and section 9.4 "Risk-weighted assets and capital requirements".

2.2.4.3 Reputational damage could harm the Group's competitive position, its activity and financial condition

The Group's reputation for financial strength and integrity is critical to its ability to foster loyalty and develop its relationships with customers and other counterparties in a highly competitive environment. Any reputational damage could result in loss of activity with its customers or a loss of confidence on the part of its investors, which could affect the Group's competitive position, its business and its financial condition. As a result, negative comments regarding the Group, whether or not legitimate, and concerning events that may or may not be attributable to the Group, could deteriorate the Group's reputation and affect its competitive position.

The Group's reputation could also be adversely affected by a weakness in its internal control measures aimed at monitoring and preventing operational, compliance, credit and market risks, particularly with respect to monitoring inappropriate conduct of its employees (such as corruption, fraud, market abuse and tax evasion). This risk may arise from the conduct itself as well as from administrative or criminal sanctions resulting from an insufficiently effective control environment, such as the sanctions issued by the American and French authorities in 2018.

Financing extended by the bank that does not comply with regulations or its commitments could affect the Group's reputation. Methods of distribution of products and services that do not provide sufficient information to customers, a lack of transparency in its communication (particularly financial communication) or internal management rules (including human resources management or relations with suppliers and service providers) that do not comply with regulatory obligations or the bank's commitments could affect the Group's reputation. In addition, a corporate social responsibility strategy (in particular with regard to environmental issues) deemed insufficiently ambitious in relation to the expectations of external stakeholders or difficulties in implementing this strategy could also impact the Group's reputation.

The consequences of these events, which could potentially result in legal proceedings, may vary according to the extent of media coverage and the overall context and remain difficult to estimate.

In particular, the Group monitors client satisfaction and loyalty through the use of a Net Promoter Score© system, detailed in section 5.1.3 "Satisfying clients by ensuring their protection" of Chapter 5 "Corporate Social Responsibility" of the 2020 Universal Registration Document.

2.2.4.4 The Group's inability to attract and retain qualified employees may adversely affect its performance.

The Group employs more than 138,000 people[(1)] in 62 countries and supports 29 million individual, corporate and institutional clients[(2)] worldwide on a daily basis. The performance of banking and financial activities is closely linked to the human factor. The inability to attract and retain employees, whether in terms of career prospects and training or in terms of compensation levels in line with market practices, could have an impact on the Group's performance. A high rate of turnover or the departure of strategic employees could expose the Group to a loss in its know-how as well as a deterioration in the quality of service, at the expense of client satisfaction.

Furthermore, the European financial sector is subject to increased oversight of employee compensation policies, including rules on certain types of compensation (fixed, variable, performance conditions, deferred payments, etc.), which may limit the Group's ability to attract and retain talent. In particular, the CRD IV directive, which has applied since 2014 to banks in the European Economic Area and therefore to the Group, includes a cap on the variable component of compensation compared to its fixed component for the relevant personnel.

2.2.4.5 The models, in particular the Group's internal models, used in strategic decision-making and in risk management systems could fail or prove to be inadequate and result in financial losses for the Group.

Internal models used within the Group could prove to be deficient in terms of their conception, calibration, use or monitoring of performance over time in relation to operational risk and therefore could produce erroneous results, with financial consequences in particular.

In particular:

- the valuation of certain financial instruments that are not traded on regulated markets or other trading platforms, such as OTC derivative contracts between banks, uses internal models that incorporate unobservable parameters. The unobservable nature of these parameters, even if they are prudently valued, results in an additional degree of uncertainty as to the adequacy of the valuation of the positions. In the event that the relevant internal models prove unsuitable for changing market conditions, some of the instruments held by the Group could be misvalued and the Group could incur losses. For illustrative purposes, financial assets and liabilities measured at fair value on the balance sheet categorised within Level 3 (for which the valuation is not based on observed data) represented EUR 10 billion and EUR 52 billion respectively, as at 31 December 2019 (see Note 3.4.1 and Note 3.4.2 of Chapter 6 of the 2020 Universal Registration Document on level 3 financial assets and liabilities measured at fair value);
- the assessment of customer solvency and the bank's exposure to credit and counterparty risk is generally based on historical assumptions and observations that may prove to be inappropriate in light of new economic conditions and is based on economic scenarios and projections that may not adequately anticipate unfavourable economic conditions or the occurrence of unprecedented events. This miscalculation could, among other things, result in an under-provisioning of risks and an incorrect assessment of capital requirements;
- hedging strategies used in market activities rely on models that include assumptions about the evolution of market parameters and their correlation, partly inferred from historical data. These models could be inappropriate in certain market environments (in the event of strong movements in volatility resulting, for example, from the evolution of the trade war between the United States and China, or from Brexit), leading to an ineffective hedging strategy and causing unanticipated losses that could have a material adverse effect on the Group's results and financial position;
- management of the interest rate risk of the investment portfolio and of the liquidity risk of all balance sheet and off-balance sheet items uses behavioural models that depend on market conditions. These models, based in particular on historical observations, could have an impact on the hedging of these risks when unprecedented events occur.

2.2.4.6 The Group may incur losses as a result of unforeseen or catastrophic events, including terrorist attacks or natural disasters.

The occurrence of unforeseen or catastrophic events, including terrorist attacks, natural disasters (including earthquakes, such as in Romania, and floods, such as the exceptional flooding of the Seine in Paris), a major health crisis or the fear of the occurrence of such a crisis (linked for example to the Covid-19 coronavirus) or major social unrest (such as the "*gilets jaunes*" movement in France) could create economic and financial disruptions or lead to operational difficulties (including travel limitations or relocation of affected employees) for the Group. These events could impair the Group's ability to manage its businesses and also expose its insurance activities to significant losses and increased costs (such as higher re-insurance premiums). Upon the occurrence of such events, the Group could incur losses.

(1) Number of employees at the end of 2019 excluding temporary staff.
(2) Excluding customers of the Group's insurance companies.

2.2.5 LIQUIDITY AND FUNDING RISKS

2.2.5.1 A number of exceptional measures taken by governments, central banks and regulators could have a material adverse effect on the Group's cost of financing and its access to liquidity.

For several years now, central banks have taken measures to facilitate financial institutions' access to liquidity, in particular by lowering interest rates to historical lows. Various central banks have substantially increased the amount and duration of liquidity provided to banks. They have relaxed collateral requirements and, in some cases, have implemented "non-conventional" measures to inject substantial liquidity into the financial system, including direct market purchases of government bonds, corporate bonds, and mortgage-backed securities.

In the United States, after a tightening period that began in December 2015, the Fed started a new rate cut cycle in 2019 that will continue in 2020, due to the slowdown in the U.S. economy and of global demand. In addition, tensions in the repo market in September 2019 led the Fed, for the first time in ten years, to inject liquidity in order to normalise the situation. The Fed has also put in place a plan to buy short-term Treasury bills to avoid further tensions in the money markets at least until the second quarter of 2020. If tensions in the dollar funding market were to spread internationally, this would represent a risk for countries and sectors whose debt is denominated in US dollars, and therefore for some of the Group's counterparties. For information, as at 31 December 2019, out of a total of EUR 1,356 billion of liabilities on the balance sheet of the Group, 19% were denominated in dollars.

The fragmentation of the European financial markets is now partly "hidden" by ECB policy. The lack of significant progress on the Banking Union and the Capital Markets Union leaves the Eurozone in a situation of potential vulnerability. In the extreme case of a restructuring of a Eurozone Member State's sovereign debt, cross-border capital flows restrictions could be implemented, thus impacting the Group.

A more politically fragmented world and the risks of counterproductive exceptional measures could have a material adverse effect on the Group's business, financial position and results of operations.

As at 31 December 2019, the Group's regulatory short-term liquidity coverage ratio (LCR) stood at 119% and liquidity reserves amounted to EUR 190 billion.

2.2.5.2 A downgrade in the Group's external rating or in the sovereign rating of the French State could have an adverse effect on the Group's cost of financing and its access to liquidity.

For the proper conduct of its activities, the Group depends on access to financing and other sources of liquidity. In the event of difficulties in accessing the secured or unsecured debt markets on terms it considers acceptable, due to market conditions or factors specific to the Group, or if it experiences unforeseen outflows of cash or collateral, including material decreases in customer deposits, its liquidity could be impaired. In addition, if the Group is unable to maintain a satisfactory level of customer deposits collection, it may be forced to turn to more expensive funding sources, which would reduce the Group's net interest margin and results.

The Group is exposed to the risk of an increase in credit spreads. The Group's medium- and long-term financing cost is directly linked to the level of credit spreads which can fluctuate depending on general market conditions. These spreads can also be affected by an adverse change in France's sovereign debt rating or the Group's external ratings by rating agencies.

The Group is currently monitored by four financial rating agencies: Fitch Ratings, Moody's, R&I and Standard & Poor's. The downgrading of the Group's credit ratings, by these agencies or by other agencies, could have a significant impact on the Group's access to funding, increase its financing costs and reduce its ability to carry out certain types of transactions or activities with customers. This could also require the Group to provide additional collateral to certain counterparties, which could have an adverse effect on its business, financial position and results of operations.

Access to financing and liquidity constraints could have a material adverse effect on the Group's business, financial position, results of operations and ability to meet its obligations to its counterparties.

For 2020, the Group has planned a funding program of approximately EUR 18 billion in vanilla long-term debt, mainly in senior preferred and secured debt format as well as in senior non-preferred debt format.

As at 31 December 2019, the Group had raised a total of EUR 43 billion of long-term funding (EUR 40.1 billion for the parent company and EUR 2.9 billion for the subsidiaries) mainly, at the parent company level, via senior structured issues (EUR 22.1 billion), senior vanilla non-preferred issues (EUR 8.2 billion), senior vanilla preferred issues (EUR 5.6 billion) and secured issued (EUR 3.0 billion).

See Chapter 2.6 "Financial policy" of the 2020 Universal Registration Document, including the breakdown the Group's long-term funding programme's completion (p. 62).

2.2.6 RISKS RELATED TO INSURANCE ACTIVITIES

2.2.6.1 A deterioration in the market condition, and in particular a significant increase or decrease in interest rates, could have a material adverse effect on the life insurance activities of the Group's Insurance business.

In 2019, the Group's insurance activities represented net banking income of EUR 909 million, or 3.7% of the Group's consolidated net banking income. The Group's Insurance division is mainly focused on Life Insurance. At 31 December 2019, life insurance contracts had an outstanding amount of EUR 125 billion, divided between euro-denominated contracts (70%) and unit-linked contracts (30%).

The Group's Insurance business is highly exposed to structural interest rate risk due to the high proportion of bonds in the euro-denominated funds in its life insurance contracts. The level of and changes in interest rates may, in certain configurations, have a material adverse effect on the results and financial position of this business line.

With its impact on the yield of euro-denominated contracts, a prolonged outlook of low interest rates reduces the attractiveness of these products for investors, which can negatively affect fundraising and income from this segment of the life insurance business.

A sharp rise in interest rates could also degrade the competitiveness of the life insurance offerings in euros (compared with bank savings products, for example) and trigger significant repurchases and arbitrage by customers, in an unfavourable context of unrealised losses on bond holdings. This configuration could affect the revenues and the profitability of the life insurance business.

More generally, a pronounced widening of spreads and a decline in equity markets could also have a significant negative effect on the results of the Group's life insurance business.

In the event of a deterioration in market parameters, the Group could be required to strengthen the own funds of its insurance subsidiaries in order to enable them to continue to meet their regulatory capital requirements.

3

RISK MANAGEMENT ORGANISATION

IN BRIEF

This section describes Societe Generale's risk management approaches and strategies. It describes how the functions in charge of risk management are organised, how these functions guarantee their independence and how they broadcast the risk culture within the Group.

3.1 SUITABILITY OF RISK MANAGEMENT SYSTEMS

The Pillar 3 report, published under the responsibility of Societe Generale Group's Senior Management, sets out, in accordance with the CRR regulation, the quantitative and qualitative information on Societe Generale's capital, liquidity and risk management to ensure transparency in respect of the various market players. This information has been prepared in compliance with the internal control procedures approved by the Board of Directors in the course of the validation of the Group Risk Appetite Framework and Group Risk Appetite Statement.

3.2 SUMMARY OF THE GROUP'S RISK PROFILE IN 2019

In establishing its risk appetite, Societe Generale aims to achieve sustainable growth founded on a diversified and balanced bank model with a strong European foothold and a global presence via a few key areas of business expertise. It also aims to maintain long-term relationships with its customers founded on trust, and to meet the expectations of all stakeholders.

CREDIT AND COUNTERPARTY RISK

Credit and counterparty risks are the main risks facing the Group, with related RWA of EUR 282.5 billion at 31 December 2019, representing 82% of total RWA. These risk-weighted assets decreased by 7% compared to 31 December 2018 and are mainly based on the internal model approach (81% of the RWA credit and counterparty risk).

In the context of high liquidity and low interest rates, the Group's appetite for credit risk is based on maintaining prudent origination criteria and close supervision of sectors that are most exposed to macroeconomic cycles, notably by setting portfolio limits.

The credit portfolio has a diversified profile. At 31 December 2019, exposure to credit risk and counterparty risk represented EAD of EUR 918 billion, a slight decrease (-0.2%) in relation to the end of 2018. The breakdown of the main client categories in the portfolio is balanced: corporate clients (33%), sovereigns (23%), retail clients (22%), institutions (12%). In geographical terms, the portfolio's exposure to emerging countries is limited: the Group's exposure stands at 67% the western Europe (of which 45% France) and 14% the United States. By sector, three business sectors (financial activities, business services and real estate activities) represent more than 10% of the Group's corporate exposures.

In 2019, favorable economic conditions and the appetite for controlled risk helped keep the net cost of risk for the year at a low level of EUR 1,278 million, or 25 bp.

The sharp, steady decrease in the Group's rate of non-performing loans to 3.2% at 31 December 2019 from 3.6% at end 2018 reflects an improvement in the quality of its assets in 2019. As at 31 December 2019, the gross rate of coverage on doubtful debts by provisions was 55%.

OPERATIONAL RISK

As at 31 December 2019, operational risk accounted for RWA of EUR 48 billion, representing 14% of the Group's total RWA, stable in relation to the end of 2018. These RWA are calculated mainly using the internal approach (95% of the total).

The main disputes to which the group was exposed were resolved in 2018 as well as the continuous strengthening of the internal control system greatly reduce the level of financial uncertainty relating to potential losses on material disputes.

MARKET RISK

Risk-weighted assets to market risk (excluding securitisation) are mainly determined using internal models (91% of the total at the 2019 end). These weighted assets stood at EUR 14.5 billion at the end of 2019, or 4% of the Group's total RWA, down compared to the end of 2018 (EUR 23.7 billion). This decrease is mainly explained by a decrease in SVaR (mainly due to a higher level of compensation between equity and fixed income positions compared to the end of 2018), by a decrease in RWA for IRC (Incremental Risk Charge) resulting from a lower exposure on the scope covered by the IRC and by the decrease in RWA under the CRM (Comprehensive Risk Measure) due to methodological improvements made in the last quarter.

In the context of its risk appetite, the Group caps the proportion of RWA linked to market activities (market risks and counterparty risks) at 20% of total Group RWA and applies strict management of market risk through indicator-based limits, such as Value at Risk (VaR), and a set of standardised, hypothetical or historical stress tests.

VaR has been riskier in 2019 (EUR 23 million on average per year compared to EUR 18 million in 2018) with an upward trend over the whole year. This gradual increase in risk comes from the natural renewal of the scenarios in the VaR calculation window, in particular those added during 2019 summer, applying stock rebound shocks (rise in prices and fall in volatility) and strong rate increases on long-term maturities.

Note that there has been a significant decrease in extreme risks since 2016 and until 2019, thanks to the implementation of dedicating asset hedging programmes.

FINANCIAL SOLIDITY PROFILE

The Group aims to maintain a solid financial position, consistent with its target credit rating. It manages its financial ratios with a view to ensuring it has a sufficient security margin above the regulatory ratio requirements. As at 31 December 2019, the Group's fully-loaded CET1 ratio was 12.7% against 10.9% in 2018. This increase reflected the organic generation of capital, the use of securitisation and risk transfer operations, the already advanced implementation of the program to refocus the Group's activities and the reduction in RWA relating to market activities. The fully-loaded leverage ratio was 4.3% at 31 December 2019 versus 4.2% at the end of 2018.

In terms of liquidity, the LCR stood at 119% and liquidity reserves at EUR 190 billion at 31 December 2019. The NSFR is within the minimum regulatory threshold of 100%.

SIGNIFICANT TRANSACTIONS IN 2019

The Group's strategy is to concentrate its presence on the markets where it benefits from leading positions with a critical size. In accordance with this strategy of refocusing and reallocating its RWA, it finalised the sale of its subsidiaries in Bulgaria, Albania, Montenegro, Poland, Serbia, Moldova and Macedonia and of its private banking activity in Belgium. At the same time, the Group integrated the Equity Markets and Commodities (EMC) activity, which was bought from Commerzbank in November 2018.

3.3 RISK APPETITE

Risk appetite is defined as the level of risk that the Group is prepared to accept to achieve its strategic goals.

Principles governing risk appetite

Societe Generale seeks sustainable development based on a diversified and balanced banking model with a strong European anchor and a targeted global presence in selected areas of strong business expertise; the Group also strives to maintain long-term relationships with its clients built on the confidence it has earned and to meet the expectations of all of its stakeholders.

This results in:

- an organisation with 16 Business Units offering various products and services to clients in different locations;
- a balanced capital allocation between activities:
  - a preponderance in retail banking activities in France and abroad, which currently represent more than 60% of risk-weighted assets (“RWA”),
  - limitation of Business Unit Global Markets’ share in the RWA of the Group. In accordance with its client-focused development strategy, the Group has also announced the closure of its proprietary trading activities(1), and seeks to simplify the products offered,
  - non-bank services activities, in particular Insurance, conducted in coherence with the business strategy, and which demonstrate a controlled risk profile and which profitability meets the Group’s expectation;
- a geographically balanced model:
  - in Retail Banking, the Group focuses its development on Europe and Africa, where it enjoys a historic presence, extensive knowledge of the markets and prominent positions ,

(1) In accordance with French banking law, certain residual trading activities of the Group with no connection to clients were isolated in a dedicated subsidiary called Descartes Trading, closed in February 2020.

- as regards Global Banking and Investor Solutions, outside the Europe and Africa zones, the Group targets activities in which it can rely on international expertise;

- a targeted growth policy, favoring existing areas of expertise, good quality business and the search for synergies within the diversified banking model;
- a positive contribution to the transformations of our economies, in particular with regard to the technological revolution, and economic, social and environmental transitions; CSR concerns are therefore at the heart of its strategy and its relationships with stakeholders;
- vigilance as regards its reputation, which it considers a high-value asset which must be protected.

A strong financial profile

Societe Generale seeks to achieve sustainable profitability, relying on a robust financial profile consistent with its diversified banking model, by:

- targeting profitable and resilient business development;
- maintaining a target rating allowing access to financial resources at a cost consistent with the development of the Group's businesses and its competitive positioning;
- calibrating its capital and hybrid debt targets to ensure:
  - satisfaction of minimum regulatory requirements on CET1, and others capital ratio in the baseline scenario, with a security buffer,
  - coverage of one year of "internal capital requirement" using available CET capital,
  - a sufficient level of creditor protection consistent with the Group's goals with respect to rating and regulatory ratios such as TLAC ("Total Loss Absorbing Capacity"), MREL ("Minimum Requirement for own funds and Eligible Liabilities"), and the leverage ratio;
- ensuring resilience in its liabilities, calibrated by taking into account a survival horizon in a liquidity stress ratio, compliance with LCR (Liquidity Coverage Ratio) and NSFR (Net Stable Funding Ratio) regulatory ratios and the level of dependence on short-term fundings;
- controlling the leverage ratio.

Credit and counterparty risk (including concentration effects)

Credit risk appetite is managed through a system of credit policies, risk limits and pricing policies.

When it assumes credit risk, the Group focuses on medium- and long-term client relationships, targeting both clients with which the bank has an established relationship of trust and prospects representing profitable business development potential over the mid-term.

Acceptance of any credit commitment is based on in-depth client knowledge and a thorough understanding of the purpose of the transaction.

In a credit transaction, risk acceptability is based, first, on the borrower's ability to meet its commitments, in particular through the cash flows which will allow the repayment of the debt. For medium and long-term operations, the funding duration must remain compatible with the economic life of the financed asset and the visibility horizon of the borrower's cash flow.

Security interests are sought to reduce the risk of loss in the event of a counterparty defaulting on its obligations, but may not, except in exceptional cases, constitute the sole justification for taking the risk. Security interests are assessed with prudent value haircuts and paying special attention to their actual enforceability.

Complex transactions or those with a specific risk profile are handled by specialied teams within the Group with the required skills and expertise.

The Group seeks risk diversification by controlling concentration risk and maintaining a risk allocation policy through risk sharing with other financial partners (banks or guarantors).

Counterparty ratings are a key criterion of the credit policy and serve as the basis for the credit approval authority grid used in both the commercial and risk functions. The rating framework relies on internal models. Special attention is paid to timely updating of ratings (which, in any event, are subject to annual review).

Market risk

The Group's market activities are carried out in the context of a business development strategy primarily focused on meeting client requirements with a full range of products and solutions.

The market risk is strictly managed through a set of limits for several indicators (such as stress tests, Value at Risk (VaR) and stressed Value at Risk (SVaR), "sensitivity" and "nominal" indicators). These indicators are governed by a series of limits proposed by the business lines and approved by the Risk Division within the framework of a discussion-based process.

Limits are set at different sub-levels of the Group's organisation, thereby cascading down the Group's risk appetite from a transactional standpoint throughout its organisation.

Within these limits, the limits of the Global stress test on market activities and the Market Stress Test play a pivot role in determining the Group's market risk appetite; in fact, these indicators cover all operations and the main market risk factors as well as risks associated with a severe market crisis which helps limit the total amount of risk and takes account of any diversification effects.

Market operations that do not fall within the activity related to customers are confined to a dedicated subsidiary (Descartes Trading), closed in February 2020.

Operational risk (including reputation and compliance risk)

The Group is exposed to a diversity of operational risks inherent in its business: execution errors, internal and external fraud, IT system failures, malicious acts against IT systems, loss of operational resources, commercial disputes, failure to comply with tax obligations, but also risk of non-compliance, unappropriated behavior or even reputation.

As a general rule, the Group has no appetite for operational risk. Furthermore, there is zero tolerance for incidents severe enough that they are likely to gravely harm its image, jeopardise its results or the trust displayed by its customers and employees, disrupt the continuity of its critical operations or call into question its strategy.

The Group underscores that it has is no or low tolerance for operational risk involving the following:

- internal fraud: The Group does not tolerate unauthorised trading by its employees. The Group's growth is founded on relationships of trust among its employees, within the Group and between the Group and its employees. This requires respect, at every level, of the Group's principles, such as displaying loyalty and integrity. The bank's internal control system must be capable of preventing acts of major fraud;

- cybersecurity: The Group has no tolerance for fraudulent intrusions, in particular those resulting in the theft of customer data or a major operational disruption. The Bank intends to introduce effective means to prevent and detect this risk. It is adequately organised to deal with any incidents;
- data leaks: trust is one of the Group's key assets. As a result, the Bank is committed to deploying the necessary resources and implementing controls to prevent, detect and remedy data leaks. The bank does not tolerate leaks of its most sensitive information, in particular where it concerns its customers;
- business continuity: the Group relies heavily on its information systems to carry out its operations and is therefore committed to deploying and keeping its information systems resilient so that they can ensure the continuity of its most essential services. The Bank has very low tolerance for the risk of unavailability of its information systems that take care of its essential functions, in particular when it comes to systems directly accessible to its customers or those allowing it to conduct business on the financial markets;
- outsourced services: the Group intends to demonstrate a high degree of thoroughness in the control of its activities entrusted to external service providers. As such, the Group adheres to a strict discipline of monitoring its providers with a review frequency depending on their level of risk.

Structural interest rate and exchange rate risks, Risks on Pension/Long-Service Obligations

The Group measures and strictly controls structural risks. The mechanism to control interest rate risk, foreign exchange risk and the risk on pension/long-service obligations is based on sensitivity or stress limits which are broken down within the various businesses (entities and business lines).

There are four main types of risk: rate level risk; curve risk, related to the term structure of the instruments in the banking book; optional risk (arises from automatic options and behavioral options) and basis risk, related to the impact of relative changes in interest rates indices. The Group's structural interest rate risk management primarily relies on the sensitivity of Net Present Value ("NPV") of fixed-rate residual positions (excesses or shortfalls) to interest rate changes according to several interest rate scenarios. Limits are set by the Finance Committee or the Board of Directors at the Business Unit/Service Unit and Group levels. Furthermore, the Group measures and controls the sensitivity of its net interest margin ("NIM") to +/ 10 bp interest rates shocks, on a sliding 2-year horizon.

The Group's policy consists of requesting entities to hedge their exposure to currency fluctuations by endorsing all on and off-balance sheet positions and controlling residual exposure by setting low limits. In addition, at the Group level, the hedging policy consists of reducing, as far as possible, the sensitivity of its CET1 ratio to fluctuations in exchange rates.

Regarding risks on pension/long-service obligations, which are the bank's long-term obligations towards its employees, the amount of the provision is monitored for risk on the basis of a specific stress test and an attributed limit. There are two main objectives of the risk management policy: reduce risk by moving from defined-benefit plans to defined-contribution plans, and optimize asset risk allocation (between hedge assets and performance assets) where regulatory and tax constraints allow.

Liquidity and Funding risks

Liquidity risk calibration and control is based on:

- two complementary metrics, the Business as Usual (BAU) static gap, that measures the price risk, meaning the economic risk, without taking into account new productions in a non-stressed environment (no impact on assets prices, for instance). And the Combined (CMB) stressed dynamic gap, used to measure the lethal risk. That risk is asymmetrical - i.e. the risk that the Group could not meet all its liquidity commitments in a stressed environment due to a short liquidity position;
- maintaining sufficient liquidity reserve in an amount and quality to cover short-term financial obligations in stress scenarios;
- controlling "liquidity gaps" in the principal business lines and entities to control the risk of inconsistent maturities between cash inflows and outflows.

Funding risk calibration and control is based on:

- maintaining a liabilities structure designed to meet Group regulatory requirements (Tier1, Total Capital, Leverage, TLAC, NSFR and MREL ratios) and rating agency requirements in order to secure a minimum rating level;
- capping use of market funding (in particular, overnight and short-term) and of short term financing raised by treasuries;
- diversifying the Group's funding sources by maturity, market, currency and counterparty;
- healthy and prudent management of treasury/ALM transactions as determined by the Group to meet the requirements of the Law on the Separation and Regulation of Banking Activities *(Loi de Séparation et de Régulation des activités bancaires)*;
- maintaining an available collateral volume which ensures access to secured debt markets, as well as access to ECB facilities, if necessary.

Model risk

Societe Generale is committed to defining and deploying internal standards to reduce model risk, on the basis of key principles, including the establishment of three independent lines of defense, a proportionality approach (i.e. modular standards depending on the inherent level of risk associated with each model), a comprehensive analysis of the model risk (end-to-end view of the model lifecycle) and the consistency of the approaches used within the Group.

Risks related to Insurance

The Group conducts Insurance activities (Life Insurance and Savings, Retirement savings, Property & Casualty Insurance, etc.) which exposes the Group to two major types of risks:

- subscription risk related to pricing and claim rates deterioration;
- risks related to financial markets (interest rate, credit and equity) and asset-liability management.

3.4 RISK APPETITE – GENERAL FRAMEWORK

Risk appetite is determined at Group level and declined in the businesses and subsidiaries. It is followed up according to the principles set out in the Risk Appetite Framework, which are summarised below.

Governance

Each year, the Board of Directors approves the Group's Risk Appetite Statement proposed by the Executive Management and the Group Risk Appetite Framework which oversees and implements risk appetite. It ensures that risk appetite is relevant to the Group's strategic and financial objectives and its vision of the risks presented by the macroeconomic and financial environment. The Board of Directors is also informed of the appropriate implementation of the risk appetite through an annual assesment.

The Risk Department and the Finance Department determines the risk appetite and, in conjunction with the Compliance Department, conducts second-level monitoring and controls of its implementation.

Determining and allocating risk appetite

The following procedures result from the process of determining and allocating risk appetite:

- the identification and assessement of all significant risks to which the Group is exposed using prospective tools (stress tests);
- a forecast of the Group's profitability and solvency in a central scenario and in a stressed scenario over a horizon of at least three years which is used to define the strategic and financial plan;
- an allocation of the risk appetite within the Group, up to the relevant level, taking into account the risk/profitability profile of the businesses and their development prospects;
- a formalisation at Group, Business Unit and main subsidiary level.

The Group's risk appetite is formalised in the Risk Appetite Statement which sets out:

- the Group's strategic profile;
- its profitability and financial strength profile;
- the qualitative and quantitative frameworks for the Group's main risks, respectively through risk strategies and indicators.

Every year, ahead of the budgeting procedure and after an independent review by the Risk Department, the Finance Department submits Group level targets to General Management sitting at the Finance Committee. The targets are supplemented by alert thresholds and crisis levels using a traffic light approach. These frameworks are subsequently submitted for approval to the Board of Directors.

These financial targets enable the Group to:

- comply, using a sufficient safety buffer, with the regulatory obligations to which it is subject (in particular the minimum regulatory solvency, leverage and liquidity ratios), by anticipating the introduction of new regulations as best as possible;
- ensure, using a safety buffer, sufficient resistance to stress scenarios (stress normalised by regulators or stress defined according to a process internal to the Group).

The main risks to which the Group is exposed are identified and subject to risk targets/limits that include alert thresholds and potentially a crisis level.

Allocation of risk appetite within the organisation

The allocation of risk appetite within the organisation relies on the strategic and financial plan, and on risk management systems.

The Finance Department submits the financial targets defined at Group level to General Management. Targets are broken down into budget allocation targets at business level as part of the budget, and the strategic and financial plan.

At the end of the budget planning process, General Management and the Finance Department submit to the Board of Directors the budget plan in a central scenario and in a stressed scenario, and they verify that the initial financial targets are being respected, if not the Board of Directors may either approve new frameworks or request amendments.

Allocation of risk appetite is based on an understanding of the businesses' needs and development. The allocation takes into account the profitability and financial strength objectives of the Business Unit and/or the entity.

3.5 RISK MANAGEMENT ORGANISATION

Implementing a high-performance and efficient risk management structure is a critical undertaking for Societe Generale in all businesses, markets and regions in which it operates, as is maintaining a balance between strong awareness of risks and promoting innovation. The Group's risk management, supervised at the highest level, is compliant with the regulations in force, in particular the Order of 3 November 2014 relating to the internal control of companies in the banking sector, payment services and investment services subject to the control of the French Prudential Supervisory and Resolution Authority (*Autorité de contrôle prudentiel et de résolution* – ACPR) and European Regulations Basel 3 (CRR/CRD). (See Board's Expertise, p. 86 of the 2020 Universal Registration Document.)

The main objectives of the Group's risk management strategy are:

- to contribute to the development of the Group's businesses and profitability by defining the Group's risk appetite in conjunction with the Finance Division and the business divisions;
- to contribute to the Group's sustainability by establishing a risk management and monitoring system;
- to reconcile the independence of the risk management system (with respect to the businesses) with close collaboration with the core businesses, which have primary responsibility for the transactions they initiate.

Governance of risk management

Two main high-level bodies govern Group risk management: the Board of Directors and General Management.

General Management presents the main aspects of, and notable changes to, the Group's risk management strategy to the Board of Directors at least once a year (more often if circumstances so require).

Within the Board of Directors, the Risk Committee (see Art. 11 of the Internal rules of the Board of Directors, p. 91 of the 2020 Universal Registration Document) advises the Board of Directors on overall strategy and the appetite regarding all kinds of risks, both current and future, and assists the Board when it verifies the implementation of this strategy.

The Board of Directors' Audit and Internal Control Committee (see Art. 10 of the Internal Rules of the Board of Directors, p. 90 of the 2020 Universal Registration Document) ensures that the risk control systems operate effectively.

Chaired by General Management, the specialised Committees responsible for central oversight of internal control and risk management are as follows:

- **the Risk Committee** (CORISQ), which met 17 times in 2019, defines the Group's key priorities in terms of risk (credit, country, market and operational risks), within the framework of the risk appetite and financial targets set by the Group Strategy Committee, and monitors compliance in such respect. Subject to the powers attributed to the Board of Directors, the CORISQ, based on proposals from the Risk Division, takes the main decisions relating to the management of various risks (credit risks, country risks, market and operational risks). The Group also has a Large Exposures Committee, which is responsible for approving the sales and marketing strategy and risk-taking with regard to major client groups;
- **the Finance Committee** (COFI) is responsible for setting out the Group's financial strategy and for managing scarce resources (capital, liquidity, balance sheet, tax capacity) in the context of the allocation and the management of structural risks. The COFI, upon proposal from DFIN and RISQ, validates the structural risk monitoring and management framework for the Group and its significant entities and reviews changes in such risks (limits and consumption). It periodically assesses the consumption of scarce resources. It reviews the financial panorama, ILAAP and ICAAP documents, ongoing issues regarding to ALM, Liquidity, the Preventive Recovery Plan, and the Corporate Centre budget and intra-Group re-invoicing. Lastly, it covers issues pertaining to the Group's taxation (managed jointly by DFIN and SEGL);
- **the Compliance Committee** (COMCO) meets at least quarterly in order to define defines the Group's main guidelines and principles in terms of compliance;
- **the Corporate Strategic Architecture Committee** (CSAE) defines the Company's architecture from the standpoint of data and reference systems, operational processes and information systems, and ensures the consistency of the Group's projects with the architecture set out;
- **the Group Internal Control Coordination Committee** (CCCIG) is responsible for the overall architecture of the Group's internal control system: for evaluating its efficiency, consistency and coprehensiveness, for taking corrective actions and for monitoring their implementation;
- **the Responsible Commitments Committee** (CORESP) deals with topics related to the Group's commitments and normative framework in CSR (including CSR sectoral policies), culture and conduct, or other topics that have an impact on the Group's liability or reputation and not already covered by an existing Committee.

Divisions in charge of risk monitoring

The Group's Corporate Divisions, which are independent from the core businesses, contribute to the management and internal control of risks.

The Corporate Divisions provide the Group's General Management with all the information needed to assume its role of managing Group strategy under the authority of the Chief Executive Officer. The Corporate Divisions report directly to General Management.

- The main role of the **Risk Division** is to support the development of the Group's activities and profitability by defining the Group's risk appetite (allocated between the Group's different business lines) in collaboration with the Finance Division and the Business and Service Units and establishing a risk management and monitoring system as a second line of defense.

  In performing its work, the Risk Division reconciles independence from the businesses with a close working relationship with the Businesses Units, which are responsible in the first instance for the transactions they initiate.

  Accordingly, the Risk Division:

  - provides hierarchical and functional supervision for the Group's Risk function,
  - is jointly responsible, with the Finance Division, for setting the Group's risk appetite as recommended to General Management;
  - identifies all Group risks,
  - implements a governance and monitoring system for these risks, including cross-business risks, and regularly reports on their nature and extent to General Management, the Board of Directors and the banking supervisory authorities,

- ontributes to the definition of risk policies, taking into account the aims of the businesses and the relevant risk issues,
- defines or validates the methods and procedures used to analyse, measure, approve and monitor risks,
- implements a second-level control to ensure the correct application of these methods and procedures,
- assesses and approves transactions and limits proposed by business managers,
- defines or validates the architecture of the central risk information system and ensures its suitability to business requirements;

- **The Finance Division** is organised according to three levels of supervision, each attached to a Chief Financial Officer:
  - French Retail Banking, and International Retail Banking and Financial Services,
  - Global Banking and Investor Solutions,
  - Cross-business functions, bringing together all the areas of expertise that are key to the operations of the Finance Division;

It also carries out extensive accounting and finance controls. As such:

- **The Group Accounting Department** is responsible for coordinating the mechanism used to draw up the Group's consolidated financial statements,
- **The Experts on Metrics and Reporting Department** is responsible for producing the regulatory reports of the Group,
- **The Mutualised Accounting and Regulatory Activities Department** within the **pooled operations division** is responsible for accounting, regulatory and tax production and coordinating the continuous improvement and management of processes for entities within its scope (o.w. Societe Generale SA),
- **The Finance Control Department** is responsible for the second-level permanent control system over all of the Finance Processes,
- **The Asset and Liability Management Department** is in charge of the ALM function for the Group, structural interest rate, Group liquidity, and exchange rate risks, as well as the operational management of ALM for the Societe Generale Parent Company (SGPM);

The other cross-business functions provide various tasks for the Finance Division, in particular with the Finance Division of the Group Service Units, Group Investor Relations and Financial Communication, Human Resources and the Corporate Secretary.

- **The Finance Departments of the Business Units and Service Units,** which report hierarchically to the Group Finance Division, ensure that the financial statements are prepared correctly at the local level and control the quality of the information in the financial reports (accounting, management control, regulations, etc.).
- **The Group Compliance Division,** which has been reporting to General Management since 1 June 2017, ensures that the Group's banking and investment activities are compliant with all laws, regulations and ethical principles applicable to them. It also ensures the prevention of reputational risk.
- **The Corporate Secretary** includes the **Group Legal Department,** which notably monitors the security and legal compliance of the Group's activities, relying where applicable on the legal departments of subsidiaries and branches, the **Group Tax Department,** which ensures compliance with tax laws in France and abroad, the **Group Corporate Social Responsibility Department,** which is responsible for defining and proposing a CSR (Corporate Social Responsibility) policy for the Group and **the Group Security Department,** which manages the security of the Group in cooperation with the Corporate Resources and Digital Transformation Service Unit with regard to information systems security, and the **Group's central administration services,** and, when necessary, supports the Secretary of the Board of Directors.
- **The Human Resources and Communication Division** monitors the implementation of compensation policies, amongst other things.
- **The Corporate Resources and Innovation Division** is specifically responsible for defining information system security policies.
- **The Group Internal Audit Division** is in charge of internal audits, under the authority of the Head of Group Internal Audit.

According to the latest voluntary census (31 December 2019) with respect to full-time equivalent (FTE) employees:

- the Group Risk function had 5,568 FTE employees (including 1,617 FTE employees within the Group Risk Division);
- the Compliance function had approximately 3,705 FTE employees;
- the Information System Security function had approximately 457 FTE employees.

Risk reporting and assessment systems

The Group's data aggregation system operates at two levels, with clearly defined responsibilities. The teams of Business Units or Support Units and entities provide data collection and quality functions for both local and Group consolidation needs, as well as a first level of aggregation when necessary. The central teams of the Finance Department and the Risk Department aggregate this data and produce Group-wide risk indicators and reports.

Since 2015, the Group has defined architectural principles relating to Finance and Risk information systems. The TOMFIR principles (Target Operating Model for Finance & Risk) revolve around the following objectives:

- the production of risk indicators is based on data from Business Units and certified entities (Golden sources), with granularity of the contract, of accounting quality, updated daily and fed by the operational systems of the entities;
- the Group-level information system manages its own data aggregation rules to avoid multiplying local developments at BU and entity level. It is based on Group-wide benchmarks, subject to the benchmarks of Business Units and entities;
- the IS architecture must address Finance and Risk uses to meet local needs and needs shared with the Group.

These architectural principles are applied to the following four main application areas:

- the mutual Finance and Risk information system for credit risk and the calculation of RWA;
- interest rate and liquidity risk calculation chains;
- the market risk calculation chain;
- the counterparty risk calculation chain on market operations.

RISK QUANTIFICATION PROCEDURES AND METHODOLOGIES

The Group has been authorised by its supervisory authorities:

- for credit risk, to use the internal ratings-based approach (IRB method) for most of its exposures to credit risk.

  Currently, the Standardised approach is used for certain selected activities and exposures. They have a limited impact on the Group's regulatory capital. The system for monitoring rating models is operational, in accordance with applicable regulations. This system is described in detail further on in this document; for these exposures covered by the standardised approach, Societe Generale mainly uses the external ratings assigned by Standard & Poor's, Moody's and Fitch Ratings;

- for market risk, to use internal models (VaR – Value at Risk, Stressed VaR, IRC – Incremental Risk Charge, and CRM – Comprehensive Risk Measure).

  These models cover almost all of the transactions involved. Only some transactions are still calculated using the standardised method;

- for counterparty risk on market transactions, to use the internal model since 2013 to calculate the EEPE (Effective Expected Positive Exposure) indicator.

  Exposure At Default (EAD) counterparty risk has been calculated on the basis of this indicator since June 2012 for "simple" products and since December 2013 for more complex derivative products. For Group entities where the internal model has been approved, the internal model covers 98% of derivative and repo transactions. The Group uses the marked-to-market valuation method for the rest of these transactions;

- for operational risks, to use the Advanced Measurement Approach (AMA).

  Lastly, its information systems are regularly upgraded to accommodate changes in the products processed and the associated risk management techniques, both locally (within the banking entities) and centrally (Risk Division).

3.6 RISK MAPPING FRAMEWORK AND STRESS TESTS

Group risk mapping framework

The risk mapping is an annual overview of the Group's risk identification process. Risk identification contributes to the overall assessment of the Group's risk profile, and is used in various tasks such as the Internal Capital Adequacy Assessment Process (ICAAP). Prepared by the Risk Division under the authority of General Management, the risk map is presented annually to the Board of Directors' Risk Committee.

The aim of this approach is to estimate potential material losses for the main types of risk to which the Group is exposed, including credit, market, operational and structural risks. The risk map matches potential losses to hypothetical scenarios within defined scopes. The assessment combines expert analysis and various estimated statistical approaches using historical data.

Stress tests

Stress tests or crisis simulations are used to assess the potential impact of a downturn in activity on the behaviour of a portfolio, activity or entity.

At Societe Generale, stress tests are used to help identify, assess and manage risk, and to evaluate the Group's capital adequacy with regard to risks. Accordingly, stress tests are:

- an important indicator of the Group's resilience and that of its activities and portfolios, and a core component in the definition of its risk appetite;
- based on hypothetical or historical scenarios defined with the Economic and Sector Reseach Department, or on historical scenarios. They are translated into impacts on the Group's activities, taking into account potential counter-measure and systematically combining quantitative methods with an expert assessment (risk, finance or business lines);
- may also rely on sensitivity analyses (single-factor or multi-factor risk).

As such, the stress test framework in place includes:

- an annual global stress test exercise, incorporated into the budget process (Strategic and Financial Plan) to ensure that the Group's profile is in line with its risk exposure tolerance in the event of an adverse scenario and to quantify the extent of deterioration in the profitability of the BUs under such a scenario. It is also incorporated into the ICAAP (Internal Capital Adequacy Assessment Process);
- specific stress tests by risk or portfolio type:
  - credit risk stress tests complement the comprehensive analysis with a more granular approach, thereby helping to clarify the establishment of risk appetite for an array of portfolios, an activity, etc. They are also used to refine the identification, measurement and operational oversight of this risk,
  - stress tests of capital market activities are based on historical and hypothetical scenarios and apply to the whole Group. They are supplemented by special risk exposure stress tests based on a number of risk factors (interest rate, equities, etc.) or activities (emerging markets, etc.). A stress test limit is defined for these different risk measurements,
  - stress tests give a picture of exposure of the value and the interest margin of the banking portfolio to structural interest rate risk. The Group sets limits on these exposures in scenarios of yield curve changes and shifts (steepening and flattening),
  - a stress test of employee benefits involves simulating the impacts of variations in market risk factors (inflation, interest rates, etc.) on the Group's net position (dedicated investments less the corresponding employee benefits). A stress test indicator is established on that indicator,

- liquidity stress tests; the survival horizon of one of these stresses is identified as a financial target,
- the operational risk assessment under stress uses scenario analyses and loss modelling to calibrate the Group's capital need for operational risk purposes and allows a better understanding of the exposure to operational losses, including the exposure to unusual and severe losses which are not present historically,
- insurance stress tests support the process of defining risk appetite for the Insurance Business Unit, which relies on minimum profitability objectives and an SCR coverage ratio under the benchmark scenario and under a stress scenario; Furthermore, the Insurance Business Line also uses the results of its stress tests to develop its hedging policy, the allocation of its assets and its dividend distribution policy;

- reverse stress tests, for both Risk Appetite and the Recovery Plan. The impact of these stress tests is defined in principle, typically using a solvency ratio or liquidity indicator disruption point (reflecting a serious threat to the bank). The hypothetical scenarios leading to this disruption point are then recreated to determine whether new vulnerabilities appear.

Along with the internal stress test exercises, the Group is part of a selection of European banks that participate in the large-scale international stress tests supervised by the European Banking Authority and the European Central Bank.

In particular, the Group is also taking part in a review of the scenarios being defined for 2020 by Banque de France and the European Banking Authority with respect to the risk posed by climate change.

DEFINITION OF "CENTRAL" AND "STRESSED" ECONOMIC SCENARIOS

Central scenario

It is developed on the basis of a series of observed factors, including the recent economic situation and trends in economic policy (budgetary, monetary, exchange rate policy). Based on these observed factors, economists determine the most likely trajectory for the economic and financial variables over a given time frame.

Stressed scenario

The severity of the stress scenario is quantified through a GDP degradation compared to the central scenario, observed on a historical recession taken as reference. This degradation ismaintained from one exercise to another to ensure severityconstant.

4

INTERNAL CONTROL FRAMEWORK

IN BRIEF

This section describes the framework and application of internal control at Societe Generale.

4.1 INTERNAL CONTROL

Internal control is part of a strict regulatory framework applicable to all banking institutions.

In France, the conditions for conducting internal controls in banking institutions are defined in the Order of 3 November 2014. This Order, which applies to all credit institutions and investment companies, defines the concept of internal control, together with a number of specific requirements relating to the assessment and management of the various risks inherent in the activities of the companies in question, and the procedures under which the supervisory body must assess and evaluate how the internal control is carried out.

The Basel Committee has defined four principles – independence, universality, impartiality, and sufficient resources – which must form the basis of internal control carried out by credit institutions.

The Board of Directors ensures that Societe Generale has a solid governance system and a clear organisation ensuring:

- a well-defined, transparent and coherent sharing of responsibilities;
- effective procedures for the detection, management, monitoring and reporting of risks to which the Company could be exposed.

To implement this set up, it gives mandate to The Group General Management which is tasked with rolling out the Group's strategic guidelines.

The Audit and Internal Control Committee (CACI) is a CA Committee that is specifically responsible for preparing the decisions of the CA in in the area of internal control supervision.

As such, General Management reports to it on the internal control of the Group. It monitors the implementation of remediation plans when it considers the risk level to be justified.

Control is based on a **body of standards and procedures.**

All Societe Generale Group activities are governed by rules and procedures covered by a set of documents referred to collectively as the "Normative Documentation", gathered in the Societe Generale Code:

- setting forth rules for action and behaviour applicable to Group staff;
- defining the structures of the businesses and the sharing of roles and responsibilities;
- describing the management rules and internal procedures specific to each business and activity.

The Societe Generale Code gathers the normative documentations:

- which define the governance of the Societe Generale Group, the structures and duties of its Business Units and Services Units, as well as the operating principles of the cross-business systems and processes (Codes of Conduct, charters, etc.);
- which set out the operating framework of an activity and the management principles and rules applicable to products and services rendered, and also define internal procedures.

The Societe Generale Code has force of law within the Group. It falls under the responsibility of the Group Corporate Secretary.

In addition to the Societe Generale Code, operating procedures specific to each Group activity are applied. The rules and procedures in force are designed to follow basic rules of internal control, such as:

- segregation of functions;
- immediate, irrevocable recording of all transactions;
- reconciliation of information from various sources.

Multiple and evolving by nature, risks are present in all business processes. Risk management and control systems are therefore key to the Bank's ability to meet its targets.

The internal control system is represented by all methods which ensure that the operations carried out and the organisation and procedures implemented comply with:

- legal and regulatory provisions;
- professional and ethical practices;
- the internal rules and guidelines defined by the Company's management body of the undertaking in its executive function.

In particular, internal control aims to:

- prevent malfunctions;
- assess the risks involved, and exercise sufficient control to ensure they are managed;
- ensure the adequacy and effectiveness of internal processes, particularly those which help safeguard assets;
- detect irregularities;
- guarantee the reliability, integrity and availability of financial and management information;
- check the quality of information and communication systems.

The internal control system is based on **five basic principles:**

- the comprehensive scope of the controls, which cover all risk types and apply to all the Group's entities;
- the individual responsibility of each employee and each manager in managing the risks they take or supervise, and in overseeing the operations they handle or for which they are responsible;
- the responsibility of functions, in line with their expertise and independence, in defining normative controls and, for three of them, exercising second-level permanent control;
- the proportionality of the controls to the magnitude of the risks involved;
- the independence of internal auditing.

The internal control framework is organised on the "**three lines of defense**" model, in accordance with the Basel Committee and European Banking Authority guidelines:

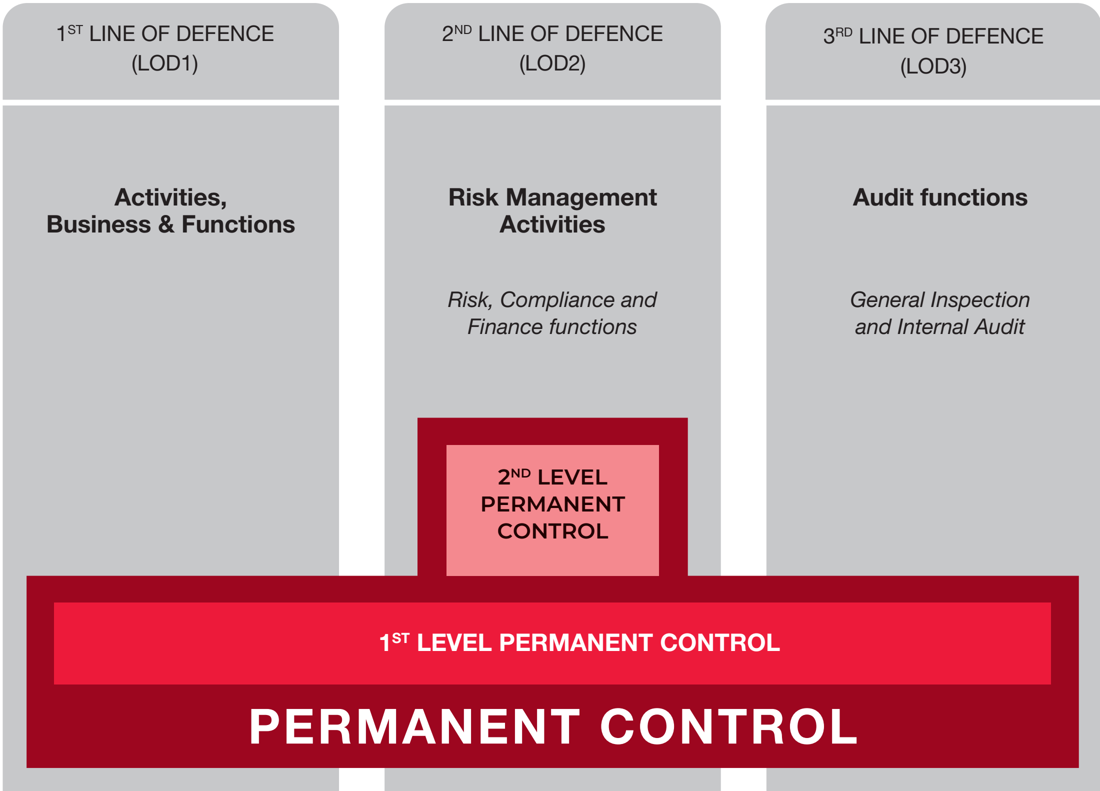
- the **first line of defence** comprises all Group employees and operational management, both within the businesses and in Corporate Divisions (in the latter case, with respect to their own operations).

  Operational management is responsible for risks, their prevention and their management – by putting in place first-level permanent control measures, among other things – as well as for implementing corrective or remedial actions in response to any failures identified by controls and/or process steering;
- the **second line of defence** is provided by the compliance, finance and risk functions.

Within the internal control framework, these functions are tasked with continuously verifying that the security and management of risks affecting operations are ensured, under the responsibility of operational management, through the effective application of established standards, defined procedures, methods and controls as instructed.

Accordingly, these functions must provide the necessary expertise to define, within their respective fields, the controls and other means of risk management to be implemented by the first line of defence, and to ensure that they are effectively implemented; they conduct second-level permanent control over all of the Group's risks, employing the controls they have established, where appropriate with other expert functions (e.g. sourcing, legal, tax, human resources, information system security, etc.) and by the businesses;

- the **third line of defence** is provided by the Internal Audit Division, which encompasses the Internal Audit and General Inspection functions. This division carries out internal audits that are strictly independent of the business lines and the permanent control function;
- **internal control coordination,** under the responsibility of a Deputy Chief Executive Officer, is also provided at Group level and is rolled out in each core business and Corporate Division.



A Deputy Chief Executive Officer is responsible for ensuring the overall consistency and effectiveness of the internal control system. This Deputy Chief Executive Officer also chairs the Group Internal Control Coordination Committee (Group ICCC), which comprises the Chief Risk Officer, the Chief Financial Officer, the Group Chief Compliance Officer, the Group Chief Information Officer, the Head of Group Internal Audit, and the Head of Internal Control Coordination.

The Group Internal Control Coordination Committee met 13 times in 2019. It addressed the following issues:

- review of the effectiveness of permanent control in each Business Unit (BU) and Service Unit (SU);
- review of the effectiveness and consistency of the Group internal control framework;
- review of the Group quarterly permanent control dashboard prior to its communication to the Group Audit and Internal Control Committee (CACI);
- transversal review of new technologies regarding control.

The structure implemented at Group level to coordinate the actions of participants in internal control is rolled out in all Business Unit (BU) and Service Unit (SU). All of the Group's Business Unit (BU) and Service Unit (SU) have an Internal Control Coordination Committee. Chaired by the Head of Business Unit (BU) and Service Unit (SU), these Committees bring together the competent Heads of Internal Audit and Permanent Control for the Business Unit (BU) and Service Unit (SU) in question, as well as the Head of Group Internal Control Coordination and the Heads of the Group-level control functions.

Permanent control system

The Group's permanent control system comprises:

- **first-level permanent control,** under the responsibility of the businesses, which aims to ensure, at the operational level, the security, quality, regularity and validity of transactions completed;
- **second-level permanent control,** independent from the businesses, comes under three Corporate Divisions (Compliance, Risk and Finance Division).

General management initiated in 2018 a program of transformation of the permanent control of the Group, which is under its direct supervision. Through a set of actions affecting the standards, the methods, the tools and the procedures, the training, etc., this program aims at strengthening the culture of control and at optimizing the risk control, so contributing to improve the quality and the reliability of services provided to our customers and partners. It progressed in 2019 as scheduled. It is planned to end at the end of 2020.

FIRST-LEVEL PERMANENT CONTROL

Conducted within the BUs and SUs in connection with operations, first-level permanent controls guarantee the security and quality of transactions and operations. These controls are defined as a set of measures that are permanently in place to guarantee, at operational level, the compliance with rules, validity and security of transactions carried out.

First-level permanent control consists of:

- **risk prevention systems:** controls performed on a regular and continuous basis by the businesses or *via* automated systems when transactions are processed. They comprise a risk prevention framework: security rules and controls – automated or not – forming part of the processing of transactions, or controls included in operational procedures;
- **controls performed by managers:** line managers check the correct functioning of all systems under their responsibility. In this respect, they are required to regularly apply formalised procedures to ensure the employees comply with rules and procedures and that the first-level controls are carried out effectively.

The line managers may rely on controls carried out by dedicated teams, for example (i) on the most sensitive processes requiring stricter or industrialised controls, or to avoid self-controlling practices (*e.g.* the establishment of customer relations in retail banking), and/or (ii) where the pooling of control tasks improves productivity.

Whatever the choice of organisation, managers retain oversight of the processes carried out by the teams that report to them; they are responsible for their production quality and for correcting identified anomalies.

A “first-level permanent control coordination” function is set up in each business line. It is responsible for the design and reporting of controls, as well as awareness-raising and training of employees with respect to control issues.

SECOND-LEVEL PERMANENT CONTROL

Second-level permanent control is one of the missions of the second line of defence. It involves ensuring the security and risk management of operations at all times, under the responsibility of operational management, through the effective application of established standards, defined procedures, methods and controls, as instructed.

Second-level control has two parts:

- assessment of the architecture of the first-level control framework by process/risk, comprising verification of the definition and efficient conduct of first-level controls,. This review also makes it possible to check the effectiveness and relevance of control implementation based on key controls and risk type, the existence of remedial action plans;
- review of the control execution quality and anomaly corrections. The purpose of this work is to verify:
  - the quality of control execution in terms of time, compliance with procedures, operating methods and the appropriateness of samples (representativeness, selection method), frequency of execution and formal documentation,
  - the quality of follow-up of anomalies identified: appropriateness of the solution provided, efficiency of operational implementation, reaction time proportionate to the risk identified, etc;

These reviews and checks form the basis for an opinion on (i) the effectiveness of first-level controls, (ii) the quality of their implementation, (iii) their appropriateness, notably in risk-prevention and response to control objectives defined in the library of normative controls, (iv) the definition of their implementation in practice, (v) the appropriateness of remedial plans to correct anomalies and the quality of follow-up, so arriving at a conclusion as to the effectiveness of first-level controls.

These controls are performed centrally by dedicated teams within Risk Service Unit (RISQ/CTL), Compliance Service Unit (CPLE/CTL) and Finance Service Unit (DFIN/CTL) and locally by the second-level control teams within the BU/SUs or entities.

Internal audit

Reporting to the Group Head of Inspection and Audit, the Inspection and Audit Service Unit (IGAD) is the Group’s third line of defense.

The IGAD Service Unit comprises General Inspection (IGAD/INS), Internal Audit departments (IGAD/AUD) and a support function (IGAD/COO). To fulfil its mandate, the Group’s IGAD Service Unit has adequate resources from a qualitative and quantitative point of view. The Group’s Inspection and Audit Service Unit has about 1,100 employees.

The Group Head of Inspection and Audit reports directly to the Group Chief Executive Officer, with whom it has regular meetings. The Group Head of Inspection and Audit meets regularly with the Chairman of the Board of Directors. The Audit and Internal Control Committee and the Risk Committee refer to the Group Head of Inspection and Audit on their initiative or at his request on any subject. The Group Head of Inspection and Audit participates in the Internal Control Committee and the Risk Committee meetings. Moreover, there are regular bilateral meetings between the Group Head of Inspection and Audit and the chairpersons of these Committees.

The Inspection and Audit Service Unit, delivering its internal audit role, forms the third line of defense, strictly independent of the businesses and permanent control functions.

This is defined in line with IIA (Institute of Internal Auditors) standards as an independent and objective activity that provides the Group with assurance as to how effectively it is controlling its operations, advises on improvements and contributes to the creation of added value. By carrying out this mandate, Inspection and Internal Audit help the Group to achieve its targets, by evaluating systematically and methodically, its processes for risk management, control and corporate governance and making proposals to increase their efficiency.

The Inspection and Audit Service Unit exercises a key role in the Group’s risk management set-up and can assess any of its components.

Under this mandate, the General Inspection and Internal Audit assess the quality of risk management within an audited scope, the appropriateness and effectiveness of the permanent control framework, management’s risk awareness and compliance with codes of conduct and expected professional practices.

Beyond its internal audit role, General Inspection has a mandate to undertake any type of analysis or research mission, be involved in the assessment of strategic projects or intervene on specific subjects as requested by General Management. The General Inspection also supervises the roll-out of data-analysis initiatives within the scope of Inspection and Audit activities. This mission is ensured *via* a dedicated data-lab (INS/DAT), under the responsibility of an Inspection Managing Director *("Inspecteur principal")*. The General Inspection also supervises and coordinates the Service Unit’s relationship with regulators as third line of defense.

Inspection and Audit teams work together on an annual risk assessment to define the Inspection and Audit plans for the upcoming year. IGAD teams regularly work together on joint assignments. They issue recommendations to correct flaws identified in risk management and generally improve operations and risk management within the Group. IGAD teams are subsequently in charge of monitoring the effective implementation of these recommendations.

IGAD has six distinct audit departments aligned with the Group organisation. The Audit departments, placed under the supervision of a head of internal Audit, each have the responsibility for a scope of activity. A matrix organisation allows coverage of the main cross-business issues at the Group level. In France, the internal Audit teams are hierarchically linked to the Inspection unit. Abroad, the internal Audit teams have a strong functional link (supervision over hiring, audit plans, missions and their follow-up) with IGAD top management. The six Audit departments are:

- French Retail Banking Audit handles the audit of Retail Banking activities in France (BDDF Business Unit), the audit of the Boursorama and GTPS Business Units as well as the audit of the Group's activities in French Overseas territories;
- Crédit du Nord inspection is in charge of the internal audit of Crédit du Nord and its subsidiaries (CDN Business Unit);
- Audit for Europe, Russia, Africa - International Retail Banking and Financial Services is responsible for auditing the EURO, AFMO, RUSS, ALDA, SGEF and ASSU Business Units;
- Global Banking and Investor Solutions Audit is responsible, on a worldwide basis, for auditing the MARK, GLBA, SGSS, WAAM, AMER and ASIA Business Units and the GBSU Service Unit. This department also audits the Group's Shared Service Centres (SG EBS and SG GSC);
- Group Information Systems Audit is responsible for auditing all IT functions within the RESG, GBSU Service Units and for auditing the ITM Service Unit. The IT audit teams are organised as a global function with strong expertise on IT security and the ability to interact with all teams within IGAD;
- Group functions audit is responsible for auditing the RISQ, DFIN, CPLE, SEGL and HRCOI/COMM Service Units, as well as the Purchasing (ACHA) and Real estate (IMM) functions of the RESG Service Unit. The department also comprises a team in charge of the Model Risk management audit teams, which interacts with other Audit and Inspection teams, and a team dedicated to the audit of risks related to Sanctions and Embargos, created in 2019.

Besides being responsible for the internal audit of the divisions falling within their scope, these teams also provide expertise and coordination in support of the work performed by other audit teams in the areas applicable to them, notably on issues related to Risk, Compliance and Finance.

4.2 CONTROL OF THE PRODUCTION AND PUBLICATION OF FINANCIAL MANAGEMENT INFORMATION

The players involved

There are many participants in the production of financial data:

- the **Board of Directors,** and more specifically its Audit and Internal Control Committee, has the task of examining the draft financial statements which are to be submitted to the Board, as well as verifying the conditions under which they were prepared and ensuring not only the relevance but also the consistency of the accounting principles and methods applied. There has been a strengthening of the Audit and Internal Control Committee's role in the follow-up of the process of elaboration of the financial information in accordance with the audit reform. It also approves the Group's financial communication. The Statutory Auditors meet with the Audit and Internal Control Committee during the course of their assignment;
- the **Group Finance Division** gathers all accounting and management data compiled by the subsidiaries and the Business Units/Services Units in a series of standardised reports. It consolidates and verifies this information so that it can be used in the overall management of the Group and disclosed to third parties (supervisory bodies, investors, etc.).

The **Group Finance Division** also has a team in charge of the preparation of the Group regulatory reports.

- The **Finance Divisions of subsidiaries and Business Units/Services Units** carry out certification of the accounting data and entries booked by the back offices and of the management data submitted by the front offices. They are accountable for the financial statements and regulatory information required at the local level and submit reports (accounting data, finance control, regulatory reports, etc.) to the Group Finance Division. They can perform these activities on their own or else delegate their tasks to Shared Service Centres operating in finance and placed under Group Finance Division governance;
- The **Risk Division** consolidates the risk monitoring data from the Group's Business Units/Services Units and subsidiaries in order to control credit, market and operational risks. This information is used in Group communications to the Group's governing bodies and to third parties. Furthermore, it ensures in collaboration with the Group Finance Division, its expert role on the dimensions of credit risk, structural liquidity risks, rates, exchange rates, on the issues of recovery and resolution and the responsibility of certain closing processes, notably the production of solvency ratios;
- The **back offices** are responsible for all support functions to front offices and ensure contractual settlements and deliveries. Among other responsibilities, they check that financial transactions are economically justified, book transactions and manage means of payment.

Beyond consolidating accounting and financial information as described above, the Group Finance Division is charged with significant control responsibilities:

- monitoring the financial aspects of the Group's capital transactions and its financial structure;
- managing its assets and liabilities, and consequently defining, managing and controlling the Group's financial position and structural risks;
- ensuring that the regulatory financial ratios are respected;
- defining accounting standards, standards, frameworks, principles and procedures for the Group, and ensuring that they are observed;
- verifying the accuracy of all financial and accounting data published by the Group.

Accounting and regulatory standards

Local financial statements are drawn up in accordance with local accounting standards, and the consolidated Group financial statements are prepared in accordance with the standards defined by the Group Finance Division, which are based on IFRS as adopted by the European Union.

The applicable standards (called Basel 3) on solvency and liquidity, promulgated by the Basel Committee, were translated into European law by a directive (CRD4) and a regulation (CRR) They were completed by the regulation CRR2 and the directive CRD5 wich entered into force on 28 June 2019. These texts are supplemented by several delegated acts and implementation technical standards. The Societe Generale Group identified as a "financial conglomerate" is subjected to an additional supervision.

The Group Finance Division has dedicated teams that monitor the applicable normative regulations and draft new internal standards to comply with any changes in the accounting and regulatory framework.

Procedures for producing financial and accounting data

Each entity within the Group prepares its own accounting and management statements on a monthly basis. This information is then consolidated each month at the Group level and published for the markets on a quarterly basis. Data reported are subject to analytical reviews and consistency checks performed by Finance Divisions or, by delegation under their responsibility, by Shared Service Centres operating in finance, and sent to the Group Finance Division. The Group Finance Division transmits the consolidated financial statements, Management Reports and regulatory statements to General Management and any interested third parties.

In practice, procedures have been tailored to the growing complexity of products and regulations. Moreover, specific action plans for adaptation can be implemented where necessary.

Internal control procedures governing the production of financial and accounting data

Accounting data are compiled independently of the front offices and the sales teams.

The quality and objectivity of the accounting and management data are insured by the separation of sales functions and all the functions of operational processing and follow-up of the operations: back offices and middle offices integrated into Resources Division and team in charge of result production integrated into Finance Division. These teams carry out a series of controls defined by Group procedures on financial and accounting data, in particular:

- daily verification of the economic justification of all information reported;
- reconciliation, within the specified deadlines, of accounting and management data, using specific procedures;
- on market activities, reconciliation between the accounting result (produced by Finance Division) and the economic result (produced by an expert' department dedicated within the Resource Division).

Given the increasing complexity of the Group's financial activities and organisation, staff training and IT tools are regularly upgraded to ensure that the production and verification of accounting and management data are effective and reliable.

SCOPE OF CONTROL

In practice, the internal control procedures implemented in the Group's businesses are designed to guarantee the quality of financial and accounting information, and notably to:

- ensure that the transactions entered in the Group's accounts are exhaustive and accurate;
- validate the valuation methods used for certain transactions;
- ensure that transactions are correctly assigned to the corresponding fiscal period and recorded in the accounts in accordance with the applicable accounting regulations, and that the accounting aggregates used to prepare the Group financial statements are compliant with the regulations in force;
- ensure the inclusion of all entities that must be consolidated in accordance with Group regulations;
- check that the operational risks associated with the production and transmission of accounting data through the IT system are correctly controlled, that the necessary adjustments are accurately performed, that the reconciliation of accounting and management data is satisfactory, and that the flows of cash payments and other items generated by transactions are exhaustive and adequate.

CONTROL BY THE FINANCE DEPARTMENTS

The Finance Department of each subsidiary verifies the accuracy and consistency of the financial statements with respect to the relevant accounting frameworks (local standards and IFRS for subsidiaries, as well as French standards for branches). It performs checks to guarantee the accuracy of the information disclosed.

The data received for consolidation from each subsidiary are drawn from corporate accounting data by the subsidiaries, after they have been locally brought into compliance with Group accounting principles.

Each subsidiary must be able to explain the transition from the company financial statements to the financial statements reported through the consolidation tool.

The Finance Departments of Business Units/Services Units have a dedicated department to management and financial monitoring.

CONTROL BY THE SHARED SERVICE CENTRES OPERATING IN FINANCE

Shared Service Centres operating in finance perform first-level controls, as necessary to ensure the reliability of the accounting, tax and regulatory information, on the financial statements they produce in accordance with Local and IFRS standards and notably data quality and consistency checks (equity, securities, foreign exchange, financial aggregates from the balance sheet and income statement, deviations from standards), justification and certification of the financial statements under their responsibility, intercompany reconciliation of the financial statements, regulatory statement checks and verification of evidence of tax charges and balances (current, deferred and duties).

These controls are declared within the managerial supervision and Group accounting certification processes.

The Shared Services Centres have also implemented a process monitoring approach, which consists in monitoring the teams' works and progress according to the various milestones, communication of incidents affecting the preparation of the financial statements, key indicators (monitoring deadlines and the quality of accounting, regulatory and tax reports; manual entries; internal/intercompany/cash gaps) and follow-up of action plans.

These controls allow the Shared Services Centres to provide all necessary information to the Finance Departments of Business Units/Services Units and the Group Finance and Accounting Division.

SUPERVISION BY THE GROUP FINANCE DIVISION

Once the financial statements produced by the entities have been restated according to Group standards, they are entered into a central database and processed to produce the consolidated statements.

The service in charge of consolidation within Group Accounting Officer Department, checks that the consolidation scope is compliant with the applicable accounting standards and performs multiple verifications on data received for consolidation. These verifications include:

- confirmation that the data collected are properly aggregated;
- verification of recurring and non-recurring consolidation entries;
- exhaustive treatment of critical points in the consolidation process;
- treatment of any residual differences in reciprocal or intercompany statements.

Ultimately, this service ensures that the overall consolidation process has been conducted properly by performing analytical reviews of the summary data and verifying the consistency of the main aggregates of the financial statements. Changes in shareholders' equity, goodwill, provisions and any deferred taxes consolidated in the fiscal year are also analysed.

Within this department, a team is in charge of managing and coordinating the quarterly Group accounting certification framework in order to certify first-level key controls on a quarterly basis (Internal Control Certification).

The Group Finance Division has also a dedicated team responsible for second-level permanent control with respect to all Group Finance processes, independent of the production teams. Its mission consists to ensure effectiveness, quality and relevance of the permanent first-level control system; by an evaluation of this system with processes or activities reviews, testings of controls and the follow-up of quarterly certification.

Accounting audit framework

CONTROLS BY ALL OPERATIONAL STAFF INVOLVED IN THE PRODUCTION OF ACCOUNTING, FINANCIAL AND MANAGEMENT DATA

The operational staff monitor their activity *via* a permanent supervision process, under the direct responsibility of their management teams, repeatedly verifying the quality of the controls carried out on accounting data and the associated accounting treatment.

CONTROLS THROUGH AUDITS AND SPECIALISED AUDIT TEAMS OF THE INTERNAL AUDIT DIVISION

As part of their assignments, audit teams verify the quality of the control environment contributing to the quality of the accounting and management data produced by the audited entities. They check a certain number of accounts and assess the reconciliations between accounting and management data, as well as the quality of the permanent supervision procedures for the production and control of accounting data. They also assess the performance of IT tools and the accuracy of manual processing.

The team in charge of auditing the Corporate Divisions is also responsible for auditing the Group Finance Division. Placed under the responsibility of a dedicated business correspondent, the team coordinates and monitors all audits related to accounting and financial matters on a Group-wide basis. The team provides expertise in identifying the Group's main accounting risks and carries out audits to verify the adequate application of accounting standards in areas deemed to be the most significant for the accuracy of the Group's accounting information. The team also organises training sessions and develops methodologies to help share expertise in the auditing of accounting risks.

Based on their audit findings, these teams issue recommendations to the parties involved in the production and control of accounting, financial and management data in order to improve this process through more specific initiatives targeted towards particular entities or activities.

CONTROLS CARRIED OUT BY THE GENERAL INSPECTION DEPARTMENT

The Group's General Inspection teams typically perform accounting audits as part of their assignments, and thus check the quality of the controls carried out by the persons involved in producing accounting, financial and management data.

5

CAPITAL MANAGEMENT AND ADEQUACY

IN BRIEF

This section provides details on capital resources, regulatory requirements and the composition of the leverage ratio.

Evolution of CET1 capital:

+ 2.7 bn EUR

(between 2018 and 2019)

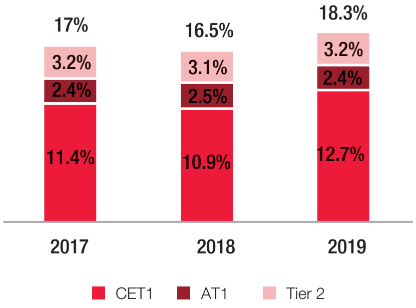
Evolution of total regulatory capital:

+ 1.0 bn EUR

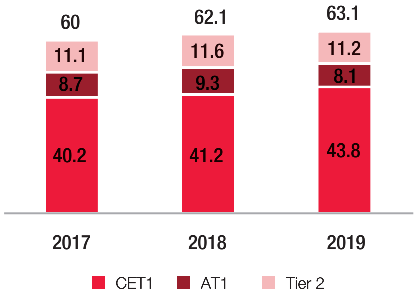
CET1 ratio at end 2019:

12.7%

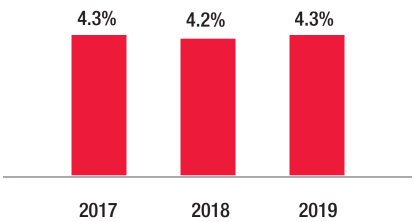
Solvency ratio



Regulatory capital
(in EURbn)



Leverage ratio



5.1 THE REGULATORY FRAMEWORK

Since January 2014, Societe Generale has been applying the new Basel 3 Regulation implemented in the European Union *via* a directive (CRD4) and a regulation (CRR).

The general framework defined by Basel 3 is structured around three pillars:

- Pillar 1 sets the minimum solvency requirements and defines the rules that banks must use to measure risks and calculate the related capital requirements, according to standard or more advanced methods;
- Pillar 2 concerns the discretionary supervision implemented by the competent authority, which allows them – based on a constant dialogue with supervised credit institutions – to assess the adequacy of capital requirements as calculated under Pillar 1, and to calibrate additional capital requirements taking into account all the risks to which these institutions are exposed;
- Pillar 3 encourages market discipline by developing a set of qualitative or quantitative disclosure requirements which will allow market participants to better assess a given institution's capital, risk exposure, risk assessment processes and, accordingly, capital adequacy.

In terms of capital, the main measures introduced to strengthen banks' solvency were as follows:

- the complete revision and harmonisation of the definition of capital, in particular with the amendment of the deduction rules, the definition of a standardised Common Equity Tier 1 (or CET1) ratio, and new Tier 1 capital eligibility criteria for hybrid securities;
- new capital requirements for the counterparty risk of market transactions, to factor in the risk of a change in CVA (Credit Valuation Adjustment) and to hedge exposures on the central counterparties (CCP);
- the set-up of capital buffers that can be mobilised to absorb losses in case of difficulties. The new rules require banks to create a conservation buffer and a countercyclical buffer to preserve their solvency in the event of adverse conditions. Moreover, an additional buffer is required for systemically important banks. As such, the Societe Generale Group, as a global systemically important bank (G-SIB), has had its Common Equity Tier 1 ratio requirement increased by an additional 1% ;
- the set-up of restrictions on distributions relating to dividends (MDA - Maximum Distribuable Amount), AT1 instruments and variable remuneration;
- in addition to these measures, there will be measures to contain the size and, consequently, the use of excessive leverage. To this end, the Basel Committee has defined a leverage ratio, for which the definitive regulations were published in January 2014, and included in the Commission's Delegated Regulation (EU) 2015/62. The leverage ratio compares the bank's Tier 1 capital to the balance sheet and off-balance sheet items, with restatements for derivatives and pensions. Banks have been required to publish this ratio since 2015.

Moreover, some amendements to the European regularory legislation has been adopted in May 2019 (CRR2/CRD5). Most of the new provisions will enter into force in mid-2021.

The new provisions concern the following aspects:

- NSFR: introduction of a new requirement on long-term funding;
- Leverage ratio: a 3% minimum requirement plus an additional 50% buffer for the systemic entities;
- Counterparty derivatives risk: the Basel method "SA-CCR" replaces the current "CEM" method to calculate the prudential exposure to derivatives using the Standardised approach;
- Large exposures: the main change concerns the calculation of the Tier 1 regulatory limit (25%, instead of total capital), as well as the introduction of a cross-specific limit on systemic institutions (15%);
- TLAC: The ratio requirement for G-SIBs is introduced in CRR. According to the Basel text, the G-SIBs must have an amount of eligible capital and debt equal to the highest between 16% plus risk-weighted capital buffers and 6% of the leverage exposure in 2019, the ratio increasing to 18% plus risk-weighted cushions and 6.75% leverage in 2022.

With regard to the implementation of market risk reform (FRTB), after the publication in January 2016 of the first revised standard and of Consultation in March 2018 on this subject, the Basel Committee published in January 2019 its final text: BCBS457.

According to its previous publications, the Basel Committee confirms its implementation schedule (which does not challenge the European Union calendar below, with an entry into force no later than 1 January 2022).

As a reminder, in Europe, the CRR2 calendar will apply as follows:

- First, the FRTB reform will come into force as a disclosure requirement (2021 for the Standardised approach and 2023 for the IMA);
- FRTB's own funds requirements will then become mandatory in the futur CRR3 package (not before 2023).

In December 2017, the Group of Central Bank Governors and Heads of Supervision (GHOS), the Basel Committee's oversight body, endorsed the last Basel 3 regulatory reforms. These new rules will take effect from 2022 with an overall output floor: the RWA will be floored to a percentage of the Standardised method (credit, market and operational). The output floor level will increase gradually, from 50% in 2022 to 72.5% in 2027. Nevertheless, these rules will have to be transposed into European law (CRR3/CRD6) to be applicable to the Group.

At the beginning of 2019, the European Central Bank (ECB) notified to Societe Generale a requirement of 1.75% effective as of 1 March 2019.

At the end of 2019, the ECB confirmed the level of additional capital requirements in respect of Pillar 2 (P2R or "Pillar 2 Requirement"), effective as of 1 January 2020, at 1.75% for Societe Generale.

Detailed information on the G-SIB requirements and other prudential information is available on the Group's website, *www.societegenerale.com*, under "Universal Registration Document and Pillar 3".

Throughout 2019, the Societe Generale Group complied with the minimum ratio requirements applicable to its activities.

5.2 SCOPE OF APPLICATION – PRUDENTIAL SCOPE

The Group's prudential reporting scope includes all fully consolidated entities, with the exception of insurance entities, which are subject to separate capital supervision.

All of the Group's regulated entities comply with their prudential commitments on an individual basis.

Non-regulated entities outside of the scope of prudential consolidation are subject to periodic reviews, at least annually.

The following table provides the main differences between the statutory scope (consolidated Group) and the prudential scope (Banking Regulation requirements).

TABLE 1: DIFFERENCE BETWEEN STATUTORY SCOPE AND PRUDENTIAL SCOPE

Type of entity	Accounting treatment	Prudential treatment under CRR/CRD4
Entities with a finance activity	Full consolidation	Full consolidation
Entities with an Insurance activity	Full consolidation	Equity method
Holdings with a finance activity by nature	Equity method	Equity method
Joint ventures with a finance activity by nature	Equity method	Proportional consolidation

The following table provides a reconciliation of the consolidated balance sheet and the accounting balance sheet within the prudential scope. The amounts presented are accounting data and not a measure of risk-weighted assets, EAD or prudential capital. Prudential filters related to entities and holdings not associated with an insurance activity are grouped together on account of their non-material weight (< 0.2%).

Return on assets (i.e. net income divided by the balance sheet total as per the consolidated financial statements) for Societe Generale stood at 0.24% in 2019 and 0.30% in 2018. On a prudential basis, this ratio was 0.27% in 2019 and 0.33% in 2018, calculated by dividing the Group net income by the balance sheet total for prudential purposes (datas in tables below).

TABLE 2: RECONCILIATION BETWEEN THE STATUTORY SCOPE AND THE PRUDENTIAL SCOPE OF THE CONSOLIDATED BALANCE SHEET

ASSETS at 31.12.2019 *(In EURm)*	**Consolidated balance sheet**	**Prudential restatements linked to insurance**[1]	**Prudential restatements linked to consolidation methods**	**Accounting balance sheet within the prudential scope**	**Cross-Ref. Table 7a p. 51**
Cash, due from banks	102,311	-	-	102,311	
Financial assets at fair value through profit or loss	385,739	9,499	-	395,238	
Hedging derivatives	16,837	36	-	16,873	
Financial assets at fair value through other comprehensive income	53,256	-	-	53,256	
Securities at amortised cost	12,489	-	-	12,489	
Due from banks at amortised cost	56,366	-	94	56,460	1
of which subordinated loans to credit institutions	*88*	-	-	*88*	
Customer loans at amortised cost	450,244	1,556	(3)	451,797	
Revaluation differences on portfilios hedged against interest rate risk	401	-	-	401	
Investment of insurance activities	164,938	(164,938)	-	-	
Tax assets	5,779	(135)	-	5,644	
o.w deferred tax assets that rely on future profitability excluding those arising from temporary differences	*2,659*	-	*(756)*	*1,903*	2
o.w deferred tax assets arising from temporary differences	*2,082*	-	*650*	*2,732*	
Other assets	68,045	(2,614)	65	65,496	
o.w defined-benefit pension fund assets	*120*	-	-	*120*	3
Non-current assets held for sale	4,507	-	-	4,507	
Investments accounted for using the equity method	112	4,501	(73)	4,540	
Tangible and intangible assets	30,652	(169)	-	30,483	
o.w intangible assets exclusive of leasing rights	*2,363*	-	*(138)*	*2,225*	4
Goodwill	4,627	(325)	-	4,302	4
TOTAL ASSETS	**1,356,303**	**(152,589)**	**83**	**1,203,797**	

(1) Restatement of entities excluded from the prudential scope and reconsolidation of intra-group transactions relating to these entities.

LIABILITIES at 31.12.2019 *(In EURm)*	**Consolidated balance sheet**	**Prudential restatements linked to insurance**[1]	**Prudential restatements linked to consolidation methods**	**Accounting balance sheet within the prudential scope**	**Cross-Ref. Table 7a p. 51**
Due to central banks	4,097	-	-	4,097	
Financial liabilities at fair value through profit or loss	364,129	3,228	(59)	367,298	
Hedging derivatives	10,212	3	-	10,215	
Debt securities issued	125,168	1,135	-	126,303	
Due to banks	107,929	(3,643)	61	104,347	
Customer deposits	418,612	1,517	(73)	420,056	
Revaluation differences on portfolios hedged against interest rate risk	6,671	-	-	6,671	
Tax liabilities	1,409	(396)	-	1,013	
Other Liabilities	85,062	(9,204)	154	76,012	
Non-current liabilities held for sale	1,333	-	-	1,333	
Liabilities related to insurance activities contracts	144,259	(144,259)	-	-	
Provisions	4,387	(14)	-	4,373	
Subordinated debts	14,465	40	-	14,505	
o.w redeemable subordinated notes including revaluation differences on hedging items	*14,032*	*42*	-	*14,074*	5
TOTAL DEBTS	**1,287,733**	**(151,593)**	**83**	**1,136,223**	
Sub-Total Equity, Group share	63,527	(203)	-	63,324	6
Issued common stocks, equity instruments and capital reserves	*31,102*	-	-	*31,102*	
Retained earnings	*29,558*	*(203)*	-	*29,355*	
Net income	*3,248*	-	-	*3,248*	
Unrealised or deferred capital gains and losses	*(381)*	-	-	*(381)*	
Minority interests	5,043	(793)	-	4,250	7
TOTAL EQUITY	**68,570**	**(996)**	**-**	**67,574**	
TOTAL LIABILITIES	**1,356,303**	**(152,589)**	**83**	**1,203,797**	

(1) Restatement of entities excluded from the prudential scope and reconsolidation of intra-group transactions relating to these entities.

ASSETS at 31.12.2018 *(In EURm)*	**Consolidated balance sheet**	**Prudential restatements linked to insurance**[1]	**Prudential restatements linked to consolidation methods**	**Accounting balance sheet within the prudential scope**	**Cross-Ref. Tab. 7a p. 51**
Cash, due from banks	96,585	-	-	96,585	
Financial assets at fair value through profit or loss	365,550	9,736	-	375,286	
Hedging derivatives	11,899	32	-	11,931	
Financial assets at fair value through other comprehensive income	50,026	-	-	50,026	
Securities at amortised cost	12,026	-	-	12,026	
Due from banks at amortised cost	60,588	-	150	60,738	1
o.w subordinated loans to credit institutions	*91*	-	-	*91*	
Customer loans at amortised cost	447,229	1,539	213	448,981	
Revaluation differences on portfilios hedged against interest rate risk	338	0	-	338	
Investment of insurance activities	146,768	(146,768)	-	0	
Tax assets	5,819	(143)	-	5,676	
o.w deferred tax assets that rely on future profitability excluding those arising from temporary differences	*2,895*	-	*(816)*	*2,079*	2
o.w deferred tax assets arising from temporary differences	*1,858*	-	*762*	*2,620*	
Other assets	67,446	(2,396)	56	65,106	
o.w defined-benefit pension fund assets	*76*	-	-	*76*	*3*
Non-current assets held for sale	13,502	3	-	13,505	
Investments accounted for using the equity method	249	3,569	(68)	3,750	
Tangible and intangible assets	26,751	(152)	-	26,599	
o.w intangible assets exclusive of leasing rights	*2,198*	-	*(132)*	*2,066*	*4*
Goodwill	4,652	(325)	-	4,327	4
TOTAL ASSETS	**1,309,428**	**(134,905)**	**351**	**1,174,874**	

(1) Restatement of entities outside the prudential reporting scope and reconsolidation of intra-group transactions relating to these entities.

LIABILITIES at 31.12.2018 *(In EURm)*	**Consolidated balance sheet**	**Prudential restatements linked to insurance**[(1)]	**Prudential restatements linked to consolidation methods**	**Accounting balance sheet within the prudential scope**	**Cross-Ref Tab. 7a p. 51**
Due to central bank	5,721	-	-	5,721	
Financial liabilities at fair value through profit or loss	363,083	2,472	-	365,555	
Hedging derivatives	5,993	8	-	6,001	
Debt securities issued	116,339	1,757	-	118,096	
Due to bank	94,706	(2,966)	(30)	91,710	
Customer deposit	416,818	1,529	40	418,387	
Revaluation differences on portfolios hedged against interest rate risk	5,257	-	-	5,257	
Tax liabilities	1,157	(333)	-	824	
Other Liabilities	76,629	(6,996)	341	69,974	
Non-current liabilities held for sale	10,454	58	-	10,512	
Liabilities related to insurance activities contracts	129,543	(129,543)	-	0	
Provisions	4,605	(12)	-	4,593	
Subordinated debts	13,314	139	-	13,453	
o.w redeemable subordinated notes including revaluation differences on hedging items	*12,730*	*139*	-	*12,869*	*5*
TOTAL DEBTS	**1,243,619**	**(133,887)**	**351**	**1,110,083**	
Sub-Total Equity, Group share	61,026	(203)	-	60,823	6
Issued common stocks, equity instruments and capital reserves	*29,856*	-	-	*29,856*	
Retained earnings	*28,342*	*(203)*	-	*28,139*	
Net income	*3,864*	-	-	*3,864*	
Unrealised or deferred capital gains and losses	*(1,036)*	-	-	*(1,036)*	
Minority interests	*4,783*	*(815)*	-	*3,968*	*7*
TOTAL EQUITY	**65,809**	**(1,018)**	**-**	**64,791**	
TOTAL LIABILITIES	**1,309,428**	**(134,905)**	**351**	**1,174,874**	

(1) Restatement of entities outside the prudential reporting scope and reconsolidation of intra-group transactions relating to these entities.

The main Group companies outside the prudential reporting scope are as follows:

TABLE 3: ENTITIES EXCLUDED FROM THE PRUDENTIAL SCOPE

Company	Activity	Country
Antarius	Insurance	France
ALD RE Designated Activity Company	Insurance	Ireland
Catalyst RE International LTD	Insurance	Bermuda
Société Générale Strakhovanie Zhizni LLC	Insurance	Russia
Sogelife	Insurance	Luxembourg
Genecar - Société Générale de Courtage d'Assurance et de Réassurance	Insurance	France
SG Strakhovanie LLC	Insurance	Russia
Sogecap	Insurance	France
Komercni Pojstovna A.S.	Insurance	Czech Republic
La Marocaine Vie	Insurance	Morocco
Oradea Vie	Insurance	France
Société Générale RE SA	Insurance	Luxembourg
Sogessur	Insurance	France
Société Générale Life Insurance Broker SA	Insurance	Luxembourg
Banque Pouyanne	Bank	France

Generally, all regulated Group undertakings are subject to solvency requirements set by their respective regulators. Regulated financial entities and affiliates outside of Societe Generale’s prudential consolidation scope are all in compliance with their respective solvency requirements.

The supervising authority accepted that some Group entities may be exempted from the application of prudential requirements on an individual basis or, where applicable, on a sub-consolidated basis. Accordingly, Societe Generale SA is not subject to prudential requirements on an individual basis.

Any transfer of equity or repayment of liabilities between the parent company and its entities shall be carried out in compliance with capital and liquidity requirements applicable locally.

The outline of the differences in the scopes of consolidation (entity by entity) is available on the website www.societegenerale.com, section "Universal Registration Document, Pillar 3". This information corresponds to Table LI3 of EBA Guidelines (EBA/GL/2016/11).

5.3 REGULATORY CAPITAL

Reported according to international financial reporting standards (IFRS), Societe Generale's regulatory capital consists of the following components.

Common Equity Tier 1 capital

According to the applicable regulations, Common Equity Tier 1 capital is made up primarily of the following:

- ordinary shares (net of repurchased shares and treasury shares) and related share premium accounts;
- retained earnings;
- components of other comprehensive income;
- other reserves;
- minority interests limited by CRR/CRD4.

Deductions from Common Equity Tier 1 capital essentially involve the following:

- estimated dividend payments;
- goodwill and intangible assets, net of associated deferred tax liabilities;
- unrealised capital gains and losses on cash flow hedging;
- income on own credit risk;
- deferred tax assets on tax loss carryforwards;
- deferred tax assets resulting from temporary differences beyond a threshold;
- assets from defined benefit pension funds, net of deferred taxes;
- any positive difference between expected losses on customer loans and receivables, risk-weighted using the internal ratings-based (IRB) approach, and the sum of related value adjustments and collective impairment losses;
- expected losses on equity portfolio exposures;
- value adjustments resulting from the requirements of prudent valuation;
- securitisation exposures weighted at 1,250%, where these positions are not included in the calculation of total risk-weighted exposures.

Additional Tier 1 capital

According to CRR/CRD4 Regulations, Additional Tier 1 capital is made up of deeply subordinated notes that are issued directly by the Bank, and have the following features:

- these instruments are perpetual and constitute unsecured, deeply subordinated obligations. They rank junior to all other obligations of the Bank, including undated and dated subordinated debt, and senior only to common stock shareholders;
- in addition, Societe Generale may elect, on a discretionary basis, not to pay the interest and coupons linked to these instruments. This compensation is paid out of distributable items;
- they include neither a step-up in compensation nor any other incentive to redeem;
- they must have a loss-absorbing capacity;
- they migt be haicut or converted when in resolution or independently of a resolution measurement;
- subject to the prior approval of the European Central Bank, Societe Generale has the option to redeem these instruments at certain dates, but no earlier than five years after their issuance date.

Deductions from Additional Tier 1 capital essentially apply to the following:

- AT1 hybrid treasury shares;
- holding of AT1 hybrid shares issued by financial sector entities;
- minority interests beyond the minimum T1 requirement in the entities concerned.

Tier 2 capital

Tier 2 capital includes:

- undated deeply subordinated notes[1];
- dated subordinated notes;
- any positive difference between the sum of value adjustments and impairment losses on customer loans and receivables exposures, risk-weighted using the IRB approach and expected losses, up to 0.6% of the total credit risk-weighted assets using the IRB approach;
- value adjustments for credit risk related to collective impairment losses on customer loans and receivables exposures, risk-weighted using the Standardised approach, up to 1.25% of the total credit risk-weighted assets.

Deductions from Tier 2 capital essentially apply to the following:

- Tier 2 hybrid treasury shares;
- holding of Tier 2 hybrid shares issued by financial sector entities;
- minority interests beyond the minimum capital requirement in the entities concerned.

All capital instruments and their features are detailed online (*www.societegenerale.com*/Investors/Universal Registration Document and Pillar 3).

(1) The undated deeply subordinated notes's remuneration will be paid from the distribuable profits for the purposes of the consolidated prudential regulation.

TABLE 4: TOTAL AMOUNT OF DEBT INSTRUMENTS ELIGIBLE FOR TIER 1 EQUITY (IN EURM)

Issuance Date	Currency	Issue amount (in currency m)	First call date	Yield before the call date and frequency	Yield after the call date and frequency	Book value at 31.12.2019	Book value at 31.12.2018
4-Sept. 09	EUR	1 000 M	4-Sept. 19	9.375% annually	Euribor 3 months + 8.901% annually	-	1,000
18-Dec.13	USD	1 750 M	18-Déc. 23	7.875% annually	Mid Swap Rate USD 5 years + 4.979%	1,558	1,528
7-Apr.-14	EUR	1 000 M	7-Apr. 21	6.750% annually	Mid Swap Rate EUR 5 years + 5.538%	1,000	1,000
25-Jun. 14	USD	1 500 M	27-Jan. 20	6.000% annually	Mid Swap Rate USD 5 years + 4.067%	-	1,310
29-Sept. 15	USD	1 250 M	29-Sep. 25	8.000% annually	Mid Swap Rate USD 5 years + 5.873%	1,113	1,092
13-Sept. 16	USD	1 500 M	13-Sep. 21	7.375% annually	Mid Swap Rate USD 5 years + 6.238%	1,335	1,310
6-Apr. 18	USD	1250M	6-Apr. 28	6.750% annually	Mid Swap Rate USD 5 years + 3,929%	1,113	1,092
4-Oct-18	USD	1250M	4-Oct. 23	7.375% annually	Mid Swap Rate USD 5 years + 4,302%	1,113	1,092
16-Apr. 19	SGD	750M	16-Apr. 24	6.125% annually	Swap Offer Rate SGD 5 years + 4,207%	496	-
12-Sept. 19	AUD	700M	12-Sept. 24	4.875% annually	Mid Swap S/Q AUD 5 years + 4,036%	438	-
TOTAL						**8,165**	**9,424**

TABLE 5: CHANGES IN DEBT INSTRUMENTS ELIGIBLE FOR CAPITAL REQUIREMENTS

(In EURm)	31.12.2018	Issues	Redemptions	Prudential supervision valuation haircut	Others	31.12.2019
Debt instruments eligible for Tier 1	9,424	934	(2,310)	-	117	8,165
Debt instruments eligible for Tier 2	13,389	185	(6)	(641)	105	13,032
TOTAL ELIGIBLE DEBT INSTRUMENTS	**22,813**	**1,119**	**(2,316)**	**(641)**	**222**	**21,197**

Solvency ratio

The solvency ratio is set by comparing the Group’s equity (Common Equity Tier 1 (CET1), Tier 1 (T1) or Total Capital (TC)) with the sum of risk-weighted credit exposures and the capital requirement multiplied by 12.5 for market and operational risks. They are expressed as a percentage of the risk-weighted assets and according to the split of own funds i.e.: Common Equity Tier 1 (CET1), Tier 1 (T1) or Total Capital (TC).

Every quarter, each ratio is calculated following the accounting closing and then compared to the supervisory requirements.

The regulatory minimum requirement is set at 4.5% for CET1, 6% for T1 and 8% for TC. This minimum requirement remains stable over time.

The minimum P2R requirement is set by the supervisor following the Supervisory Review and Evaluation Process (SREP). It has been standing at 1.75% since March 2019 .

In addition comes the overall buffer requirement which is the sum of :

- the average countercyclical buffer rate for each country, adjusted to take into account the relevant credit risk exposures in these countries. The countercyclical buffer rate, in force as of 1 January 2020, is equal to 0.28%;
- the conservation buffer, in force as of 1 January 2016, that has been standing at a maximum level of 2.50% since 1 January 2019;
- the Groupe's G-SIB buffer imposed by the Financial Stability Board (FSB) is equal to 1%.

Taking into account the combined regulatory buffers, the phased-in CET1 ratio level that would trigger the Maximum Distributable Amount mechanism would be 10.03% as of 1 January 2020.

TABLE 6: BREAKDOWN OF MINIMUM PRUDENTIAL CAPITAL REQUIREMENT FOR SOCIETE GENERALE

	01.01.2020	01.03.2019	01.01.2019
Minimum requirement for Pillar 1	4.50%	4.50%	4.50%
Minimum requirement for Pillar 2 (P2R)	1.75%	1.75%	1.50%
Minimum requirement for countercyclical buffer	0.28%	0.12%	0.12%
Minimum requirement for conservation buffer	2.50%	2.50%	2.50%
Minimum requirement for systemic buffer	1.00%	1.00%	1.00%
Minimum requirement for CET1 ratio	**10.03 %**	**9.87%**	**9.62%**

TABLE 7: REGULATORY CAPITAL AND CRR/CRD4 SOLVENCY RATIOS

(In EURm)	31.12.2019	31.12.2018
Shareholders' equity (IFRS), Group share	**63,527**	**61,026**
Deeply subordinated notes	(9,500)	(9,329)
Perpetual subordinated notes	(282)	(278)
Group consolidated shareholders' equity net of deeply subordinated and perpetual subordinated notes	**53,745**	**51,419**
Non-controlling interests	3,928	3,600
Intangible assets	(2,214)	(2,095)
Goodwill	(4,302)	(4,643)
Dividends proposed (to the General Meeting) and interest expenses on deeply subordinated and perpetual subordinated notes	(1,971)	(1,871)
Deductions and regulatory adjustments	(5,356)	(5,256)
COMMON EQUITY TIER 1 CAPITAL	**43,830**	**41,154**
Deeply subordinated notes and preferred shares	8,165	9,424
Other additional Tier 1 capital	84	71
Additional Tier 1 deductions	(137)	(138)
TOTAL TIER 1 CAPITAL	**51,942**	**50,511**
Tier 2 instruments	13,032	13,389
Other Tier 2 capital	42	(63)
Tier 2 deductions	(1,915)	(1,781)
Total regulatory capital	**63,101**	**62,056**
TOTAL RISK-WEIGHTED ASSETS	**345,010**	**376,049**
Credit risk-weighted assets	282,536	302,727
Market risk-weighted assets	14,513	23,701
Operational risk-weighted assets	47,961	49,621
Solvency ratios		
Common Equity Tier 1 ratio	12.7%	10.9%
Tier 1 ratio	15.1%	13.4%
Total capital ratio	18.3%	16.5%

The solvency ratio as at 31 December 2019 stood at 12.7% in Common Equity Tier 1 (10.9% at 31 December 2018), and 15.1% in Tier 1 (13.4% at 31 December 2018) for a total ratio of 18.3% (16.5% at 31 December 2018).

Group shareholders' equity at 31 December 2019 totalled 63.5 billion EUR (compared to EUR 61.0 billion at 31 December 2018).

After taking into account non-controlling interests and regulatory adjustments, CET1 regulatory capital was EUR 43.8 billion at 31 December 2019, vs. EUR 41.2 billion at 31 December 2018. The Additional Tier One deductions mainly concern authorisations to buy back own Additional Tier 1 capital instruments as well as subordinated bank and insurance loans.

The table below shows the key factors in this change.

TABLE 8: CET1 REGULATORY DEDUCTIONS AND ADJUSTMENTS UNDER CRR/CRD4

(In EURm)	31.12.2019	31.12.2018
Unrecognised minority interests	(2,158)	(1,917)
Deferred tax assets	(1,903)	(2,079)
Prudent Valuation Adjustment	*(935)*	*(844)*
Adjustments related to changes in the value of own liabilities	217	107
Other	(577)	(523)
TOTAL CET1 REGULATORY DEDUCTIONS AND ADJUSTMENTS	**(5,356)**	**(5,256)**

CRR/CRD4 prudential deductions and restatements included in “Other” essentially involve the following:

- any positive difference between expected losses on customer loans and receivables, measured according to the internal ratings-based (IRB) approach, and the sum of related value adjustments and impairment losses;
- expected losses on equity portfolio exposures;
- unrealised gains and losses on cash flow hedges;
- assets from defined benefit pension funds, net of deferred taxes;
- securitisation exposures weighted at 1,250%, where these positions are not included in the calculation of total risk-weighted exposures.

5.4 RISK-WEIGHTED ASSETS AND CAPITAL REQUIREMENTS

The Basel 3 agreement established the rules for calculating risk requirements for operations allowing the use of two minimal approaches for capital requirements in order to more accurately assess the risks to which banks are exposed. The calculation of credit risk weight takes into account the transaction risk profile based on two approaches for determining risk-weighted assets: a standardised method and advanced methods based on internal models for rating counterparties.

Changes in risk-weighted assets and capital requirements

TABLE 9: GROUP CAPITAL REQUIREMENTS AND RWA (OV1)

	RWA		Minimum capital requirements	
(In EURm)	31.12.2019	31.12.2018	31.12.2019	31.12.2018
Credit risk (excluding counterparty credit risk)	**251,113**	**264,787**	**20,089**	**21,183**
o.w. Standardised approach	*93,302*	*102,225*	*7,464*	*8,178*
o.w. Foundation IRB (FIRB) approach	*4,725*	*4,588*	*378*	*367*
o.w. Advanced IRB (AIRB) approach	*133,026*	*142,795*	*10,642*	*11,424*
o.w. equity IRB under the simple risk-weighted approach or IMA	*20,061*	*15,178*	*1,605*	*1,214*
Counterparty credit risk	**19,567**	**26,834**	**1,565**	**2,147**
o.w. risk exposure for contributions to the default fund of a CCP	*1,077*	*1,103*	*86*	*88*
o.w. CVA	*2,586*	*4,904*	*207*	*392*
Settlement risk	**41**	**6**	**3**	**-**
Securitisation exposures in the banking book (after cap)	**3,762**	**2,199**	**301**	**176**
o.w. IRB approach	*70*	*95*	*6*	*8*
o.w. IRB supervisory formula approach (SFA)	*1,860*	*78*	*149*	*6*
o.w. Internal assessment approach (IAA)	*1,766*	*1,842*	*141*	*147*
o.w. Standardised approach	*66*	*184*	*5*	*15*
Market risk	**14,513**	**23,701**	**1,161**	**1,896**
o.w. Standardised approach	*1,373*	*2,444*	*110*	*196*
o.w. IMA	*13,140*	*21,257*	*1,051*	*1,701*
Large exposures	-		-	
Operational risk	**47,961**	**49,621**	**3,837**	**3,970**
o.w. Basic indicator approach	*-*	*-*	*-*	*-*
o.w. Standardised approach	*2,470*	*2,872*	*198*	*230*
o.w. Advanced measurement approach	*45,491*	*46,749*	*3,639*	*3,740*
Amounts below the thresholds for deduction (subject to 250% risk-weighting)	8,052	8,902	644	712
Floor adjustment	-	-	-	-
TOTAL	**345,010**	**376,049**	**27,601**	**30,084**

TABLE 10: DISTRIBUTION OF RWA BY CORE BUSINESS AND RISK TYPE

(In EURbn)	Credit	Market	Operational	Total 2019	Total 2018
French Retail Banking	92.4	0.1	5.3	97.8	97.6
International Retail Banking and Financial Services	108.3	0.1	6.9	115.3	119.7
Global Banking and Investor Solutions	72	13.5	32.2	117.7	142.3
Corporate Centre	9.8	0.8	3.5	14.1	16.5
Group	**282.5**	**14.5**	**48.0**	**345.0**	**376.0**

As at 31 December 2019, RWA (EUR 345.0 billion) were distributed as follows:

- credit risk accounted for 82% of RWA (of which 38% for International Retail Banking and Financial Services);
- market risk accounted for 4% of RWA (of which 93% for Global Banking and Investor Solutions);
- operational risk accounted for 14% of RWA (of which 67% for Global Banking and Investor Solutions).

TABLE 11: MAIN SUBSIDIARIES' CONTRIBUTIONS TO THE GROUP'S RWA

	Crédit du Nord		Rosbank		Komerčni Banka	
(In EURm)	IRB	Standard	IRB	Standard	IRB	Standard
Credit and counterparty risk	**16,867**	**3,152**	**609**	**7,820**	**10,783**	**1,805**
Sovereign	*-*	*583*	*519*	*12*	*126*	*1*
Financial institutions	*64*	*13*	*-*	*561*	*427*	*34*
Corporate	*8,804*	*689*	*-*	*4,204*	*6,694*	*1,163*
Retail	*6,793*	*864*	*-*	*2,504*	*3,378*	*56*
Equity investments	*1,017*	*248*	*90*	*-*	*158*	*1*
Other non-credit obligation assets	*-*	*756*		*539*	*-*	*550*
Securitisation	*189*	*-*	*-*	*-*	*-*	*-*
Market risk	**108**		**74**		**47**	
Operational risk	**1,329**		**1,058**		**660**	
TOTAL 2019	**21,456**		**9,562**		**13,295**	
TOTAL 2018	**21,572**		**7,537**		**13,756**	

5.5 CAPITAL MANAGEMENT

As part of its capital management, the Group (under the supervision of the Finance Division) ensures that its solvency level is always compatible with the following objectives:

- maintaining its financial solidity and respecting the Risk Appetite targets;
- preserving its financial flexibility to finance organic growth and growth through acquisitions;
- allocating adequate capital to the various businesses, according to the Group's strategic objectives;
- maintaining the Group's resilience in the event of stress scenarios;
- meeting the expectations of its various stakeholders: supervisors, debt and equity investors, rating agencies, and shareholders.

The Group determines its internal solvency targets in accordance with these objectives and regulatory thresholds.

The Group has an internal process for assessing the adequacy of its capital that measures the adequacy of the Group's capital ratios in light of regulatory constraints.

In addition, the Group maintains a balanced capital allocation among its three strategic core business:

- French Retail Banking;
- International Retail Banking and Financial Services;
- Global Banking and Investor Solutions.

Each of the Group's core businesses accounts for around a third of total risk-weighted assets (RWA), with French and International Retail Banking (more than 62% of business outstanding) and credit risk (82% of the Group's risk-weighted assets) accounting for the largest share.

As at 31 December 2019, the Group's risk-weighted assets were down by 8.3% to EUR 345 billion, compared to EUR 376 billion at end December 2018.

5.6 TLAC AND MREL RATIOS

The Total Loss Absorbing Capacity (TLAC) requirement which applies to Societe Generale is 16% of RWA until 1 January 2022 and 18% of RWA thereafter, to which the conservation buffer of 2.5%, the G-SIB buffer of 1%, and the contracyclical buffer must be added. As at 31 December 2019, the global TLAC requirement was 19.78% of Group RWA.

The TLAC rule also provides a minimum ratio of 6% of the leverage exposure in 2019 before reaching 6.75% of the leverage exposure starting from 1 January 2022. As at 31 December 2019, Societe Generale group had reached a TLAC ratio of 24.88% of RWA and 7.87% of leverage exposure.

The Minimum Requirement for own funds and Eligible Liabilities (MREL) has been applying to credit institutions and investment firms of the European Union since 2016.

Contrary to the TLAC ratio, the MREL requirement is tailored to each institution and revised regularly by the resolution authority.

Throughout 2019, Societe Generale group complied with its requirement of 8% of total own funds and liabilities, as required by its resolution authority, the Single Resolution Board.

TABLE 12: CALCULATION OF THE TLAC RATIO

(In EURm)	31.12.2019
Total of regulatory Own Funds	**63,101**
o/w Common Equity Tier 1 Capital (CET1)	*43,830*
o/w Additional Tier 1 Capital (AT1)	*8,112*
o/w Tier 2 Capital (T2)	*11,159*
Prudential Adjustments	**944**
Total of eligible Own Funds	**64,045**
Senior Non-Preferred Debts > 1 year	21,779
Total of Own Funds and eligible junior debts	**85,825**
Risk-Weighted Assets	**345,010**
Leverage Exposure	**1,200,262**
TLAC Ratio on Own Funds and eligible junior debts (% of RWA)	**24.88%**
Senior Preferred Debts (2.5%*RWA)	8,625
TOTAL OF OWN FUNDS AND ELIGIBLE DEBTS (JUNIOR DEBTS AND SENIOR PREFERRED DEBTS)	**94,450**
TLAC Ratio on Total Own Funds and eligible debts (% of RWA)	**27.38%**
TLAC Ration on Total of Own Funds and eligible debts (% of Leverage Exposure)	**7.87%**

(*) According to paragraph 3 of the article 72ter of the UE Reglementation n°2019/876, some of the senior preferred debts (that amounted to EUR 14.32 billion at 31 December 2019) can be eligible within the limit of 2.5% of RWA.

As at 31 December 2019, the TLAC ratio on own funds and eligible junior debts was 24.88%.

The ratio reached 27.38% with the option of Senior Preferred Debt limited to 2.5% of RWA.

The TLAC ratio calculated as a percentage of the leverage exposure was 7.87%.

5.7 LEVERAGE RATIO MANAGEMENT

The Group calulates its leverage effect according to the CRR leverage ratio rules, as amended by the Delegated Act of 10 October 2014 and manages it according to the changes brought by CRR2 applicable from June 2021 (except those regarding G-SIBs expected to be applicable from January 2022).

Managing the leverage ratio means both calibrating the amount of Tier 1 capital (the ratio's numerator) and controlling the Group's leverage exposure (the ratio's denominator) to achieve the target ratio levels that the Group sets for itself. To this end, the "leverage" exposure of the different businesses is under the Finance Division's control.

The Group aims to maintain a consolidated leverage ratio that is significantly higher than the 3.5% minimum in the Basel Committee's recommendations. These recommandations are currently being transposed into CRR2, including a fraction of the systemic buffer which is applicable to the Group.

At the end of 2019, Societe Generale's leverage ratio was 4.3% compared to 4.2% at the end of 2018. As at 31 December 2019, the exposures taken into account for the purposes of the leverage ratio comprise the exemption relating to centralised exposures to the Caisse des Dépôts et Consignations for regulated savings.

TABLE 13: LEVERAGE RATIO SUMMARY AND RECONCILIATION OF PRUDENTIAL BALANCE SHEET AND LEVERAGE EXPOSURE

(In EURm)	31.12.2019	31.12.2018
Tier 1 capital[(1)]	**51,942**	**50,511**
Total assets in prudential balance sheet[(2)]	1,203,797	1,174,873
Adjustments for fiduciary assets recognised on the balance sheet but excluded from the leverage ratio exposure	-	-
Adjustments for derivative financial instruments	(80,869)	(45,520)
Adjustments for securities financing transactions[(3)]	(3,037)	(11,146)
Off-balance sheet exposure (loan and guarantee commitments)	103,856	99,777
Technical and prudential adjustments (Tier 1 capital prudential deductions)	(10,217)	(10,320)
Technical and prudential adjustments (Regulated Saving exempted)	**(13,268)**	**-**
Leverage ratio exposure	**1,200,262**	**1,207,664**
Leverage ratio	**4.3%**	**4.2%**

(1) Capital overview is available in Table 7: Regulatory capital and CRR/CRD4 solvency ratios.
(2) Reconciliation between the statutory balance sheet and the prudential balance sheet is available in Table 2.
(3) Securities financing transactions: repurchase transactions, securities lending or borrowing transactions and other similar transactions.

5.8 RATIO OF LARGE EXPOSURES

The CRR incorporates the provisions regulating large exposures. As such, the Societe Generale Group must not have any exposure on a single beneficiary that exceeds 25% of the Group's capital.

The eligible capital used to calculate the large exposure ratio is the total regulatory capital, with a limit on the amount of Tier 2 capital. Tier 2 capital cannot exceed one third of Tier 1 capital.

The final rules of the Basel Committee on large exposures will be transposed in Europe via CRR2. The main change compared with the current CRR is the calculation of the regulatory limit (25%), henceforth expressed as a proportion of Tier 1 (instead of total Tier 1 and additional Tier 2), as well as the introduction of a cross-specific limit on systemic institutions (15%).

5.9 FINANCIAL CONGLOMERATE RATIO

The Societe Generale Group, also identified as a "Financial conglomerate", is subject to additional supervision by the French Prudential Supervisory and Resolution Authority (*Autorité de Contrôle Prudentiel et de Résolution* – ACPR).

As at 31 December 2019, the Societe Generale Group's financial conglomerate equity covered the solvency requirements for both banking and insurance activities.

As at 30 June 2019, the financial conglomerate ratio was 133%, consisting of a numerator ("Own funds of the Financial Conglomerate") of EUR 66.7 billion, and a denominator ("Regulatory requirement of the Financial Conglomerate") of EUR 50.3 billion.

The financial conglomerate ratio as at 31 December 2018 has been corrected as follows: 135%, consisting of a numerator "Own funds of the Financial Conglomerate" of EUR 64.6 billion, and a denominator "Regulatory requirement of the Financial Conglomerate" of EUR 47.8 billion.

5.10 APPENDIX: DETAILS OF OWN FUNDS AND CAPITAL ADEQUACY

OWN FUNDS DETAILS

TABLE 7A: REGULATORY CAPITAL AND CRR/CRD4 SOLVENCY RATIOS (DETAILS OF TABLE 7)

(In EURm)	2019[1]	2018[2]	Cross ref. Table 2	Cross Ref. Table 7b	Cross Ref. notes
Common Equity Tier 1 capital (CET1): Instruments and reserves	**53,855**	**51,898**		**6**	
of which capital instruments and the related share premium accounts	*21,006*	*19,995*		*1*	
of which retained earnings	*3,616*	*3,448*		*2*	
of which accumulated other comprehensive income (and other reserve, to include unrealised gains and losses under the applicable accounting standards)	*26,188*	*24,778*		*3*	1
of which minority interests (amounts allowed in consolidated CET1)	*1,770*	*1,683*	7	*5*	2
of which independtly reviewed interim profits net of any forseeable charge or dividend	*1,275*	*1,994*	6	*5a*	
Common Equity Tier 1 capital (CET1): Regulatory adjustments	**(10,025)**	**(10,744)**		**28**	
of which additional value adjustments (negative amount)	*(935)*	*(844)*		*7*	
of which intangible assests (net of related tax liabilities)	*(6,516)*	*(6,737)*	4	*8*	3
of which deferred tax assets that rely on future profitability excluding those arising from temporary differences	*(1,903)*	*(2,079)*	2	*10*	4
of which fair value reserves related to gains or losses on cash flow hedges	*(59)*	*105*		*11*	5
of which negative amounts resulting from the calculation of expected loss amounts	*(164)*	*(540)*		*12*	
of which gains or losses on liabilities valued at fair value resulting from changes in own credit standing	*217*	*107*		*14*	6
of which defined-benefit pension fund assets (negative amount)	*(169)*	*(107)*	3	*15*	7
of which direct and indirect holdings by an institution of own CET1 instruments (negative amount)	*(38)*	*(57)*		*16*	
of which exposure amount of the items which qualify for a risk weight of 1250% where the institution opts for the deduction alternative	*(25)*	*(15)*		*20a*	
of which deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the condition in 38, paragraph 3 are met) (negative amount)	-	-			
of which regulatory adjustments relating to unrealised gains and losses pursuant to Articles 467 and 468	-	-		*26a*	
of which other elements of Common Equity Tier 1 capital or deductions - others		*(577)*		*26b*	
Common Equity Tier 1 capital (CET1)	**43,830**	**41,154**		**29**	
Additionnal Tier 1 (AT1) capital: Instruments	**8,249**	**9,495**		**36**	
of which capital instruments and the related share premium accounts	*8,165*	*8,424*		*30*	*8*
of which amounts of qualifying amounts referred to in Article 484, paragraph 4 and the related share premium accounts subject to phase out from AT1	-	*1,000*		*33*	*8*
of which qualifying Tier 1 capital included in consolidated AT1 (including minority interests not included in row 5) issued by subsidiaries and held by third parties	*84*	*71*	7	*34*	*9*

(In EURm)	2019[(1)]	2018[(2)]	Cross ref. Table 2	Cross Ref. Table 7b	Cross Ref. notes
Additionnal Tier 1 (AT1) capital: Regulatory adjustments	**(137)**	**(138)**		**43**	
of which direct and indirect holdings by an institution of own AT1 instruments (negative amount)	*(125)*	*(125)*		*37*	
of which direct and indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions) (negative amount)	*(12)*	*(13)*	*1*	*40*	*10*
Additionnal Tier 1 (AT1) capital	**8,112**	**9,357**		**44**	
Tier 1 capital (T1 = CET1 + AT1)	**51,942**	**50,511**		**45**	
Tier 2 capital (T2): Instruments and provisions	**11,159**	**11,545**		**58**	
of which capital instruments and the related share premium accounts	*12,808*	*13,111*	*5*	*46*	*11*
of which amounts of qualifying amounts referred to in Article 484, paragraph 5) and the related share premium accounts subject to phase out from T2	*224*	*278*		*47*	
of which qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	*42*	*87*	*7*	*48*	
of which credit risk adjustments	*-*	*-*		*50*	
of which direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	*(150)*	*(150)*		*52*	
of which direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions) (negative amount)	*(1,765)*	*(1,781)*	*1*	*55*	
Tier 2 capital (T2)	**11,159**	**11,545**		**58**	
Total capital (TC = T1 + T2)	**63,101**	**62,056**		**59**	
Total risk weighted assets	**345,010**	**376,049**		**60**	
Ratio Common Equity Tier 1	**12.7%**	**10.9%**		**61**	
Ratio Tier 1	**15.1%**	**13.4%**		**62**	
Ratio Total capital	**18.3%**	**16.5%**		**63**	

(1) Since 1 January 2019, the Group has not applied any transitional arrangements resulting from the application of Chapter 1, Title 1, Part 10 of CRR
(2) Ratio fully loaded as in 2019

The regulatory own funds items are used as a starting point to describe differences between balance sheet items used to calculate own funds and regulatory own funds.

Notes

I Common Equity Tier 1 (CET1): Instruments and reserves:

1. Difference due to deduction for holdings of own CET1 instruments;

2. Difference linked to a limited recognition of minority interests.

II Common Equity Tier 1: Regulatory adjustments

3. Other comprehensive income from changes in the fair value through equity of financial assets are not deducted from regulatory own funds, except gains and losses on derivatives held as cash flow hedges;

4. The differences between the amounts of the balance sheet under the prudential scope and under regulatory capital are related to taxes deferred on OCA and DVA;

5. Goodwill and other intangible assets net of related deferred tax liabilities are fully deducted from regulatory own funds;

6. Gains or losses on liabilities valued at fair value and recognised in the income statement resulting from changes in own credit spread (OCA) as well as gains or losses resulting from changes in credit spread on own liability derivatives (DVA) are deducted from Common Equity Tier 1 instruments.

III Additional Tier 1 (AT1) capital: Instruments

7. Differences between balance sheet items used to calculate own funds and regulatory own funds are referring to the translation differences associated with these instruments;

8. Minority interests recognised in Additional Tier 1 instruments receive the same accounting treatment as described in Note 2.

IV Additional Tier 1 (AT1) capital: Regulatory adjustments

9. Discrepancy due to the exclusion of insurance subordinated loans in the consolidated balance sheet.

V Tier 2 (T2) capital: Instruments and provisions

10. Difference due to instruments ineligible to a classification as regulatory own funds;

11. Minority interests recognised in Tier 2 instruments receive the same accounting treatment as described in Note 2.

TABLE 7B: TRANSITIONAL OWN FUNDS DISCLOSURE TEMPLATE

(In EURm)		31.12.2019
Ref.		Amount at disclosure date[1]
COMMON EQUITY TIER 1 (CET1) CAPITAL: INSTRUMENTS AND RESERVES		
1	Capital instruments and the related share premium accounts	21,006
2	Retained earnings	3,616
3	Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	26,188
3a	Funds for general banking risk	-
4	Amount of qualifying items referred to in Article 484, paragraph 3 and the related share premium accounts subject to phase out from CET1	-
	Public sector capital injections grandfathered until 1st January 2018	-
5	Minority interests (amount allowed in consolidated CET1)	1,770
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	1,275
6	**COMMON EQUITY TIER 1 (CET1) CAPITAL BEFORE REGULATORY ADJUSTMENTS**	**53,855**
COMMON EQUITY TIER 1 (CET1) CAPITAL: REGULATORY ADJUSTMENTS		
7	Additional value adjustments (negative amount)	(935)
8	Intangible assets (net of related tax liability) (negative amount)	(6,516)
9		
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38, paragraph 3 are met) (negative amount)	(1,903)
11	Fair value reserves related to gains or losses on cash flow hedges	(59)
12	Negative amounts resulting from the calculation of expected loss amounts	(164)
13	Any increase in equity that results from securitised assets (negative amount)	-
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	217
15	Defined-benefit pension fund assets (negative amount)	(169)
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	(38)
17	Holdings of the CET1 instruments of financial sector entities where + those entities have reciprocal cross holdings with the institutions designed to inflate artificially the own funds of the institution (negative amount)	-
18	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-
19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-
20		
20a	Exposure amount of the following items which qualify for a RW of 1,250%, where the institution opts for the deduction alternative	(25)
20b	*of which: qualifying holdings outside the financial sector (negative amount)*	*-*
20c	*of which: securitisation positions (negative amount)*	*(25)*
20d	*of which: free deliveries (negative amount)*	*-*
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in 38, paragraph 3 are met) (negative amount)	-
22	Amount exceeding the 15% threshold (negative amount)	-
23	*of which: direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities*	*484*
24		
25	*of which: deferred tax assets arsing from temporary differences*	*2,732*
25a	Losses for the current financial year (negative amount)	-
25b	Foreseeable tax charges relating to CET1 items (negative amount)	-
26	Regulatory adjustments applied to Common Equity Tier 1 in respect of amounts subject to pre-CRR treatment	(433)
26a	Regulatory adjustments relating to unrealised gains and losses pursuant to Articles 467 and 468	-
	of which: … filter for unrealised loss 1	-
	of which: … filter for unrealised loss 2	-
	of which: … filter for unrealised gain 1	-
	of which: … filter for unrealised gain 2	-
26b	Amount to be deducted from or added to Common Equity Tier 1 capital with regard to additional filters and deductions required pre CRR	(433)
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution	-
28	**Total regulatory adjustment to Common Equity Tier 1 (CET1)**	**(10,025)**
29	**COMMON EQUITY TIER 1 (CET1) CAPITAL**	**43,830**

Ref.	(In EURm)	31.12.2019 Amount at disclosure date(1)
ADDITIONAL TIER 1 (AT1) CAPITAL: INSTRUMENTS		
30	Capital instruments and the related share premium accounts	8,165
31	*of which: classified as equity under applicable accounting standards*	*8,165*
32	*of which: classified as liabilities under applicable accounting standards*	
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out from AT1 Public sector capital injections grandfathered until 1st January 2018	-
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties	84
35	*of which: instruments issued by subsidiaries subject to phase out*	
36	Additional Tier 1 (AT1) capital before regulatory adjustments	8,249
ADDITIONAL TIER 1 (AT1) CAPITAL: REGULATORY ADJUSTMENTS		
37	Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	(125)
38	Holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-
39	Direct and indirect holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions) (negative amount)	-
40	Direct and indirect holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant in those entities (amount above the 10% threshold net of eligible short positions) (negative amount)	(12)
41	Regulatory adjustments applied to AT1 in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out as prescribed in Regulation (EU) No 575/2013 (*i.e.* CRR residual amounts)	-
41a	Residual amounts deducted from AT1 capital with regard to deduction from Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013 Of which items to be detailed line by line, *e.g.* Material net interim losses, intangibles, shortfall of provisions to expected losses, etc.	-
41b	Residual amounts deducted from AT1 capital with regard to deduction from Tier 2 capital during the transitional period pursuant to article 475 of Regulation (EU) No 575/2013 Of which items to be detailed line by line, *e.g.* Reciprocal cross holdings in Tier 2 instruments, direct holdings of non-significant investments in the capital of other financial sector entities, etc.	
41c	Amount to be deducted from or added to AT1 capital with regard to additional filters and deductions required pre-CRR	-
	of which: … filter for unrealised losses	
	of which: … filter for unrealised gains	
42	Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount)	-
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**(137)**
44	**Additional Tier 1 (AT1) capital**	**8,112**
45	**TIER 1 CAPITAL (T1= CET1+AT1)**	**51,942**
TIER 2 (T2) CAPITAL: INSTRUMENTS AND PROVISIONS		
46	Capital instruments and the related share premium accounts	12,808
47	Amount of qualifying items referred to in Article 484, paragraph 5 and the related share premium account subject to phase out from T2 Public sector capital injections grandfathered until 1st January 2018	224
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	42
49	*of which: instruments issued by subsidiaries subject to phase out*	-
50	Credit risk adjustments	-
51	**TIER 2 (T2) CAPITAL BEFORE REGULATORY ADJUSTMENTS**	**13,074**
TIER 2 (T2) CAPITAL: REGULATORY ADJUSTMENTS		
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	(150)
53	Holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-
54	Direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-
54a	*of which new holdings not subject to transitional arrangements*	
54b	*of which holdings existing before 1st January 2013 and subject to transitional arrangements*	
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	(1,765)
56	Regulatory adjustments applied to Tier 2 in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out as prescribed in Regulation (EU) No 575/2013 (*i.e.* CRR residual amounts)	-
56a	Residual amounts deducted from Tier 2 capital with regard to deduction form Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013 Of which items to be detailed line by line, *e.g.* Material net interim losses, intangibles, shortfall of provisions to expected losses, etc.	-

(In EURm)		31.12.2019
Ref.		**Amount at disclosure date(1)**
56b	Residual amounts deducted from Tier 2 capital with regard to deduction from Additional Tier 1 capital during the transitional period pursuant to Article 475 of Regulation (EU) No 575/2013 Of which items to be detailed line by line, *e.g.* Reciprocal cross holdings in Tier 2 instruments, direct holdings of non-significant investments in the capital of other financial sector entities, etc.	-
56c	Amount to be deducted from or added to Tier 2 capital with regard to additional filters and deductions required pre-CRR	-
	of which: filter for unrealised losses	
	of which: filter for unrealised gains	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**(1,915)**
58	**Tier 2 (T2) capital**	**11,159**
59	**TOTAL CAPITAL (TC=T1+T2)**	**63,101**
59a	Risk weighted assets in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out as prescribed in Regulation (EU) No 575/2013 (*i.e.* CRR residual amounts)	-
	of which: items not deducted from CET1 (Regulation (EU) No 575/2013 residual amounts) (items to be detailed line by line, e.g. Deferred tax assets that rely on future profitability net of related tax liability, indirect holdings of own CET1, etc.)	-
	of which: items not deducted from AT1 (Regulation (EU) No 575/2013 residual amounts) (items to be detailed line by line, e.g. Reciprocal cross holdings in T2 instruments, direct holdings of non-significant investments in the capital of other financial sector entities, etc.)	-
	Items not deducted from T2 items (Regulation (EU) No 575/2013 residual amounts) (items to be detailed line by line, *e.g.* Indirect holdings of own T2 instruments, indirect holdings of non-significant investments in the capital of other financial sector entities, etc.)	-
60	**TOTAL RISK WEIGHTED ASSETS**	**345,010**
CAPITAL RATIOS AND BUFFERS		
61	Common Equity Tier 1 (as a percentage of risk exposure amount)	-
62	Tier 1 (as a percentage of risk exposure amount)	-
63	Total capital (as a percentage of risk exposure amount)	-
64	Institution specific buffer requirement (CET1 requirement in accordance with article 92, paragraph 1 point a plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	13,025
65	*of which: capital conservation buffer requirement*	*8,624*
66	*of which: countercyclical buffer requirement*	*951*
67	*of which: systemic risk buffer requirement*	*-*
67a	*of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer*	*3,450*
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	
69		
70		
71		
CAPITAL RATIOS AND BUFFERS		
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	3,140
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	484
74		
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38, paragraph 3 are met)	2,732
APPLICABLE CAPS ON THE INCLUSION OF PROVISIONS IN TIER 2		
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	103,406
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the gap)	-
79	Cap for inclusion of credit risk adjustments in T2 under internal rating-based approach	171,643
CAPITAL INSTRUMENTS SUBJECT TO PHASE-OUT ARRANGEMENTS (ONLY APPLICABLE BETWEEN 1ST JANUARY 2014 AND 1ST JANUARY 2022)		
80	Current cap on CET1 instruments subject to phase out arrangements	-
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-
82	Current cap on AT1 instruments subject to phase out arrangements	-
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-
84	Current cap on T2 instruments subject to phase out arrangements	224
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	(59)

(1) Since 1 January 2019, the Group does not apply any transitional arrangement resulting from the application of chapter 1, Title 1, part 10 of CRR

LEVERAGE RATIO DETAILS

TABLE 13A: SUMMARY RECONCILIATION OF ACCOUNTING ASSETS AND LEVERAGE RATIO EXPOSURES (LRSUM)

(In EURm)		31.12.2019	31.12.2018
1	Total assets as per published financial statements	1,356,303	1,309,428
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	(152,506)	(134,555)
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 "CRR")	-	-
4	Adjustments for derivative financial instruments	(80,869)	(45,520)
5	Adjustments for securities financing transactions "SFTs"	(3,037)	(11,146)
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	103,856	99,777
EU-6a	(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	-	-
EU-6b	(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	(13,268)	-
7	Other adjustments	(10,217)	(10,320)
8	**Total leverage ratio exposure**	**1,200,262**	**1,207,664**

TABLE 13B: LEVERAGE RATIO - COMMON DISCLOSURE (LRCOM)

(In EURm)		31.12.2019	31.12.2018
ON-BALANCE SHEET EXPOSURES (EXCLUDING DERIVATIVES AND SFTS)			
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	867,660	834,158
2	(Asset amounts deducted in determining Tier 1 capital)	(10,217)	(10,320)
3	Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)	857,443	823,837
DERIVATIVE EXPOSURES			
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	17,696	16,481
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	86,463	95,861
EU-5a	Exposure determined under Original Exposure Method	-	-
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-	-
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(18,234)	(18,178)
8	(Exempted CCP leg of client-cleared trade exposures)	(13,712)	(14,693)
9	Adjusted effective notional amount of written credit derivatives	126,517	147,885
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(116,140)	(128,961)
11	Total derivative exposures (sum of lines 4 to 10)	82,590	98,395
SECURITIES FINANCING TRANSACTION EXPOSURES			
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	260,561	294,742
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(108,670)	(120,791)
14	Counterparty credit risk exposure for SFT assets	17,750	11,703
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	-	-
15	Agent transaction exposures	-	-
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	-	-
16	Total securities financing transaction exposures (sum of lines 12 to 15a)	169,641	185,654
OTHER OFF-BALANCE SHEET EXPOSURES			
17	Off-balance sheet exposures at gross notional amount	214,380	206,418
18	(Adjustments for conversion to credit equivalent amounts)	(110,524)	(106,641)
19	Other off-balance sheet exposures (sum of lines 17 to 18)	103,856	99,777
EXEMPTED EXPOSURES IN ACCORDANCE WITH CRR ARTICLE 429 (7) AND (14) (ON AND OFF-BALANCE SHEET)			
EU-19a	(Exemption of intragroup exposures (solo basis) in accordance with Article 429 (7) of Regulation (EU) No 575/2013 (on and off-balance sheet))	-	-
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off-balance sheet))	(13,268)	-
CAPITAL AND TOTAL EXPOSURES			
20	Tier 1 capital	51,942	50,511
21	Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)	1,200,262	1,207,664
LEVERAGE RATIO			
22	Leverage ratio	4.3%	4.2%
CHOICE ON TRANSITIONAL ARRANGEMENTS AND AMOUNT OF DERECOGNISED FIDUCIARY ITEMS			
EU-23	Choice on transitional arrangements for the definition of the capital measure	Definitive decision	Definitive decision
EU-24	Amount of derecognised fiduciary items in accordance with Article 429 (11) of Regulation (EU) NO 575/2013	-	-

TABLE 13C: LEVERAGE RATIO – SPLIT-UP OF ON BALANCE SHEET EXPOSURES (EXCLUDING DERIVATIVES, SFTS AND EXEMPTED EXPOSURES) (LRSPL)

(In EURm)		31.12.2019	31.12.2018
EU-1	**Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:**	**867,660**	**834,158**
EU-2	Trading book exposures	86,320	64,379
EU-3	Banking book exposures, of which:	781,340	769,779
EU-4	*Covered bonds*	-	-
EU-5	*Exposures treated as sovereigns*	*201,137*	*190,920*
EU-6	*Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns*	*14,754*	*13,652*
EU-7	*Institutions*	*34,524*	*44,586*
EU-8	*Secured by mortgages of immovable properties*	*15,976*	*17,216*
EU-9	*Retail exposures*	*201,637*	*180,047*
EU-10	*Corporate*	*200,365*	*225,833*
EU-11	*Exposures in default*	*15,794*	*18,418*
EU-12	*Other exposures (eg equity, securitisations, and other non-credit obligation assets)*	*97,153*	*79,107*

TABLE 14: NON-DEDUCTED EQUITIES IN INSURANCE UNDERTAKINGS (INS1)

(In EURm)	31.12.2019
Exposure	4,569
RWA	16,904

TABLE 15: REGULATORY CAPITAL FLOWS

(In EURm)	
End-2018 Common Equity Tier One Capital	**41,154**
Change in share capital resulting from the capital increase	57
Net income, Group share	(617)
Change in the provision for 2017 dividends	(105)
Change linked to translation differences	394
Change in value of financial instruments	161
Change in non-controlling interests	328
Change in goodwill and intangible assets	425
Change in deductions	(99)
Other	2,132
End-2019 Common Equity Tier 1 capital	**43,830**
End-2018 Additional Tier 1 capital	**9,358**
Change in debt instruments eligible for additional Tier 1	(1,259)
Change in other additional Tier 1 capital	13
Change in deductions Tier 1	(0)
End-2019 Additional Tier 1 capital	**8,112**
End-2018 Tier 2 capital	**11,544**
Change in Tier 2 capital	(357)
Change in other additional Tier 2 capital	(44)
Change in deductions Tier 2	16
End-2019 Tier 2 capital	**11,159**

COUNTERCYCLICAL BUFFER DETAILS

The rate of countercyclical capital buffer (or CCyB) is defined by country. The countercyclical capital buffer requirement is calculated by averaging the countercyclical rates of each country, weighted by the exposures relevant to credit risk in those countries. The rate of countercyclical capital buffer, which came into effect on 1 January 2016, is generally between 0% and 2.5% per country, with a transitional period that ended in 2019. In France, the authority in charge of defining the countercyclical rate applicable to exposures in France and in charge of recognising any rates applicable in other countries is the High Council for Financial Stability (HCSF). The HCSF publishes quarterly the CCyB rate for France and the rates recognised for third countries. The rate applicable to the Group is recalculated whenever a country is subject to a rate change. As a result, there is no annual rate for this cushion, but a rate applicable on a given date.

TABLE 16: GEOGRAPHICAL DISTRIBUTION OF CREDIT EXPOSURES RELEVANT FOR THE CALCULATION OF THE COUNTERCYCLICAL CAPITAL BUFFER (CCYB1)

	31.12.2019											
	General credit exposures		Trading book exposures		Securitisation exposures		Own funds requirements					
(In EURm)	Standard	IRB	Sum of long and short positions of trading book exposures for SA	Value of book exposures for internal models	Standard	IRB	of which: General credit exposures	of which: Trading book exposures	of which: Securitisation exposures	Total	Own funds require-ments weights	Counter-cyclical capital buffer rate
Bulgaria	1	259	-	-	-	-	6	-	-	6	0	0.50%
Czech Republic	3,375	25,609	-	(1)	-	-	980	0	-	980	5	1.50%
Danemark	1,160	654	-	46	-	-	95	1	-	95	0	1.00%
France	45,580	247,738	19	1,015	-	11,352	10,044	14	138	10,196	49	0.25%
Norway	866	3,371	-	58	-	-	185	0	-	186	1	2.50%
Slovakia	950	184	-	1	-	-	82	0	-	82	0	1.50%
Sweden	585	1,349	-	250	-	-	84	7	-	91	0	2.50%
Hong Kong	127	1,540	-	73	-	-	27	0	-	27	0	2.00%
Ireland	185	4,504	-	53	-	835	96	2	6	103	0	1.00%
Iceland	0	1	-	-	-	-	0	-	-	0	0	1.75%
Lithuania	0	0	-	-	-	-	0	-	-	0	0	1.00%
United Kingdom	4,870	13,185	-	817	-	1,293	582	17	9	608	3	1.00%
TOTAL	**57,699**	**298,394**	**19**	**2,314**	**-**	**13,481**	**12,180**	**41**	**153**	**12,374**		**0.28%**

TABLE 17: COUNTERCYCLICAL CAPITAL BUFFER REQUIREMENTS (CCYB2)

	31.12.2019	31.12.2018
Total risk exposure amount *(in EURm)*	345,010	376,049
Institution specific countercyclical capital buffer (rate)	0.28%	0.11%
Institution specific countercyclical capital buffer requirement *(in EURm)*	951	419

LINK BETWEEN PRUDENTIAL BALANCE SHEET AND TYPE OF RISK

TABLE 18: DIFFERENCES BETWEEN STATUTORY AND PRUDENTIAL CONSOLIDATED BALANCE SHEETS AND ALLOCATION TO REGULATORY RISK CATEGORIES (LI1)

ASSETS at 31.12.2019 *(In EURm)*	**Consolidated balance sheet**	**Consolidated balance sheet within the prudential scope**	**Subject to credit risk**	**Subject to counter-party risk**	**Subject to market risk**	**Subject to the securiti-sation framework**	**Not subject to capital requirements or subject to deduction from capital**
Cash, due from banks	102,311	102,311	102,311	-	-	-	-
Financial assets at fair value through profit or loss	385,739	395,238	138,374	256,863	369,904	-	-
Hedging derivatives	16,837	16,873	-	16,873	122	-	-
Financial assets at fair value through other comprehensive income	53,256	53,256	53,256	-	20	-	-
Securities at amortised cost	12,489	12,489	12,489	-	7	-	-
Due from banks at amortised cost	56,366	56,460	38,294	18,168	10,270	-	-
of which subordinated loans to credit institutions	*88*	*88*				-	-
Customer loans at amortised cost	450,244	451,797	420,362	19,540	19,279	11,894	-
Revaluation differences on portfilios hedged against interest rate risk	401	401	401	-	-	-	-
Investment of insurance activities	164,938	-	-	-	-	-	-
Tax assets	5,779	5,644	3,741	-	-	-	1,903
o.w deferred tax assets that rely on future profitability excluding those arising from temporary differences	*2,659*	*1,903*	-	-	-	-	*1,903*
o.w deferred tax assets arising from temporary differences	*2,082*	*2,732*	2,732	-	-	-	-
Other assets	68,045	65,496	65,326	-	3,307	-	169
o.w defined-benefit pension fund assets	*120*	*120*			-	-	*169*
Non-current assets held for sale	4,507	4,507	4,507	-	-	-	-
Investments accounted for using the equity method	112	4,540	4,540	-	-	-	-
Tangible and intangible assets	30,652	30,483	28,269	-	-	-	2,214
o.w intangible assets exclusive of leasing rights	*2,363*	*2,225*	-	-	-	-	*2,214*
Goodwill	4,627	4,302		-	-	-	4,302
TOTAL ASSETS	**1,356,303**	**1,203,797**	**762,801**	**311,444**	**402,909**	**11,894**	**8,588**

LIABILITIES at 31.12.2019 (In EURm)	Consolidated balance sheet	Consolidated balance sheet within the prudential scope	Subject to credit risk	Subject to counter-party risk	Subject to market risk	Subject to the securiti-sation framework	Not subject to capital requirements or subject to deduction from capital
Due to central bank	4,097	4,097	-	-	-	-	4,097
Financial liabilities at fair value through profit or loss	364,129	367,298	-	237,303	332,540	-	34,758
Hedging derivatives	10,212	10,215	-	10,215	107	-	0
Debt securities issued	125,168	126,303	-		28,445	-	97,858
Due to banks	107,929	104,347	-	5,705	5,606	-	98,642
Customer deposits	418,612	420,056	-	8,760	8,394	-	411,296
Revaluation differences on portfolios hedged against interest rate risk	6,671	6,671	-	-		-	6,671
Tax liabilities	1,409	1,013	-	-		-	1,013
Other Liabilities	85,062	76,012	-	-	4,756	-	71,256
Non-current liabilities held for sale	1,333	1,333	-	-	-	-	1,333
Liabilities related to insurance activities contracts	144,259	-	-	-	-	-	-
Provisions	4,387	4,373	-	-	21	-	4,352
Subordinated debts	14,465	14,505	-	-	-	-	14,505
of which redeemable subordinated notes including revaluation differences on hedging items	*14,032*	*14,074*	-	-	-	-	*14,074*
TOTAL DEBTS	**1,287,733**	**1,136,223**	**-**	**-**	**-**	**-**	**745,781**
Sub-Total Equity, Group share	63,527	63,324	-	-	-	-	63,324
Issued common stocks, equity instruments and capital reserves	*31,102*	*31,102*	-	-	-	-	*31,102*
Retained earnings	*29,558*	*29,355*	-	-	-	-	*29,355*
Net income	*3,248*	*3,248*	-	-	-	-	*3,248*
Unrealised or deferred capital gains and losses	*(381)*	*(381)*	-	-	-	-	*(381)*
Minority interests	5,043	4,250	-	-	-	-	4,250
TOTAL EQUITY	**68,570**	**67,574**	**-**	**-**	**-**	**-**	**67,574**
TOTAL LIABILITIES	**1,356,303**	**1,203,797**	**-**	**261,983**	**379,869**	**-**	**823,928**

ASSETS at 31.12.2018 *(In EURm)*	**Consolidated balance sheet**	**Consolidated balance sheet within the prudential scope**	**Subject to credit risk**	**Subject to counter-party risk**	**Subject to market risk**	**Subject to the securiti-sation framework**	**Deducted from own funds**
Cash, due from banks	96,585	96,585	95,382				
Financial assets at fair value through profit or loss	365,550	375,286	32,383	262,073	342,484		
Hedging derivatives	11,899	11,931		11,931	37		
Financial assets at fair value through other comprehensive income	50,026	50,026	51,455		34		
Securities at amortised cost	12,026	12,026	12,060				
Due from banks at amortised cost	60,588	60,738	42,870	18,000	9,847		
of which subordinated loans to credit institutions	*91*	*91*					
Customer loans at amortised cost	447,229	448,981	431,726	26,298	25,853	909	
Revaluation differences on portfilios hedged against interest rate risk	338	338					
Investment of insurance activities	146,768	0					
Tax assets	5,819	5,676	5,736				
of which deferred tax assets that rely on future profitability excluding those arising from temporary differences	*2,895*	*2,079*					*1,777*
of which deferred tax assets arising from temporary differences	*1,858*	*2,620*					
Other assets	67,446	65,106	44,163		5,741		
of which defined-benefit pension fund assets	*76*	*76*					*107*
Non-current assets held for sale	13,502	13,505					
Investments accounted for using the equity method	249	3,750	3,902				
Tangible and intangible assets	26,751	26,599	24,596				
of which intangible assets exclusive of leasing rights	*2,199*	*2,066*					*2,095*
Goodwill	4,652	4,327					4,642
TOTAL ASSETS	**1,309,428**	**1,174,874**	**744,273**	**318,302**	**383,996**	**909**	**8,621**

The amounts "Subject to market risk" are representative of 98% of the Risk-Weighted Assets for market risk

LIABILITIES at 31.12.2018 *(In EURm)*	Consolidated balance sheet	Consolidated balance sheet within the prudential scope	Subject to credit risk	Subject to counterparty risk	Subject to market risk	Subject to the securitisation framework	Deducted from own funds
Due to central bank	5,721	5,721					
Financial liabilities at fair value through profit or loss	363,083	365,555		227,204	303,877		
Hedging derivatives	5,993	6,001		6,002	138		
Debt securities issued	116,339	118,096			28,266		
Due to banks	94,706	91,710		2,604	2,603		
Customer deposits	416,818	418,387		17,408	16,678		
Revaluation differences on portfolios hedged against interest rate risk	5,257	5,257					
Tax liabilities	1,157	824					
Other Liabilities	76,629	69,974			9,174		
Non-current liabilities held for sale	10,454	10,512					
Liabilities related to insurance activities contracts	129,543	0					
Provisions	4,605	4,593			19		
Subordinated debts	13,314	13,453					1,793
of which redeemable subordinated notes including revaluation differences on hedging items	*12,730*	*12,869*					
TOTAL DEBTS	**1,243,619**	**1,110,083**					
Sub-Total Equity, Group share	61,026	60,823	-	-	-	-	
Issued common stocks, equity instruments and capital reserves	*29,856*	*29,856*	-	-	-	-	
Retained earnings	*28,342*	*28,139*	-	-	-	-	
Net income	*3,864*	*3,864*	-	-	-	-	
Unrealised or deferred capital gains and losses	*(1,036)*	*(1,036)*	-	-	-	-	
Minority interests	4,783	3,968	-	-	-	-	
TOTAL EQUITY	**65,809**	**64,791**	**-**	**-**	**-**	**-**	
TOTAL LIABILITIES	**1,309,428**	**1,174,874**	**-**	**253,218**	**360,755**	**-**	**1,793**

The amounts "Subject to market risk" are representative of 98% of the Risk-Weighted Assets for market risk

TABLEAU 19: MAIN SOURCES OF DIFFERENCES BETWEEN REGULATORY EXPOSURE AMOUNTS AND CARRYING AMOUNTS IN FINANCIAL STATEMENTS (LI2)

(In EURm)	Consolidated balance sheet within the prudential scope	Subject to credit risk	Subject to counterparty risk	Subject to market risk	Subject to the securitisation framework
Asset carrying value amount under the scope of regulatory consolidation (as per template EU LI1)	1,195,209	762,801	311,444	402,909	11,894
Liabilities carrying value amount under the scope of regulatory consolidation (as per template EU LI1)	(261,983)	-	(261,983)	(379,869)	-
TOTAL NET AMOUNT UNDER REGULATORY SCOPE OF CONSOLIDATION	**933,226**	**762,801**	**49,461**	**23,040**	**11,894**
Off-balance sheet amounts	212,213	191,831	-		20,382
Differences due to Credit Conversion Factor (CCF)	(118,130)	(118,130)	-		-
Differences due to considerations for provisions in AIRB approach	7,161	7,161	-		-
Differences due to Credit Risk Mitigation (CRM) techniques	(9,410)	(9,410)	-		-
Re-assessment of regulatory exposure	(92,919)	(51,910)	68,060		-
Others	(13,977)	(13,977)	-		-
EXPOSURE AMOUNTS CONSIDERED FOR REGULATORY PURPOSES (EAD)	**918,164**	**768,367**	**117,521**		**32,276**

The table above features the various effects inducing the difference between accounting carrying values on prudential perimeter and regulatory exposures (EAD), split by type of risk.

As per BCBS recommendations relayed by the EBA in its report EBA/Rep/2020/09, total accounting carrying values correspond to those displayed in table LI1 without elements deducted from own funds.

The main factors illustrated by this table are the following ones:

- Inclusion of gross off-balance sheet amounts: financing and guarantee commitments relating to credit risk as well as securitisation exposures;
- Impact of the application of CCF on credit risk off-balance sheet amounts;
- Reintegration of provisions associated with exposures treated under advanced method, insofar as initial accounting carrying values are net of provisions while credit risk EAD in advanced method is gross;
- Impact on EAD treated under Standardised approach of some Credit Risk Mitigation elements (cash collateral);
- Regulatory reevaluation of exposures, including:
  - prudential netting of credit and counterparty risk,
  - deduction of items subject to market risk that do not generate EAD.

6

CREDIT AND COUNTERPARTY CREDIT RISK

IN BRIEF

Credit risk corresponds to the risk of losses arising from the inability of the Group's customers, issuers or other counterparties to meet their financial commitments. Credit risk includes the counterparty risk linked to market transactions and securitisation activities and may be further amplified by individual, country and sector concentration risk.

This section describes the Group's risk profile. It focuses on regulatory indicators, including Exposure at Default (EAD) and Risk-Weighted Assets (RWA).

The risk profile is analysed through several axes (countries, sectors, probabilty of default, residual maturities, etc.).

Credit risk RWA at end 2019:

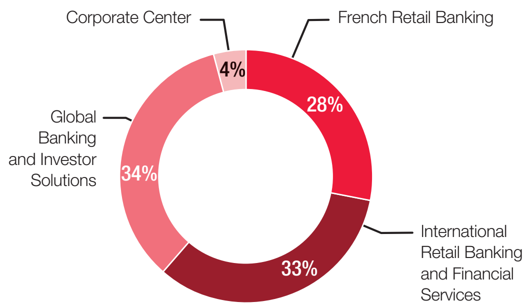
282.5 bn EUR

(Credit risk RWA at end 2018: 302.7 bn EUR)

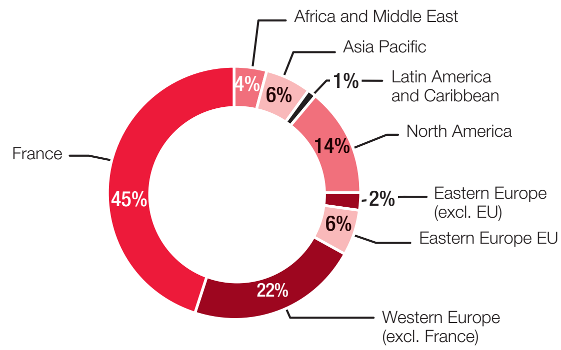
EAD calculated in IRB (% of total credit risk):

81%

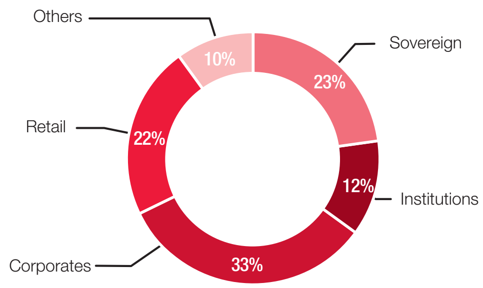
Distribution of credit risk RWA by core business At end 2019: EUR 345bn *(EUR 376bn at end 2018)*



Geographical distribution of credit risk EAD
At end 2019: EUR 918bn *(EUR 920bn at end 2018)*



Distribution of credit risk EAD by exposure class
Credit risk exposure (EAD) at end 2019: EUR 918bn *(EUR 920bn at end 2018)*



Credit and counterparty credit risk corresponds to the risk of losses arising from the inability of the Group's customers, issuers or other counterparties to meet their financial commitments. Credit risk includes the counterparty risk linked to market transactions and securitisation activities. In addition, credit risk may be further amplified by individual, country and sector concentration risks.

6.1 CREDIT AND COUNTERPARTY CREDIT RISK MONITORING AND SURVEILLANCE SYSTEM

General principles governing risk taking

The risk approval process is based on three fundamental principles:

- the analysis and the validation of the files fall respectively to the sector of commercial follow-up of the client and to the dedicated risk units within the risk management function. In order to guarantee a consistent approach to Group risk-taking, this commercial monitoring sector and this risk unit examine all authorisation requests relating to a given client or category of clients. This commercial monitoring sector and this risk unit must be independent of each other;
- the internal rating of counterparties is a key criterion in the granting policy. These ratings are proposed by the commercial monitoring sector and validated by the dedicated risk unit;
- for retail customers, the granting process is based on risk analysis tools (score) controlled by the risk units. Credit decisions are subject to compliance with the granting criteria previously defined in credit policies whose effectiveness is regularly evaluated;
- a system of delegation of competence, largely based on the internal rating of the counterparties, confers decision-making capacities to the risk units on the one hand and the commercial monitoring sector on the other.

The business line assumes the burden of provisions and losses related to its credit decisions as the first line of defense. The Risk Department submits recommendations to CORISQ on the evolution of the granting policy, with limits on credit portfolios, for the countries, geographic areas, sectors, products or types of customers presenting high concentration risks.

The monthly risk monitoring report presented to CORISQ by the Risk Department comments on the evolution of the Group's credit portfolio and ensures compliance with the guidelines. Changes in the credit portfolio, changes in credit policy validated by CORISQ and respect for the Group's risk appetite are presented at least quarterly to the Risk Committee of the Board of Directors.

Monitoring individual concentration

Societe Generale complies with regulations governing large exposures (major regulatory risks exposure cap of 25% of equity). Moreover, the Group has set a stricter internal limit at 10% of consolidated shareholders' equity applying to any concentrated exposure on linked clients. Since 1 July 2018, the High Council for Financial Stability has imposed an exposure limit on France's most indebted companies at a maximum level of 5% of eligible equity.

Due to the size of the Group and its diversification, compliance with this constraint remains compatible with the individual support of our customers.

An internal process is implemented to identify and manage the risks of individual concentrations. Concentration thresholds, depending on the internal rating, are set by the CORISQ and define the validation governance of limits on individual concentrations. Exposures on connected clients that are considered significant by the Group are reviewed by the Large Exposure Committee chaired by the General Management. In Business Units, concentration levels on related client groups are defined during Concentration Committees (Concentration Committee for Global Banking and Investor Solutions and French Retail Banking or Local Risk Committees, CORISQ Corporate Region and Regional Major Risk Committees for the former International Retail Banking and Financial Services division).

The Group uses credit derivatives to reduce some exposures considered to be overly significant. Furthermore, the Group systematically seeks to mutualise risks with other banking partners by avoiding keeping an excessive share in the banking pool of large-scale companies.

Monitoring country risk

Country risk arises when an exposure (loan, security, guarantee or derivative) becomes susceptible to negative impact from changing regulatory, political, economic, social and financial conditions.

Country risk breaks down into two major categories:

- political and non-transfer risk covers the risk of non-payment resulting from either actions or measures taken by local government authorities (decision to prohibit the debtor from meeting its commitments, nationalisation, expropriation, non-convertibility, etc.), domestic events (riots, civil war, etc.) or external events (war, terrorism, etc.);
- commercial risk occurs when the credit quality of all counterparties in a given country deteriorates due to a national economic or financial crisis, independently of each counterparty's individual financial situation. This could be a macroeconomic shock (sharp slowdown in activity, systemic banking crisis, etc.), currency depreciation, or sovereign default on external debt potentially entailing other defaults.

Overall limits and strengthened monitoring of exposures have been established for countries based on their internal ratings and governance indicators. Supervision is not limited to emerging countries.

Country limits are approved annually by General Management. They can be revised downward at any time if the country's situation deteriorates or is expected to deteriorate.

All Group exposures (securities, derivatives, loans and guarantees) are taken into account by this monitoring. The Country Risk methodology determines an initial risk country and a final risk country (after any guarantee-related effects), which is supervised using country limits.

The procedure for placing a country on a watch list is triggered when there is a deterioration in country risk, or such a deterioration can be anticipated. During 2019, only one country has been placed on a watch list due to difficulties encountered, some other countries have been removed from the list.

Sector monitoring

The Group regularly reviews its entire credit portfolio through analyses by business sector. To do this, it relies on industrial studies (including a one-year anticipation of sectoral risk) and on sectoral concentration analyses.

In addition, the Group regularly reviews its entire credit portfolio through analyses by business sector. To do this, it relies on industrial studies (including a one-year anticipation of sectoral risk) and on sectoral concentration analyses. These identified sectors or sub-portfolios are subject to a specific guidance through a portfolio limit and specific granting criteria validated by the Group CORISQ.

As a complement, more targeted sector-based research and business portfolio analyses, may be conducted by General Management, the Risk Division or bank divisions, depending on current issues.

Portfolios specifically monitored by the Group CORISQ are:

- individual and professional credit portfolio (retail) in metropolitan France on the one hand and in international retail banking in Europe on the other hand. Other retail perimeters are covered by the Business Unit CORISQ. The Group defines in particular a risk appetite target concerning the minimum share covered by Credit Logement guarantee for real estate loans granted to individuals;
- Oil and gas scope, on which the Group has defined a credit policy adapted to the different types of activity of sector players. This policy distinguishes financing guaranteed by oil reserves, project financing, short-term trade finance transactions, and takes into regional characteristics;
- commercial real estate scope, on which the Group has defined a framework for origination and monitoring of exposures and limits according to the different types of financing, geographical areas and/or activities;
- leveraged finance, on which the Group applies the ECB definition of perimeter and management approach (“Guidance on Leveraged Transactions”). The Group continues to pay a particular attention to the Leverage Buy-Out (LBO) sub-portfolio;
- exposures on hedge funds is subject to a specific attention. The Group incurs risk on hedge funds through derivative transactions and its financing activity guaranteed by shares in funds. Risks related to hedge funds are governed by individual limits and global limits on market risks and wrong way risks;
- exposures on shadow banking are managed and monitored in accordance with the EBA guidelines published in 2015 which specifies expectations regarding the internal framework for identifying, controlling and managing identified risks. CORISQ has set a global exposure threshold for shadow banking.

Credit stress tests

With the aim of identifying, monitoring and managing credit risk, the Risk Division works with the businesses to conduct a set of specific stress tests relating to a country, subsidiary or activity. These specific stress tests combine both recurring stress tests, conducted on those portfolios identified as structurally carrying risk, and *ad hoc* stress tests, designed to recognise emerging risks. Some of these stress tests are presented to the Risk Committee and used to determine how to frame the corresponding the activities concerned.

Like global stress tests, specific stress tests are based on a stressed scenario, which is defined by the Group’s sector experts and economists. The stressed scenario describes triggering events and assumptions regarding the development of a crisis, in both quantitative terms (changes in a country’s GDP, the unemployment rate, deterioration in a sector) and qualitative terms. The credit stress system also includes sensitivity analyses relating to the deterioration in credit quality of certain portfolios (expert rating transition matrix) or to exposure volatility at the time of default.

Structured around the portfolio analysis function, the Risk Division teams translate these economic scenarios or analyses into impacts on risk parameters (default exposure, default rate, provisioning rate at entry into default, etc.). Where relevant, models are applied based on historical link between the economic context and risk parameters. Stress tests take into account the possible effect of the default of counterparties in which the Group is mostly concentrated in a stressed environment.

6.2 CREDIT RISK HEDGING

Guarantees and collateral

The Group uses credit risk mitigation techniques for both market and commercial banking activities. These techniques provide partial or full protection against the risk of debtor insolvency.

There are two main categories:

- personal guarantees are commitments made by a third party to replace the primary debtor in the event of the latter's default. These guarantees encompass the protection commitments and mechanisms provided by banks and similar credit institutions, specialised institutions such as mortgage guarantors (e.g. Crédit Logement in France), monoline or multiline insurers, export credit agencies, etc. By extension, credit insurance and credit derivatives (purchase of protection) also belong to this category;
- collateral can consist of physical assets in the form of property, commodities or precious metals, as well as financial instruments such as cash, high-quality investments and securities, and also insurance policies.

Appropriate haircuts are applied to the value of collateral, reflecting its quality and liquidity.

In order to reduce its risk-taking, the Group is pursuing active management of its securities, in particular by diversifying them: physical collateral, personal guarantees and others (including CDS).

During the credit approval process, an assessment is performed on the value of guarantees and collateral, their legal enforceability and the guarantor's ability to meet its obligations. This process also ensures that the collateral or guarantee successfully meets the criteria set forth in the Capital Requirements Directive (CRD).

Guarantor ratings are reviewed internally at least once a year and collateral is subject to revaluation at least once a year. The Risk function is responsible for approving the operating procedures established by the core businesses for the regular valuation of guarantees and collateral, either automatically or based on an expert opinion, whether during the approval phase for a new loan or upon the annual renewal of the credit application.

In accordance with the requirements of European Regulation No. 575/2013 (CRR), the Group applies minimum collateralisation frequencies for all collateral held in the context of commitments granted (financial collateral, commercial real estate, residential real estate, other security interests, leasing guarantees).

Closer valuations must be carried out in the event of a significant change in the market concerned, the default or litigation of the counterparty or at the request of the risk management function.

In addition, the effectiveness of credit risk hedging policies is monitored as part of the LGD.

It is the responsibility of the risk management function to validate the operational procedures put in place by the business lines for the periodic valuation of collateral (guarantees and collateral), whether automatic valuations or on an expert opinion and whether during the credit decision for a new competition or during the annual renewal of the credit file.

The amount of guarantees and collateral is capped at the amount of outstanding loans less provisions, i.e. EUR 302.31 billion at 31 December 2019 (compared with EUR 290.17 billion at 31 December 2018), of which EUR 139.24 billion for retail customers and EUR 163.07 billion for other types of counterparty (compared with EUR 140.37 billion and EUR 149.80 billion at 31 December 2018, respectively).

The oustanding loans covered by these guarantees and collateral correspond mainly to loans and receivables amounted to EUR 238.27 billion at 31 December 2019, and to off-balance sheet commitments amounted to EUR 56.85 billion (compared with EUR 237.18 billion and EUR 50.46 billion at 31 December 2018 respectively).

The amounts of guarantees and collateral received for performing outstanding loans (Stage 1) and under-performing loans (Stage 2) with payments past due amounted to EUR 4.50 billion at 31 December 2019 (EUR 2.07 billion at 31 December 2018), including EUR 1.54 billion on retail customers and EUR 2.96 billion on other types of counterparties (versus EUR 1.05 billion and EUR 1.01 billion at 31 December 2018 respectively).

The amount of guarantees and collateral received for non-performing outstanding loans at 31 December 2019 amounted to EUR 3.92 billion (compared to EUR 4.77 billion at 31 December 2018), of which EUR 1.90 billion on retail customers and EUR 2.02 billion on other types of counterparties (compared to EUR 2.21 billion and EUR 2.57 billion respectively at 31 December 2018). These amounts are capped at the amount of outstanding individually impaired loans.

Use of credit derivatives to manage Corporate concentration risk

Within Corporate and Investment Banking, the Performance & Scarce Resources management (PSR) team is responsible for working in close cooperation with the Risk Division and the businesses to reduce excessive portfolio concentrations, react quickly to any deterioration in the creditworthiness of a particular counterparty and suggest actions improving the capital allocation. PSR is part of the department responsible for the definition and effective deployment of the strategy, performance and scarce resources management for the credit and loan portfolio.

The Group may use credit derivatives for in the management of its Corporate credit portfolio, primarily to reduce individual, sector and geographic concentrations and to implement a proactive risk and capital management approach.

Total outstanding purchases of protection through Corporate credit derivatives increased to EUR 2.5 billion at end of December 2019 (compared to EUR 0.4 billion at end of December 2018). New operations have mainly been performed to approve capital allocation (+EUR 2 billion) and to a lower extend reduce concentration risk (EUR 71 million).

In 2019, the Credit Default Swap (CDS) spreads from European investment-grade issuances (iTraxx index) followed a downward trend (45 bp at end of December 2019 versus 88 bp at end of December 2018). The overall sensitivity of the portfolio to spread widening increased, since the outstanding purchases of protection increased and the average maturity of protection is now longer.

Protection purchases were mostly made from European clearing houses (96% of the outstanding amounts as at 31 December 2019). All operations have been performed with Investment Grade counterparties (rating at least equal to BBB-).

Moreover, the amounts recognised as assets (EUR 2.4 billion as at 31 December 2019 versus EUR 2.2 billion as at 31 December 2018) and liabilities (EUR 2.0 billion as at 31 December 2019 versus EUR 2.7 billion as at 31 December 2018) correspond to the fair value of credit derivatives held under transaction activities.

As part of LCR stress tests, Article 30(2) of Delegated Act 2015/61 provides for a specific additional flow associated with a three-notch downgrade of the bank's rating. In this regard, the impact in terms of additional cash collateral in case of a three-notch downgrade of the Group's rating is estimated at EUR 4 billion as at 31 December 2019.

Credit insurance

The Group has been developing relationships with private insurers over the last several years in order to hedge some of its loans against commercial and political non-payment risks.

This activity is performed within a risk framework and monitoring system approved by the Group's General Management. The system is based on an overall limit for the activity, along with sub-limits by maturity, and individual limits for each insurance counterparty, the latter being furthermore required to meet strict eligibility criteria. There is also a limit for insured transactions in *Non-Investment Grade* countries.

The implementation of such a policy contributes overall to the management of the Group's risk and RWA.

6.3 IMPAIRMENT

Exposures classified in stages

Impairment includes impairments of performing loans (stages 1 and 2) and impairments of non-performing loans.

The applicable accounting principles are specified in Note 3.8 of the consolidated financial statements included in Chapter 6 of the 2020 Universal Registration Document (p. 378).

CLASSIFIED AS PERFORMING LOANS (STAGE 1 AND 2)

At the initial recognition date, the exposures are systematically classified in Stage 1, unless they are purchased or originated credit-impaired instruments.

To identify the exposures classified in Stage 2, the significant increase in credit risk compared to the date of initial recognition is assessed within the Group taking into account all the historical and prospective information available (behavioral scores, rating, indicators "loan to value" type, macroeconomic forecasting scenarios, etc.).

CLASSIFIED AS NON-PERFORMING LOANS (STAGE 3)

To identify Stage 3 exposures (doubtful exposures), the Group determines whether there is objective evidence of impairment (default events):

- payments more than 90 days past due (with the exception of restructured loans during the two-year probation period which are retransferred into Stage 3 as of payments more than 30 days past due), whether or not a collection procedure is instigated. To assess this criterion, the Group does not apply any threshold, except if such threshold is requested by a local authority. In addition, only missed payments related to business litigations, specific contractual features or IT failures cannot lead to a transfer into Stage 3;
- identification of other criteria indicating that the counterparty is unlikely to meet its financial obligations, even in the absence of missed payments:
  - a significant deterioration in the counterparty's financial situation creates a strong probability that it will be unable to meet all of its commitments and thus represents a risk of loss,
  - concessions are granted to the clauses of the loan agreement in light of the borrower's financial difficulties that would not have been granted in other circumstances (restructured loans),
  - the existence of probable credit risk or litigious proceedings (ad hoc mandate, bankruptcy, court-ordered settlement or compulsory liquidation or other similar proceedings in local jurisdictions).

The Group applies the impairment contagion principle to all of the defaulting counterparty's exposures. When a debtor belongs to a group, the impairment contagion principle may also be applied to all of the group's exposures.

NEW DEFINITION OF DEFAULT

The European Banking Authority (EBA) published Guidelines on the application of the default definition under Article 178 of Regulation (EU) N° 575/2013, applicable from 1 January 2021, and the European Central Bank (ECB) published Regulation (EU) 2018/1845 in relation to the threshold for assessing the materiality of credit obligations past due, applicable as of 31 December 2020 at the latest. Both the Guidelines and the ECB Regulation will harmonise the definition of default across the European Union, thus contributing to improve consistency and comparability of capital requirements.

In particular, they clarify all aspects related to the application of the definition of default including the conditions for the return to non-defaulted status (introduction of a probation period), specific conditions for default identification of restructured loans, and setting materiality thresholds (including an absolute and a relative component) for credit obligations that are past due.

Starting 6 April 2020, the Group will apply these provisions for default credit identification from the second quarter of 2020, whereas internal parameters for expected credit losses computation will be adjusted on 1 January 2021.

Following the Group's preliminary analysis, these clarifications are still consistent with criteria applied to identify Stage 3 exposures (doubtful exposures) according to IFRS 9 provisions regarding expected credit risks. The Group does not deem the future changes to default definition induced by these new regulatory provisions to have any material impact on the Group's consolidated financial statements.

Estimation of expected credit losses

The methodology for calculating Stage 1 and 2 expected credit losses is based on the Basel framework, which served as the basis for determining the methods for setting calculation inputs (probability of default and loss given default for exposures under the AIRB and FIRB approaches, and the provisioning rate for exposures under the standardised method).

The Group's portfolios have been segmented to ensure consistency in risk characteristics and a better correlation with both global and local macroeconomic variables. This segmentation allows to deal with all the specifics of the Group. This segmentation is consistent or similar to that defined in the Basel framework in order to guarantee the uniqueness of default and credit loss.

IMPAIRMENT OF PERFORMING LOANS (STAGES 1 AND 2)

Impairment is recorded on performing loans based on estimates of 12-month expected credit losses (general case) or lifetime expected credit losses (contracts on which the credit risk has deteriorated since the loan was granted).

This impairment is calculated using assumptions on default rates and losses on default. It takes into account macroeconomic forecasts or forecasts specific to the business sector or country. The assumptions are calibrated by homogenous groups of assets based on each group's specific characteristics, its sensitivity to the economic environment and historical data. The assumptions are reviewed periodically by the Risk Division.

IMPAIRMENT OF NON-PERFORMING LOANS (STAGE 3)

Impairment is recorded on the counterparties concerned when there is objective evidence of default. The amount of impairment depends on the probability of recovering the amounts due. The expected cash flows are based on the financial position of the counterparty, its economic prospects and the guarantees called up or which may be called up.

The variables and segmentations are described in the table below:

Scope		Macroeconomic variables
Retail	France	French growth rate French inflation rate French unemployment rate 10Y Yield France
	Romania	Romanian growth rate Exchange rate EUR/RON Romanian unemployment rate
	Italy	Italian unemployment rate
Non retail	Financial institutions	Spread EURIBOR - EONIA swap 3 months US growth rate
	Very large enterprises	Brazilian growth rate Indian growth rate Chinese growth rate Russian growth rate Japanese growth rate US growth rate Euro zone growth rate
	Middle-market companies France	Profit margins of companies France French growth rate
	Local communities	French growth rate
	SMEs France	Profit margins of French companies French growth rate
	SMEs (excluding France)	Romanian growth rate Romanian unemployment rate Euro zone growth rate Norwegian growth rate Swedish growth rate

The expected credit losses are calculated using the probabilised average of three macroeconomic scenarios established by Group economists for all entities of the Group (base scenarios and current stress scenarios, plus an optimistic scenario). The base and stress scenarios correspond to those used by the Group in its budget plan and its stress test.

The probabilities used are based on past observations, spanning a 25-year period, of differences in outcome between the base scenario and the actual scenario (positive and negative differences) which corresponds at 31 December 2019 to: 74% for the central scenario, 16% for the stress scenario and 10% for the optimistic scenario. The method is quarterly updated according to the base scenario evolution and annually updated according to the observations evolution. The method is supplemented with a sector adjustment that increases or decreases expected credit loss in an effort to better anticipate defaults or recoveries in certain cyclical sectors. These sector adjustments are quarterly reviewed and updated.

These adjustments concern cyclical economic sectors which have had default peaks in the past and whose Group exposure exceeds a threshold determined and reviewed every year by Risk Department. Lastly, on an ancillary basis, loss allowances based on expert opinion that increase or decrease expected credit loss have been retained to factor in future risks which cannot be modelled (mainly legislative or regulatory changes). These inputs are updated quarterly.

6.4 COUNTERPARTY CREDIT RISK

Counterparty credit risk (CCR) is the risk of losses stemming from market operations should a counterparty fail to meet its payment obligations. The future market value of the exposure and the counterparty's credit quality are uncertain and may vary over time as underlying market parameters change.

CCR covers the replacement risk resulting from the default of a counterparty, the CVA (Credit Valuation Adjustment) risk related to the adjustment to the value of the Group portfolio, and the risk over the central counterparties (CCP) following clearing of market transactions.

CCR is also affected by the wrong-way risk, which occurs when the exposure to a counterparty is positively correlated with the probability of default of the counterparty, i.e. the risk of the Group's exposure to a counterparty increasing significantly, combined with a simultaneous increase in the probability of the counterparty defaulting.

Market transactions involving counterparty credit risk include among others repurchase agreement transactions, securities and lending transactions, and derivative contracts, cleared or not, whether they are processed in principal (house trades) or on behalf of third parties (agency activity).

Limit setting and framework monitoring

Counterparty credit risk is framed through a set of limits which comply with the Group's risk appetite. The limits defined for each counterparty are proposed by the credit management team in charge of the counterparty and are validated by the dedicated risk units. Individual limits are supplemented by limits in stress tests or in nominal to capture the impact of certain risk factors which are more difficult to measure.

These limits are subject to annual or ad hoc reviews as often as necessary according to needs and changes in market conditions.

Dedicated Risk Department teams monitor consumption limits (most often on a daily basis, or on the metrics computation frequency). In addition, a specific monitoring and approval process is implemented for the most sensitive counterparties or the most complex categories of financial instruments.

In addition to the CORISQ, the Counterparty Credit Risk committee (CCRC) closely monitors counterparty credit risk and identifies emerging risk areas by conducting specific analyses. The Committee consists of representatives from the Market Activities Department and from the departments in charge of monitoring counterparty credit risks on market operations within the Risk Department. The CCRC can approve certain changes in the risk frameworks within its delegation.

REPLACEMENT RISK

The limits for monitoring replacement risk are:

- defined at the counterparty level, using the Potential Future Exposure (PFE) measure;
- calibrated according to the credit quality and the nature of the counterparty, the nature and the maturity of the financial instruments contemplated, the rationale for the trading activity entered into, and the contractual legal framework agreed.

CREDIT VALUATION ADJUSTMENT RISK

In addition to the replacement risk, the Credit Valuation Adjustment (CVA) risk measures the adjustment to the value of the Group derivatives and repos portfolio that is required to take into account the credit quality of the counterparties facing the Group (see dedicated section).

The positions taken to hedge the volatility of CVA (credit, interest rate or equity instruments) are monitored through sensitivity limits or stress tests. Scenarios representative of the market risks impacting CVA (interest rates, exchange rates and credit spreads) are applied to carry out the stress test on CVA.

RISK ON CENTRAL COUNTERPARTIES (CCP)

The counterparty credit risk stemming from the clearing of derivatives and repurchase agreement transactions by central couterparties is framed by specific limits on initial margins, both for house or for third parties' activities, and on our contributions to the CCPs default funds.

In addition, a stress test limit is also defined to capture the impact of a scenario where a major CCP member should default.

The EMIR (European Market Infrastructure Regulation) in Europe and the DFA (Dodd-Frank Act) in the United States have resulted in increased exposure to central counterparties from financial institutions by requiring that the most standardised over-the-counter (OTC) transactions be cleared through CCP, approved by competent authorities and subject to prudential regulation.

See table "EAD and RWA towards Central Counterparties (CCP)" in section 6.9 "Counterparty risk detail").

Mitigation of counterparty credit risk on market operations

Various mitigation techniques are used to reduce this risk, namely:

- the signing, where possible according to standard policy, of global close-out netting agreements for OTC transactions;
- collateralisation of market operations, either through central counterparties for eligible products (listed products and certain OTC products) or through a bilateral margin call exchange mechanism which covers both current exposure (variation margins) and future exposure (initial margins).

CLOSE-OUT NETTING AGREEMENTS

Societe Generale's standard policy is to conclude master agreements including provisions for close-out netting.

These provisions allow on the one hand the immediate close-out of all transactions governed by these agreements when the default of one of the parties occurs, and on the other hand the settlement of a net amount corresponding to the total value of the portfolio, after netting mutual debts and claims.

Societe Generale's preference – for the purpose of reducing any legal risk related to documentation – is to document these agreements under the main international standards as published by industry associations or national professional associations, such as International Swaps and Derivatives Association (ISDA), International Capital Market Association (ICMA), International Securities Lending Association (ISLA) and the French Banking Federation (*Fédération Bancaire Française* - FBF).

These agreements establish a set of contractual terms that are generally recognised as standard and allow for the modification or addition of more specific provisions between the parties in the final contract. This standardisation reduces implementation delays and makes operations safer. The enforceability of the provisions detailing these credit risk mitigation techniques is analysed and the conclusions are maintained by the legal department of the Group.

COLLATERALISATION

Most of OTC transactions are collateralised. There are two different types of collateral exchanges:

- the initial margin (IM), which is the initial amount of collateral, aiming at covering potential future exposure, i.e. the adverse variation of the mark-to-market in the interval between the last collection of margins and the liquidation of positions following the default of a counterparty. This initial deposit is retained by a third party[1] to ensure its immediate availability, even in the event of the counterparty's default;
- the variation margin (VM), which is the collateral collected to mitigate the current exposure arising from mark-to-market variations, used as a proxy for the actual loss arising from the default of one of the parties.

Bilateral variation and initial margin requirements

Historically, initial margins were very rare, except with hedge funds. They are now generalised by the EMIR and DFA regulations. It is now mandatory for the Group to exchange initial margins and variation margins for non-cleared OTC derivatives transactions with a large number of its counterparties (its financial counterparties and some non-financial counterparties above certain thresholds[2]).

Central Counterparties (CCP)

The EMIR and DFA regulations also require that the most standardised OTC derivatives transactions be cleared via CCP. The Group clears its house trades, but also operates a client clearing activity (agency business) which is subject to systematic margin calls to mitigate counterparty credit risk (customers sending daily variation margins and initial margins to Societe Generale to cover current and future exposure).

For further information, see table "Breakdown of collateral for counterparty credit risk exposures" in section 6.9 "Counterparty risk detail").

Counterparty credit risk measurement

Replacement risk

The replacement risk measurement is based on an internal model which determines the Group's exposure profiles.

PRINCIPLES OF THE MODEL

The future fair value of market transactions with each counterparty is forecast from Monte Carlo models based on historical analysis of market risk factors.

The principle of the model is to design the possible future financial market conditions by simulating the changes in the main risk factors to which the Group's portfolio is sensitive. For these simulations, the model uses different diffusion models to account for the inherent characteristics of the risk factors considered and uses a 10-year history window for their calibration.

The portfolios of derivatives contracts and securities and lending transactions with the different counterparties are then revalued according to these different scenarios at the different future dates until the maturity of the transactions, taking into account the contracts' terms and conditions, notably in terms of netting and collateralisation.

The exposure distribution obtained makes it possible to calculate regulatory capital requirements for counterparty credit risk and to ensure the risk monitoring of positions.

REGULATORY INDICATOR

The ACPR (Prudential Supervisory and Resolution Authority) approved the use of the internal model described above in order to determine the EEPE indicator (Effective Expected Positive Exposure) used in the calculation of the CCR regulatory capital requirements.

For products not managed in the internal model as well as for the Group's entities that have not been authorised by the supervisor to use the internal model, the Group uses the marked-to-market valuation method for derivatives[3] and the financial collateral comprehensive method for securities financing transactions (SFT).

The effects of netting agreements and collateralisation are taken into account either by their simulation in the internal model, or by applying the netting rules as defined in the marked-to-market valuation method or the financial collateral method, and by subtracting the collateral value.

These exposures are then weighted by rates depending on the counterparty's credit quality to calculate the Risk-Weighted Assets (RWA). These rates can be determined *via* the Standardised Approach or the Advanced Approach (AIRB).

The RWA breakdown for each approach is available in the table "Analysis of counterparty credit risk exposure by approach" in section 6.9 "Counterparty rik detail").

ECONOMIC INDICATOR

To monitor the risk of positions, the Group relies mainly on a maximum exposure metric determined from the Monte Carlo simulations, called internally Credit Value at Risk (CVaR) or PFE (Potential Future Exposure). This is the largest loss that could occur after eliminating 1% of the most adverse occurrences. This metric is calculated at different future dates, which are then aggregated into buckets, each of them being framed by limits.

The Group has also developed a set of stress test scenarios that are used to calculate the exposure that would result from changes in the fair value of transactions concluded with all its counterparties in the event of an extreme shock affecting the market parameters.

(1) Except for repos and clearing activities.
(2) Progressive implementation for the IM which will pursue until 2020 depending on the type of counterparties and the size of the positions held.
(3) In this method, the EAD (Exposure At Default) relative to the Bank's counterparty credit risk is determined by aggregating the positive market values of all the transactions (replacement cost), and increasing the sum with an add-on.

Credit valuation adjustment for counterparty credit risk

Derivatives and security financing transactions are subject to Credit Valuation Adjustment (CVA) to take into account counterparty credit risk. The Group includes in this adjustment all clients that are not subject to a daily margin call or for which the collateral only partially covers the exposure. This adjustment also reflects the netting agreements existing for each counterparty. CVA is determined on the basis of the Group entity's positive expected exposure to the counterparty, the counterparty's probability of default, and the loss in the event of default.

Furthermore, since 1 January 2014, financial institutions have had to determine capital requirements related to CVA, covering its variation over ten days. The scope of counterparties is limited to financial counterparties as defined in the EMIR or certain corporates that may use derivatives beyond certain thresholds and for purposes other than hedging.

Societe Generale has implemented an internal model to calculate these capital requirements, covering a significant part of the scope. The method is similar to the one used for the market VaR computation (see "Market risk" Chapter): it consists of carrying out a historical simulation of the change in CVA due to the variations observed in the credit spreads of the portfolio counterparties, with a 99% confidence interval. The calculation is made on the credit spreads variation observed, on the one hand, over a one-year rolling period (VaR on CVA), and, on the other hand, over a fixed one-year historical window corresponding to the period of greatest tension in terms of credit spreads (stressed VaR on CVA). The associated capital requirements are equal to the sum of these two computations multiplied by a factor set by the regulator, specific to each bank. For the remaining part determined according to the standardised method, Societe Generale applies the rules defined by the Capital Requirements Regulation: weighting by a normative factor of the EAD multiplied by a recomputed maturity (for the breakdown of the RWA related to CVA between standardised method and internal model approach, refer to the table "Exposure and RWA relating to Credit Valuation Adjustment (CVA)" in section 6.9 "Counterparty risk detail").

The management of this exposure and of the regulatory capital charge led the Group to buy protection (such as Credit Default Swaps) from major financial institutions. In addition to reducing the credit risk, it decreases the variability of CVA and of the regulatory capital charge deriving from changes in the credit spreads of counterparties.

Wrong Way Risk

Wrong-way risk is the risk of the Group's exposure to a counterparty increasing significantly, combined with a simultaneous increase in the probability of the counterparty defaulting.

Two types of wrong-way risk exist:

- general wrong-way risk, where there is a significant correlation between certain market conditions and the creditworthiness of the counterparty;
- specific wrong-way risk, where the amount of exposure is directly related to the credit quality of the counterparty.

The specific wrong-way risk is subject to dedicated regulatory capital requirements, through an add-on applied when calculating the capital requirements. The EEPE indicator for transactions identified as facing a specific wrong-way risk is reassessed based on the assumption of a default from the counterparty. This process leads to stricter capital requirements regarding counterparty credit risks on such transactions. The replacement risk calculated in these specific risk situations is also increased, thereby limiting the exposure on such transactions, as there is no change in the risk limit framework.

The general wrong-way risk is monitored through stress tests (stress tests based on mono- or multi-risk factors covering all transactions with a given counterparty, relying on the same scenarios as used in the market risk stress tests) based on:

- a quarterly analysis of the stress tests regarding all counterparties, making it possible to identify the most adverse scenarios linked to a joint deterioration in the quality of the counterparties and the associated positions;
- regarding Systemically Important Financial Institutions (SIFI), monthly monitoring of dedicated multi-risk factor stress test, subject to limits per counterparties;
- regarding hedge funds and proprietary trading groups, weekly monitoring of dedicated mono-risk factor stress test, subject to limits. This framework is supplemented by an adverse stress test which quantify the potential loss on house transactions and agency business in case of change in market conditions, significant enough to trigger defaults on a such type of counterparties.

6.5 RISK MEASUREMENT AND INTERNAL RATINGS

Since 2007, Societe Generale has been authorised by its supervisory authorities to apply the Internal Ratings-Based (IRB) approach to most of its exposures in order to calculate the capital requirements in respect of credit risk.

The system for monitoring rating models is operational, in accordance with applicable regulations and detailed in this section "Risk measurement and internal ratings".

In accordance with the texts published by the EBA within the framework of the "IRB Repair" program and in view of the finalisation of the Basel 3 agreements, the Group plans to develop its system of internal credit risk models so as to strictly comply with these new requirements.

This relates in particular to the roll-out plan towards the IRB approach and maintaining the Standardised approach (Permanent Partial Use), in consultation with the supervisors and on the basis of materiality criteria (risk profile of the portfolios in question, commercial strategy, heterogeneity of customers…).

The exposures dealt with on Standardised approach mainly concern the portfolios of retail customers and SME (Small and Medium Enterprises) of the international retail banking activity. For its exposures covered by the Standardised approach, Societe Generale mainly uses the external ratings assigned by Standard & Poor's, Moody's and Fitch Ratings and by *Banque de France*. If several ratings are available for a third party, the second best rating is used.

Should an external rating be available, the corresponding exposure is assigned a risk weight according to the mapping tables provided in CRR (Articles 120-121-122) or more precisely to the tables published by the French supervisor ACPR (link: https://acpr.banque-france.fr/sites /default/files/media/2019/07/17/notice_2019_crd_iv_final.pdf).

TABLE 20: CREDIT RATING AGENCIES USED IN STANDARDISED APPROACH

	MOODY'S	FITCH	S&P
Sovereigns	✓	✓	✓
Institutions	✓	✓	✓
Corporates	✓	✓	✓

General framework of the internal approach

To calculate its capital requirements under the IRB method, Societe Generale estimates the Risk-Weighted Assets (RWA) and the Expected Loss (EL) that may be incurred in light of the nature of the transaction, the quality of the counterparty (*via* internal rating) and all measures taken to mitigate risk.

The calculation of RWA is based on the parameters Basel parameters, which are estimated using its internal risk measurement system:

- the Exposure at Default (EAD) value is defined as the Group's exposure in the event that the counterparty should default. The EAD includes exposures recorded on the balance sheet (loans, receivables, accrued income, market transactions, etc.), and a proportion of off-balance sheet exposures calculated using internal or regulatory Credit Conversion Factors (CCF);
- the Probability of Default (PD): the probability that a counterparty of the Bank will default within one year;
- the Loss Given Default (LGD): the ratio between the loss incurred on an exposure in the event a counterparty defaults and the amount of the exposure at the time of the default.

The estimation of these parameters is based on a quantitative evaluation system which is sometimes supplemented by expert or business judgment.

In addition, a set of procedures sets out the rules relating to ratings (scope, frequency of review, grade approval procedure, etc.) as well as those for supervision, back-testing and the validation of models. These procedures allow, among other things, to facilitate critical human judgment, an essential complement to the models for these portfolios.

The Group also takes into account:

- the impact of guarantees and credit derivatives, by substituting the PD, the LGD and the risk-weighting calculation of the guarantor for that of the obligor (the exposure is considered to be a direct exposure to the guarantor) in the event that the guarantor's risk weighting is more favourable than that of the obligor;
- collateral used as guarantees (physical or financial). This impact is factored in either at the level of the LGD models for the pools concerned or on a line-by-line basis.

To a very limited extent, Societe Generale also applies an IRB Foundation approach (where only the probability of default is estimated by the Bank, while the LGD and CCF parameters are determined directly by the supervisory authority) to a portfolio of specialised lending exposures, including those granted to the subsidiaries Franfinance Entreprises, Sogelease and Star Lease.

Moreover, the Group has authorisation from the supervisor to use the IAA (internal assessment approach) method to calculate the regulatory capital requirement for ABCP (Asset-Backed Commercial Paper) securitisation.

In addition to the capital requirement calculation objectives under the AIRB method, the Group's credit risk measurement models contribute to the management of the Group's operational activities. They also constitute tools to structure, price and approve transactions and participate in the setting of approval limits granted to business lines and the Risk function.

TABLE 21: BREAKDOWN OF EAD BY BASEL METHOD

	31.12.2019	31.12.2018
IRB	81%	79%
Standard	19%	21%
TOTAL	**100%**	**100%**

TABLE 22: SCOPE OF APPLICATION OF THE IRB AND STANDARDISED APPROACHES BY CORE BUSINESS

	IRB approach	Standardised approach
French Retail Banking	Majority of portfolios	Some retail customer portfolios, including those of the Sogelease subsidiary
International Retail Banking and Financial Services	The subsidiaries KB (Czech Republic), CGI, Fiditalia, GEFA and SG Finans, SG Leasing SPA and Fraer Leasing SPA, SGEF Italy	The other subsidiaries
Global Banking and Investor Solutions	Majority of Corporate and Investment Banking portfolios Private Banking, Securities Services and Brokerage, mainly the retail portfolios of the following subsidiaries: SG Hambros, SGBT Luxembourg, SGBT Monaco, SG Private Banking Suisse	For Private Banking, Securities Services and Brokerage, exposures granted to banks and companies
Corporate Centre	Majority of portfolios	-

Credit risk measurement for wholesale clients

For Corporate, Banking and Sovereign portfolios, the Group has implemented the following system:

RATING SYSTEM AND ASSOCIATED PROBABILITY OF DEFAULT

The rating system consists in assigning a rating to each counterparty according to an internal scale, for which each grade corresponds to a probability of default determined using historical series observed by Standard & Poor's for over more than 20 years.

The following table presents the indicative corresponding scales of the main external credit assessment institutions, as well as the corresponding mean probability of default and the Group's internal rating scale.

The rating assigned to a counterparty is generally proposed by a model, and possibly adjusted by a credit analyst, who then submits it for validation by the Risk Management.

The counterparty rating models are structured in particular according to the type of counterparty (companies, financial institutions, public entities, etc.), geographic region and size of the Company (usually assessed through its annual revenue).

The company rating models are underpinned by statistical models (regression methods) of client default. They combine quantitative parameters derived from financial data that evaluate the sustainability and solvency of companies and qualitative parameters that evaluate economic and strategic dimensions.

TABLE 23: SOCIETE GENERALE'S INTERNAL RATING SCALE AND INDICATIVE CORRESPONDING SCALES OF RATING AGENCIES

Counterparty internal rating	Indicative equivalent FitchRatings	Indicative equivalent Moody's	Indicative equivalent S&P	Probability of Default (one year)
1	AAA	AAA	AAA	0.01%
2	AA+ à AA-	AA1 à AA3	AA+ à AA-	[0.01% -0.03%]
3	A+ à A-	A1 à A3	A+ à A-	[0.03% -0.06%]
4	BBB+ à BBB-	BAA1 à BAA3	BBB+ à BBB-	[0.13% -0.50%]
5	BB+ à BB-	BA1 à BA3	BB+ à BB-	[1.10% -3.26%]
6	B+ à B-	B1 à B3	B+ à B-	[4.61% -11.42%]
7	CCC+ à CCC-	CAA1 à CAA3	CCC+ à CCC-	[14.33% -27.25%]
8,9 and 10	CC and below	CA and below	CC and below	100.00%

LGD MODELS

The Loss Given Default (LGD) is an economic loss that is measured by taking into account all parameters pertaining to the transaction, as well as the fees incurred for recovering the receivable in the event of a counterparty default.

The models used to estimate the Loss Given Default (LGD) excluding retail clients are applied by regulatory sub-portfolios, type of asset, size and location of the transaction or of the counterparty, depending on whether or not collateral has been posted, and the nature thereof if applicable. This makes it possible to define homogeneous risk pools, particularly in terms of recovery, procedures and the legal environment.

These estimates are founded on statistics when the number of loans in default is sufficient. In such circumstances, they are based on recovery data observed over a long period. When the number of defaults is insufficient, the estimate is revised or determined by an expert.

CREDIT CONVERSION FACTOR (CCF) MODELS

For its off-balance sheet exposures, the Group is authorised to use the internal approach for "Term loan with drawing period" products and revolving credit lines.

TABLE 24: WHOLESALE CLIENTS - MAIN CHARACTERISTICS OF MODELS AND METHODS USED

Parameter modelled	Portfolio/Category of Basel assets	Number of methods, models	Methodology Number of years default/loss
WHOLESALE CLIENTS			
Probability of Default (PD)	Sovereigns	1 method.	Econometric method, low default portfolio.
	Public sector entities	4 models according to geographic region.	Statistical (regression)/expert methods for the rating process, based on the combination of financial ratios and a qualitative questionnaire. Low default portfolio.
	Financial institutions	11 models according to type of counterparty: banks, insurance, funds, financial intermediaries, funds of funds.	Expert models based on a qualitative questionnaire. Low default portfolio.
	Specialised financing	3 models according to type of transaction.	Expert models based on a qualitative questionnaire. Low default portfolio.
	Large corporates	9 models according to geographic region.	Mainly statistical models (regression) for the rating process, based on the combination of financial ratios and a qualitative questionnaire. Defaults observed over a period of 8 to 10 years.
	Small- and medium-sized companies	18 models according to the size of the Company and the geographic region.	Mainly statistical models (regression) for the rating process, based on the combination of financial ratios and a qualitative questionnaire, behavioural score. Defaults observed over a period of 8 to 10 years.
Loss Given Default (LGD)	Public sector entities – Sovereigns	6 models according to type of counterparty.	Calibration based on historical data and expert judgements. Losses observed over a period of more than 10 years.
	Large corporates – Flat-rate Approach	>20 models Flat-rate approach according to type of collateral.	Calibration based on historical data adjusted by expert judgements. Losses observed over a period of more than 10 years.
	Large corporates – Discount Approach	16 models Discount approach according to type of recoverable collateral.	Statistical calibration based on historical market data adjusted by expert judgements. Losses observed over a period of more than 10 years.
	Small- and medium-sized companies	15 models Flat-rate approach according to type of collateral or unsecured.	Statistical calibration based on historical data adjusted by expert judgements. Losses observed over a period of more than 10 years.
	Project financing	8 models Flat-rate approach according to project type.	Statistical calibration based on historical data adjusted by expert judgements. Losses observed over a period of more than 10 years.
	Financial institutions	5 models Flat-rate approach according to type of counterparty: banks, insurance, funds, etc. and the nature of the collateral.	Statistical calibration based on historical data adjusted by expert judgements. Losses observed over a period of more than 10 years.
	Other specific portfolios	6 models: factoring, leasing with option to purchase and other specific cases.	Statistical calibration based on historical data adjusted by expert judgements. Losses observed over a period of more than 10 years.
Credit Conversion Factor (CCF)	Large corporates	5 models: term loans with drawing period, revolving credits, Czech Corporates.	Models calibrated by segment. Defaults observed over a period of more than 10 years.
Expected Loss (EL)	Real estate transactions	2 models by slotting.	Statistical model based on expert judgements and a qualitative questionnaire. Low default portfolio.

MONITORING THE PERFORMANCE OF INTERNAL MODELS

The performance level of the entire wholesale client credit system is measured by regular backtests that compare PD, LGD and CCF estimates with actual results by portfolio, thus making it possible to measure the prudence of the risk parameters used by the IRB approach.

The results of backtests and remedial plans are presented to the Expert Committee for discussion and approval (see Governance of the modelling of risks, p. 83). These results justify the implementation of remedial plans if the system is deemed to be insufficiently prudent.

The results presented above cover the entire Group portfolios including Private Banking since this year. Backtests compare the estimated probability of default (arithmetic mean weighted by debtors) with the observed results (the historical annual default rate). The historical default rate was calculated on the basis of performing exposure over the period from 2007 to 2018.

The level of prudence is generally considered to be fairly satisfactory and remained broadly stable compared with the previous year. The historical default rate continued to fall even further from previous year in 2019. Probability of default estimates are higher than the historical default rates for all Basel portfolios and for most ratings (which is considered to be conservative). Levels of prudence seen in the Large and Small and Medium Enterprises Basel portfolios were (relatively) high. It should also be noted that new internal models are being developed for some sizeable portfolios in order to comply with new regulatory requirements and to address the weaknesses identified in existing models.

TABLE 25: COMPARISON OF RISK PARAMETERS: ESTIMATED AND ACTUAL PD VALUES - WHOLESALE CLIENTS (CR9)

		31.12.2019						
				Number of obligors				
Basel Portfolio	PD Range	Weigthed average PD	Arithmetic average PD	End of previous year	End of the year	Defaulted obligors over the year	of which : new defaulted obligor in the year	Average historical annual default rate
SOVEREIGNS	TOTAL	0.1%	0.6%	645	729	1	-	0.2%
	0.00 to < 0.15	0.0%	0.0%	542	529	-	-	0.0%
	0.15 to < 0.25	0.0%	0.0%	-	-	-	-	0.0%
	0.25 to < 0.50	0.3%	0.3%	20	17	-	-	0.0%
	0.50 to < 0.75	0.5%	0.1%	16	112	-	-	0.0%
	0.75 to < 2.50	1.7%	1.5%	21	20	-	-	0.3%
	2.50 to < 10.00	4.4%	4.8%	31	38	1	-	0.8%
	10.00 to < 100.00	11.8%	15.2%	15	13	-	-	3.6%
INSTITUTIONS	TOTAL	0.2%	0.7%	4,230	5,582	6	-	0.3%
	0.00 to < 0.15	0.0%	0.0%	2,999	4,251	1	-	0.2%
	0.15 to < 0.25	0.0%	0.0%	-	-	-	-	0.0%
	0.25 to < 0.50	0.3%	0.3%	300	320	-	-	0.1%
	0.50 to < 0.75	0.5%	0.3%	146	274	-	-	0.2%
	0.75 to < 2.50	1.6%	1.6%	196	198	-	-	0.4%
	2.50 to < 10.00	4.0%	3.8%	507	461	1	-	0.8%
	10.00 to < 100.00	14.8%	16.4%	82	78	4	-	3.8%
SPECIALISED LENDING	Total	1.3%	2.3%	2,234	2,289	14	2	2.2%
	0.00 to < 0.15	0.1%	0.1%	228	214	-	-	0.2%
	0.15 to < 0.25	0.0%	0.0%	-	-	-	-	0.0%
	0.25 to < 0.50	0.3%	0.3%	159	171	-	-	0.1%
	0.50 to < 0.75	0.5%	0.5%	304	322	-	-	0.4%
	0.75 to < 2.50	1.5%	1.6%	827	871	-	-	1.1%
	2.50 to < 10.00	4.1%	4.4%	647	662	8	2	3.3%
	10.00 to < 100.00	13.8%	14.5%	69	49	6	-	12.7%
LARGE CORPORATES	Total	1.0%	3.1%	36,637	37,285	407	35	1.6%
	0.00 to < 0.15	0.1%	0.1%	8,069	7,591	5	-	0.1%
	0.15 to < 0.25	0.0%	0.0%	-	-	-	-	0.0%
	0.25 to < 0.50	0.3%	0.3%	2,489	2,412	2	-	0.2%
	0.50 to < 0.75	0.5%	0.4%	3,293	4,398	6	-	0.4%
	0.75 to < 2.50	1.5%	1.6%	8,373	7,834	31	-	1.1%
	2.50 to < 10.00	4.3%	4.3%	11,798	12,240	227	25	3.0%
	10.00 to < 100.00	15.3%	17.2%	2,615	2,810	136	10	10.7%
SMALL AND MEDIMUM-SIZED COMPANIES	Total	3.1%	5.5%	99,378	97,833	2,609	404	3.2%
	0.00 to < 0.15	0.1%	0.1%	3,410	3,591	3	-	0.3%
	0.15 to < 0.25	0.2%	0.2%	1,072	2,245	11	4	0.5%
	0.25 to < 0.50	0.3%	0.3%	4,442	5,740	8	3	0.4%
	0.50 to < 0.75	0.5%	0.5%	7,770	6,022	6	3	0.6%
	0.75 to < 2.50	1.5%	1.6%	28,273	21,265	26	20	1.4%
	2.50 to < 10.00	4.5%	4.4%	38,716	42,665	803	121	3.8%
	10.00 to < 100.00	16.5%	18.2%	15,695	16,305	1,752	253	13.7%

TABLE 26: COMPARISON OF RISK PARAMETERS: ESTIMATED AND ACTUAL LGD VALUES – WHOLESALE CLIENTS

	31.12.2019	
Basel portfolio	**Estimated LGD[1]**	**Actual LGD excluding safety margin**
Large corporates	34%	33%
Small- and medium-sized enterprises	39%	27%

(1) Senior unsecured LGD

	31.12.2018[2]	
Basel portfolio	**Estimated LGD[1]**	**Actual LGD excluding safety margin**
Large corporates	34%	32%
Small- and medium-sized enterprises	40%	29%

(1) Senior unsecured LGD
(2) A new segmentation of "Corporates" LGD was used: pro forma performed on 2018 data

Credit risk measurements of retail clients

The Group has implemented the following system for the retail portfolio made up of individual customers, SCIs (real estate investment companies - *Sociétés civiles immobilières*) and professional customers:

RATING SYSTEM AND ASSOCIATED PROBABILITY OF DEFAULT

The modelling of the probability of default of retail client counterparties is carried out specifically by each of the Group's business lines recording its assets using the AIRB method. The models incorporate data on the payment behaviour of counterparties. They are segmented by type of customer and distinguish between retail customers, professional customers, very small businesses and real estate investment companies *(Sociétés civiles immobilières)*.

The counterparties of each segment are classified automatically, using statistical models, into homogeneous risk pools, each of which is assigned a probability of default.

These estimates are adjusted by a safety margin to estimate as best as possible a complete default cycle, using a through-the-cycle (TTC) approach.

LGD MODELS

The models for estimating the Loss Given Default (LGD) of retail customers are specifically applied by business line portfolio and by product, according to the existence or not of collateral.

Consistent with operational recovery processes, estimate methods are generally based on a two-step modelling process that initially estimates the proportion of defaulted loans in loan termination, followed by the loss incurred in case of loan termination.

The expected losses are estimated using internal long-term historical recovery data for exposures that have defaulted. These estimates are adjusted by safety margins in order to reflect the possible impact of a downturn.

CCF MODELS

For its off-balance sheet exposures, Societe Generale applies its estimates for revolving loans and overdrafts on current accounts held by retail and professional customers.

TABLE 27: RETAIL CLIENTS - MAIN CHARACTERISTICS OF MODELS AND METHODS USED

Parameter modelled	Portfolio/Category of Basel assets	Number of models	Methodology Number of years of default/loss
RETAIL CLIENTS			
Probability of Default (PD)	Residential real estate	8 models according to entity, type of guarantee (security, mortgage), type of counterparty: individuals or professionals/VSB, real-estate investment company (SCI).	Statistical model (regression), behavioural score. Defaults observed over a period of more than 5 years.
	Other loans to individual customers	15 models according to entity and to the nature and object of the loan: personal loan, consumer loan, car loan, etc.	Statistical model (regression), behavioural score. Defaults observed over a period of more than 5 years.
	Renewable exposures	5 models according to entity and nature of the loan: overdraft on current account, revolving credit or consumer loan.	Statistical model (regression), behavioural score. Defaults observed over a period of more than 5 years.
	Professionals and very small businesses	10 models according to entity, nature of the loan (medium- and long-term investment credits, short-term credit, car loans), and type of counterparty (individual or real-estate investment company (SCI)).	Statistical model (regression or segmentation), behavioural score. Defaults observed over a period of more than 5 years.
Loss Given Default (LGD)	Residential real estate	8 models according to entity, type of guarantee (security, mortgage), and type of counterparty: individuals or professionals/VSB, real-estate investment company (SCI).	Statistical model of expected recoverable flows based on the current flows. Model adjusted by expert opinions if necessary. Losses and recoverable flows observed over a period of more than 10 years.
	Other loans to individual customers	17 models according to entity and to the nature and object of the loan: personal loan, consumer loan, car loan, etc.	Statistical model of expected recoverable flows based on the current flows. Model adjusted by expert opinions if necessary. Losses and recoverable flows observed over a period of more than 10 years.
	Renewable exposures	7 models according to entity and nature of the loan: overdraft on current account, revolving credit or consumer loan.	Statistical model of expected recoverable flows based on the current flows. Model adjusted by expert opinions if necessary. Losses and recoverable flows observed over a period of more than 10 years.
	Professionals and very small businesses	12 models according to entity, nature of the loan (medium- and long-term investment credits, short-term credit, car loans), and type of counterparty (individual or real- estate investment company (SCI)).	Statistical model of expected recoverable flows based on the current flows. Model adjusted by expert opinions if necessary. Losses and recoverable flows observed over a period of more than 10 years.
Credit Conversion Factor (CCF)	Renewable exposures	12 calibrations by entity for revolving products and personal overdrafts.	Models calibrated by segment over a period of observation of defaults of more than 5 years.

MONITORING THE PERFORMANCE OF INTERNAL MODELS

The performance level of the entire retail client credit system is measured by regular backtests, which check the performance of PD, LGD and CCF models and compare estimated figures with actual figures.

Each year, the average long-term default rate observed for each homogeneous risk pool is compared with the PD. If necessary, the calibrations of PD are adjusted to preserve a satisfactory safety margin. The discrimination level of the models and changes in the portfolio's composition are also measured.

Regarding LGD, the backtest consists of comparing the last estimation of the LGD obtained by computing the average level of payments observed.

The difference should in this case reflect a sufficient safety margin to take into account a potential economic slowdown, uncertainties as to the estimation, and changes in the performance of recovery processes.The adequacy of this safety margin is assessed at an Expert Committee Meeting.

The results presented above cover the entire Group portfolios including Private Banking since this year. Backtests compare the estimated probability of default (arithmetic mean weighted by debtors) with the observed results (the historical annual default rate). The historical default rate has been calculated on the basis of performing exposure over the period from 2010 to 2018. Credit customers are included in accordance with the revised instructions of the EBA publication of 14 December, 2016 (EBA/GL/2016/11).

The level of prudence is generally considered to be fairly satisfactory and remained broadly stable compared with the previous year. The historical default rate continued to fall even further from previous year in 2019. Probability of default estimates are higher than the historical default rates for all Basel portfolios and for most ratings (which is considered to be conservative). It should also be noted that new internal models are being developed for some sizeable portfolios in order to comply with new regulatory requirements and to address the weaknesses identified in existing models.

TABLE 28: COMPARISON OF RISK PARAMETERS: ESTIMATED AND ACTUAL PD VALUES – RETAIL CLIENTS* (CR9)

Basel Portfolio		31.12.2019					
				Number of obligors			
		Weighted average PD	Arithmetic average PD	End of previous year	End of the year	Defaulted obligors over the year	o.w. new defaulted obligors over the year
Other loans to individual customers	TOTAL	2.4%	3.6%	2,244,707	2,251,637	47,721	3.4%
	0.00 to <0.15	0.1%	0.1%	41,955	35,560	80	0.1%
	0.15 to <0.25	0.2%	0.2%	51,238	51,916	187	0.2%
	0.25 to <0.50	0.4%	0.3%	312,158	315,192	575	0.3%
	0.50 to <0.75	0.6%	0.6%	248,455	292,979	549	0.5%
	0.75 to <2.50	1.3%	1.3%	733,060	778,052	4,949	1.4%
	2.50 to <10.00	4.3%	4.5%	640,966	564,325	13,356	3.5%
	10.00 to <100.00	25.4%	21.6%	216,874	213,613	28,025	20.1%
Real estate loans	TOTAL	1.2%	1.1%	850,310	879,422	7,461	1.1%
	0.00 to <0.15	0.1%	0.1%	208,977	177,758	1,390	0.1%
	0.15 to <0.25	0.2%	0.2%	136,741	156,527	196	0.1%
	0.25 to <0.50	0.4%	0.4%	87,362	126,577	194	0.2%
	0.50 to <0.75	0.6%	0.7%	118,878	91,921	365	0.4%
	0.75 to <2.50	1.4%	1.1%	201,299	216,647	1,319	0.7%
	2.50 to <10.00	4.7%	3.6%	81,024	94,859	2,018	2.7%
	10.00 to <100.00	17.6%	17.7%	16,029	15,133	1,979	15.3%
Revolving credits	TOTAL	5.0%	2.3%	7,552,793	7,886,771	154,816	2.1%
	0.00 to <0.15	0.1%	0.1%	1,974,448	2,180,209	2,796	0.1%
	0.15 to <0.25	0.2%	0.2%	90,086	85,387	33	0.1%
	0.25 to <0.50	0.4%	0.4%	1,431,264	1,570,530	9,921	0.4%
	0.50 to <0.75	0.6%	0.6%	165,886	158,786	214	0.4%
	0.75 to <2.50	1.5%	1.4%	1,873,003	1,940,736	25,734	1.0%
	2.50 to <10.00	4.8%	4.3%	1,475,286	1,446,249	50,569	3.5%
	10.00 to <100.00	22.2%	16.8%	542,820	504,875	65,549	15.3%
VSB and professionals	TOTAL	3.9%	4.0%	828,042	823,464	37,021	3.8%
	0.00 to <0.15	0.0%	0.0%	134	140	11	0.1%
	0.15 to <0.25	0.2%	0.2%	29,914	36,093	187	0.2%
	0.25 to <0.50	0.4%	0.3%	146,461	146,407	870	0.2%
	0.50 to <0.75	0.6%	0.6%	44,084	47,573	426	0.6%
	0.75 to <2.50	1.5%	1.4%	282,728	285,886	5,389	1.2%
	2.50 to <10.00	5.0%	5.5%	239,705	229,835	9,474	4.6%
	10.00 to <100.00	19.3%	19.7%	85,015	77,531	20,664	16.1%

**Data presented on the basis of the latest figures available as at 30 September 2019*

TABLE 29: COMPARISON OF RISK PARAMETERS: ESTIMATED AND ACTUAL LGD AND EAD VALUES – RETAIL CLIENTS

	31.12.2019		
Basel portfolio	Estimated LGD[1]	Actual LGD excluding safety margin	Actual EAD[2]/estimated EAD
Real estate loans (excl. guaranteed exposures)	18%	12%	-
Revolving credits	46%	39%	73%
Other loans to individual customers	26%	21%	-
VSB and professionals	28%	22%	76%
TOTAL GROUP RETAIL CLIENTS[1]	**25%**	**19%**	**74%**

The changes in the portfolio "Other loans to individual customers" and "VSB and professionals" are explained by a change in scope.

	31.12.2018		
Basel portfolio	Estimated LGD[1]	Actual LGD excluding safety margin	Actual EAD[2]/estimated EAD
Real estate loans (excl. guaranteed exposures)	18%	12%	-
Revolving credits	45%	39%	73%
Other loans to individual customers	28%	22%	-
VSB and professionals	26%	21%	77%
TOTAL GROUP RETAIL CLIENTS[1]	**25%**	**19%**	**74%**

Governance of the modelling of risks

Credit own funds estimation models are subject to the global model risk management framework (see Chapter 13 “Model risk” of this document).

The first line of defense is responsible for designing, putting into production, using and monitoring models, in compliance with model risk management governance rules throughout the model lifecycle, which include for credit risk internal models traceability of development and implementation stages and annual backtesting.

The Model Risk Division, reporting directly to the Chief Risk Officer, acts as a second line of defense for all credit risk models. Independent model review teams rely, for the conduct of their missions, on principles of control of the theoretical robustness (assessment of the quality of the design and development) of the models, the conformity of the implementation and the use, the continuous follow-up of model relevance over time. The independent review process concludes with (i) a report summarizing the scope of the review, the tests performed, the results of the review, the conclusions or recommendations and with (ii) Reviewing and Approval Committees (respectively “Comité Modèles” and “Comité Experts” in the case of credit risk models); and the model risk control framework results in recurring reports to the Senior Management. The Model Risk Division reviews, amongst others, new models, backtesting results and any change to the credit own funds estimation models. In accordance with the Delegated Regulation (EU) No. 529/2014 of 20 May 2014 relating to the follow-up of internal models used for own funds computation, any model change to the Group’s credit risk measurement system is then subjected to two main types of notification to the competent supervisor, depending on the significant nature of the change laid down by this Regulation itself:

- significant changes which are subject to a request for approval prior to their implementation;
- other changes which should be notified to the competent authorities:
  - prior to their implementation: non-material changes, according to the criteria defined by the Regulation, are notified to the Supervisor (ex-ante notification). Barring a negative response, these may be implemented within a two months period,
  - after their implementation: these changes are notified to the competent authorities after their implementation at least once a year, through a specific report (ex-post notification).

The Internal Audit Division, as a third line of defense, is responsible for periodically assessing the overall effectiveness of the model risk management framework (relevance of the model risk governance and efficiency of second line of defense activities) and performing the independent model audit.

Climate risk - Measuring sensitivity to transition risk

Transition risk’s impact on Societe Generale Corporate clients’ credit risk has been identified as the main climate change-related risk for the Group.

In order to measure this impact, the Group is gradually implementing a Vulnerability Indicator which aims to reinforce the credit analysis on the most exposed counterparties.

This climate vulnerability indicator:

- corresponds to the marginal impact on the counterparty internal rating over a 20-year time horizon of a selected transition scenario (for 2019 the International Energy Agency (IEA) sustainable development scenario was chosen). The assumption here is that the counterparty does not take any adaptation measure. The vulnerability is evaluated in parallel of the internal rating (which is associated to a 1 year probability of default);
- is applicable to the sectors identified as sensitive to transition risks. Those sectors include in 2019: oil & gas, power generation, transport (automotive, air and shipping), metals and mining and commercial real estate;
- is represented through a 7-level scale, from high negative to high positive impacts.

This assessment, proposed by the first line of defense, is validated by the Risk Department as a second line of defense and relies on a methodology defined by the Risk Department. It enables the Group to engage a dialog with the most exposed clients. Indeed, for clients having a long-term exposure and for which the vulnerability indicator is moderate negative or high negative, a discussion has to be initiated to formalize an opinion on the adaptation strategy of the counterparty to the transition risk.

The climate risk management system is further detailed in section “Climate risk management” of Chapter 5.2.3 "Positive climate action: supporting a fair, environmental and inclusive transition" of the 2020 Universal Registration Document.

6.6 QUANTITATIVE INFORMATION

The measurement used for credit exposures in this section is EAD – Exposure At Default (on- and off-balance sheet). Under the Standardised approach, EAD is calculated net of collateral and provisions.

EAD is broken down according to the guarantor's characteristics, after taking into account the substitution effect (unless otherwise indicated).

The presentation of the data, applied since last year, is in line with the guidelines on prudential disclosure requirements published by the European Banking Authority (EBA) in December 2016 (document EBA/GL/2016/11).

This presentation highlights the exposure classes as defined in the portfolios of the COREP regulatory financial statements, in relation to EBA requirements on Pillar 3.

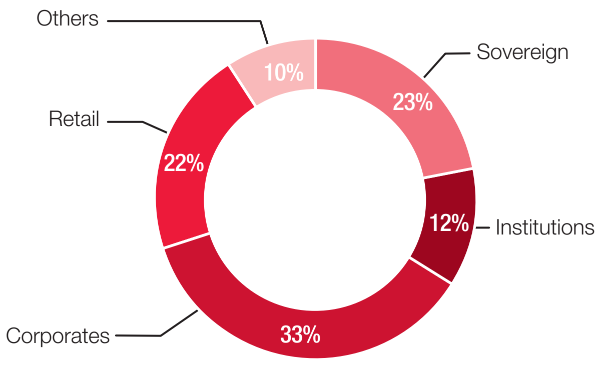
More information available in sections 6.7 "Additional quantitative information on global credit risk (credit and counterparty risk)", 6.8 "Credit risk detail" and 6.9 "Counterparty risk detail" of this document.

Credit risk exposure

At 31 December 2019, the Group's Exposure at Default (EAD) amounted to EUR 918 billion.

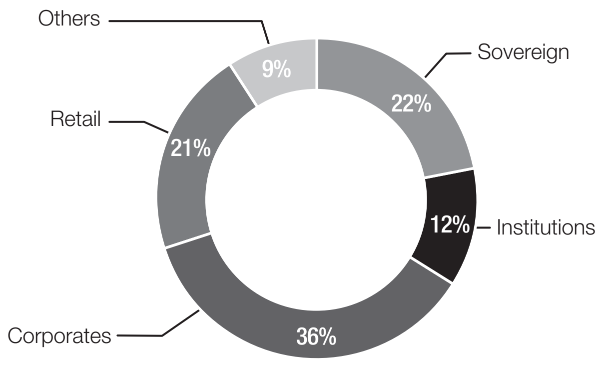
CREDIT RISK EXPOSURE BY EXPOSURE CLASS (EAD) AT 31 DECEMBER 2019

On- and off-balance sheet exposures (EUR 918 billion in EAD)



CREDIT RISK EXPOSURE BY EXPOSURE CLASS (EAD) AT 31 DECEMBER 2018

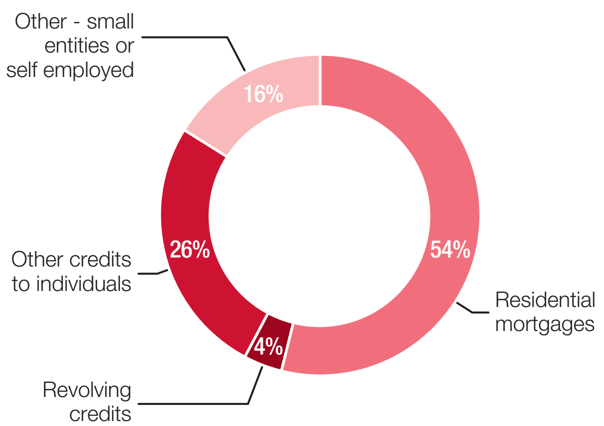
On- and off-balance sheet exposures (EUR 920 billion in EAD).



** Institutions: Basel classification bank and public sector portfolios.*

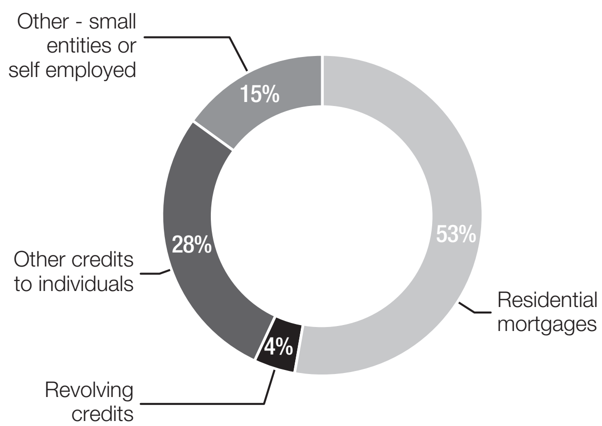
RETAIL CREDIT RISK EXPOSURE BY EXPOSURE SUBCLASS (EAD) AT 31 DECEMBER 2019

On- and off-balance sheet exposures (EUR 203 billion in EAD)

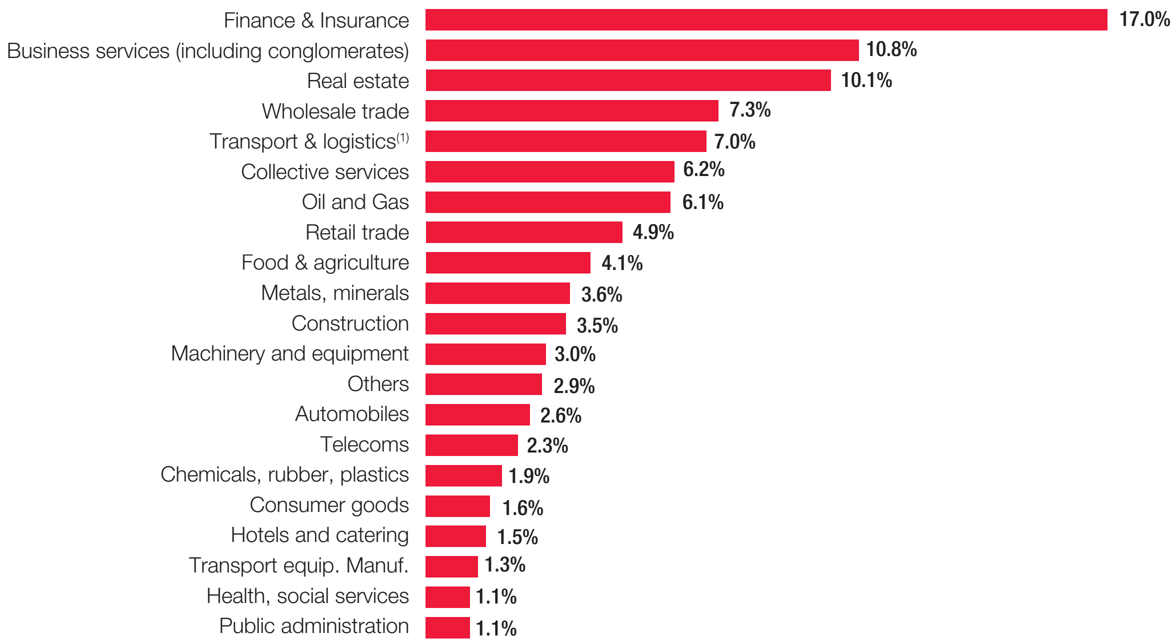


RETAIL CREDIT RISK EXPOSURE BY EXPOSURE SUBCLASS (EAD) AT 31 DECEMBER 2018

On- and off-balance sheet exposures (EUR 189 billion in EAD)



SECTOR BREAKDOWN OF GROUP CORPORATE EXPOSURE (BASEL PORTFOLIO)



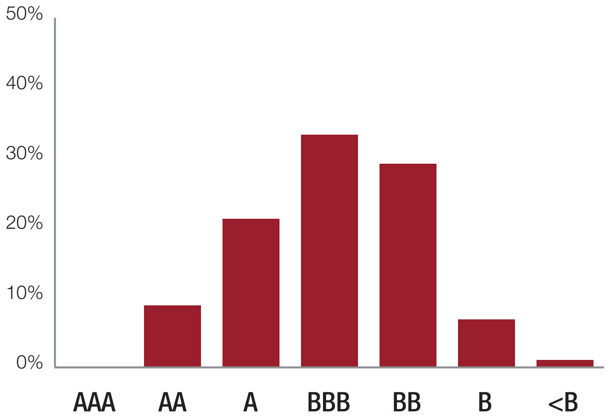
(1) Of which 1.0% of the Group's total maritime transport Corporate exposures.

The EAD of the Corporate portfolio is presented in accordance with the Basel rules (large corporates, including insurance companies, funds and hedge funds, SMEs, specialised financing, factoring businesses), based on the obligor's characteristics, before taking into account the substitution effect (credit risk scope: debtor, issuer and replacement risk).

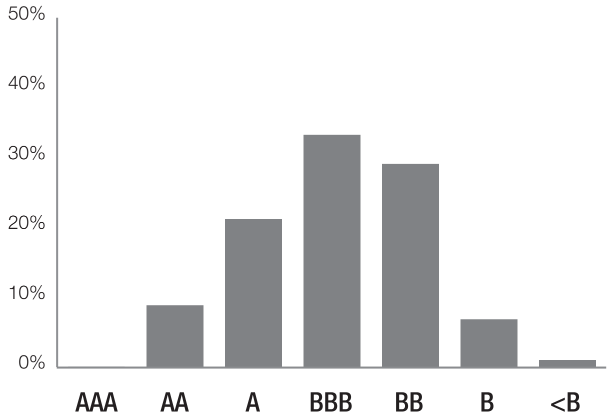
As at 31 December 2019, the Corporate portfolio amounted to EUR 326 billion (on- and off-balance sheet exposures measured in EAD). Three sectors account for more than 10% of the portfolio each (Finance and Insurance, Business services, Real Estate). The Group's exposure to its ten largest Corporate counterparties accounts for 5% of this portfolio.

Corporate and bank counterparty exposure

BREAKDOWN OF RISK BY INTERNAL RATING FOR CORPORATE CLIENTS AT 31 DECEMBER 2019 (AS % OF EAD)



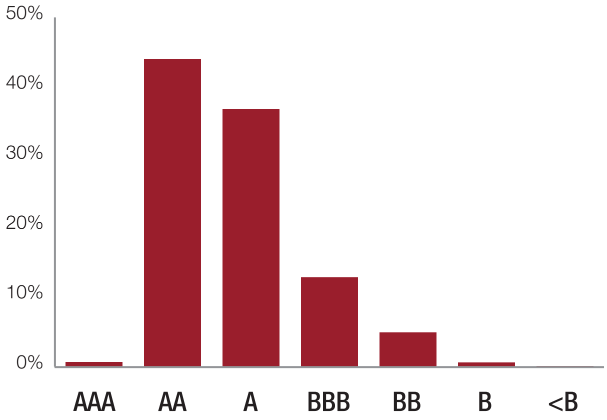
BREAKDOWN OF RISK BY INTERNAL RATING FOR CORPORATE CLIENTS AT 31 DECEMBER 2018 (AS % OF EAD)



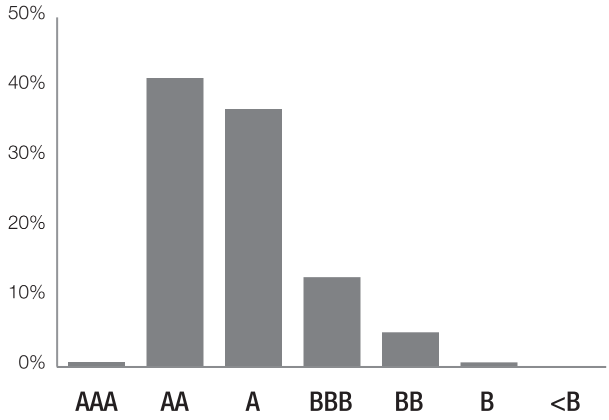
Regarding corporate clients, the scope consists of performing loans recorded under the IRB method (excluding prudential classification criteria, by weight, of specialised financing) over the entire corporate clients portfolio, all divisions combined, and represents a EUR 259 billion EAD (out of a EUR 296 billion total EAD for the Corporate Basel portfolio, Standardised method included). The rating breakdown of Societe Generale Group’s corporate counterparty exposure reveals the sound quality of the portfolio. It is based on an internal counterparty rating system, displayed above as its Standard & Poor’s equivalent.

As at 31 December 2019, the majority of the portfolio had an Investment Grade rating, i.e. counterparties with an S&P-equivalent internal rating higher than BBB- (63% of Corporate clients). Transactions with non-Investment Grade counterparties were very often backed by guarantees and collaterals in order to mitigate the risk incurred.

BREAKDOWN OF RISK BY INTERNAL RATING FOR BANKING CLIENTS AT 31 DECEMBER 2019 (AS % OF EAD)



BREAKDOWN OF RISK BY INTERNAL RATING FOR BANKING CLIENTS AT 31 DECEMBER 2018 (AS % OF EAD)

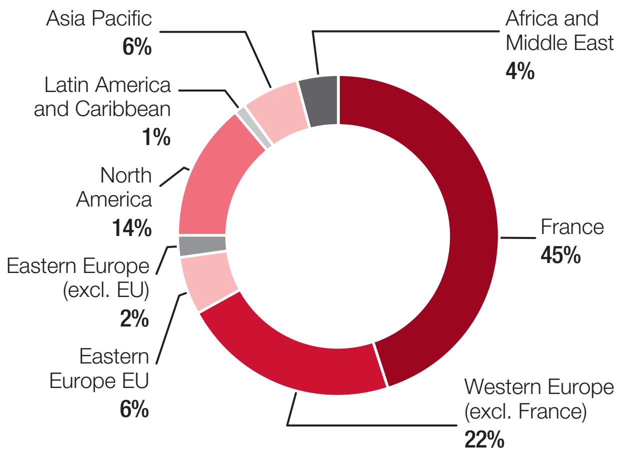


Regarding banking clients, the scope consists of performing loans recorded under the IRB method over the entire banking clients portfolio, all divisions combined, and represents a EUR 62 billion EAD (out of a EUR 107 billion total EAD for the Bank Basel portfolio, Standardised method included). The rating breakdown of Societe Generale Group’s banking counterparty exposure reveals the sound quality of the portfolio. It is based on an internal counterparty rating system, displayed above as its Standard & Poor’s equivalent.

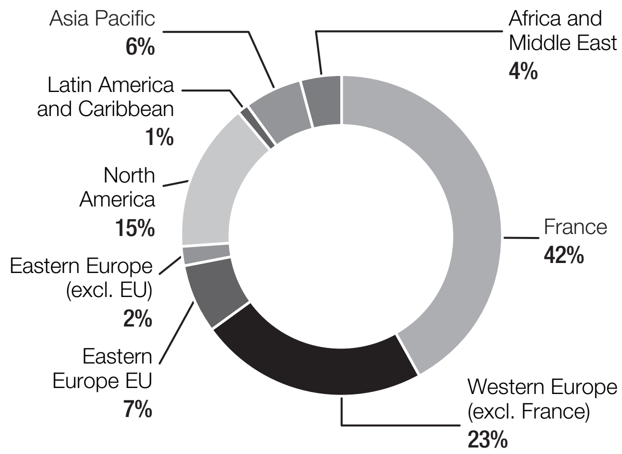
As at 31 Dcecember 2019, exposure on banking clients was concentrated on Investment Grade counterparties (94% of the exposure) and in developed countries (89%).

Geographic breakdown of Group credit risk exposure

GEOGRAPHIC BREAKDOWN OF GROUP CREDIT RISK EXPOSURE AT 31 DECEMBER 2019 (ALL CLIENT TYPES INCLUDED): EUR 918 BN

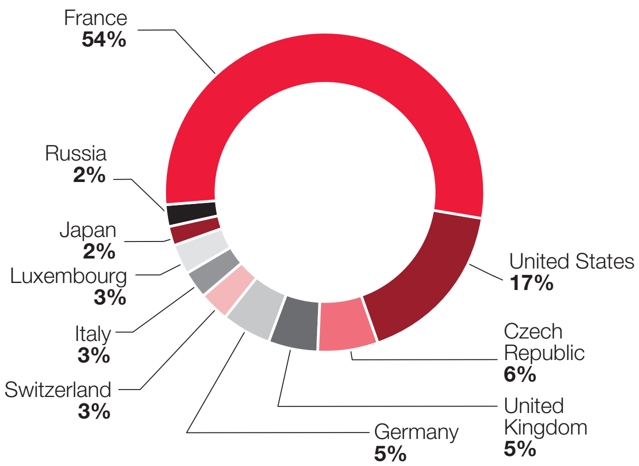


GEOGRAPHIC BREAKDOWN OF GROUP CREDIT RISK EXPOSURE AT 31 DECEMBER 2018 (ALL CLIENT TYPES INCLUDED): EUR 920 BN

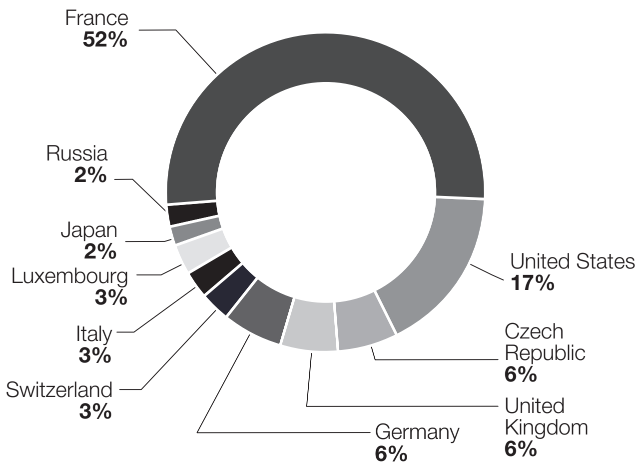


As at 31 December 2019, 89% of the Group's on- and off-balance sheet exposure was concentrated in the major industrialised countries[1]. Almost half of the overall amount of outstanding loans was towards French clients (28% exposure to the non-retail portfolio and 17% to the retail one).

GEOGRAPHIC BREAKDOWN OF GROUP CREDIT EXPOSURE ON TOP TEN COUNTRIES AT 31 DECEMBER 2019: EUR 761 BN



GEOGRAPHIC BREAKDOWN OF GROUP CREDIT EXPOSURE ON TOP TEN COUNTRIES AT 31 DECEMBER 2018: EUR 748 BN



The Group's exposure to its top ten countries represented 83% of total exposure (i.e. EUR 761 billion of EAD) at 31 December 2019 (versus 81% and EUR 748 billion of EAD at 31 December 2018).

(1) As defined by the IMF in its World Economic Outlook document of October 2019.

TABLE 30: GEOGRAPHIC BREAKDOWN OF GROUP CREDIT RISK EXPOSURES ON TOP FIVE COUNTRIES BY EXPOSURE CLASS (IN %)

	France		United States		United Kingdom		Germany		Czech Republic	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Sovereign	19%	18%	33%	33%	14%	10%	17%	15%	29%	30%
Institutions	9%	8%	16%	18%	27%	29%	18%	21%	4%	3%
Corporates	27%	31%	38%	38%	37%	45%	27%	31%	30%	32%
Retail	37%	36%	0%	0%	10%	6%	22%	21%	35%	33%
Other	8%	7%	13%	11%	12%	10%	16%	12%	2%	2%

Change in risk-weighted assets (RWA) and capital requirements for credit and counterparty risks

TABLE 31: CHANGES IN RWA BY METHOD ON OVERALL CREDIT RISK (CREDIT AND COUNTERPARTY)

(In EURm)	RWA - IRB	RWA - Standard	RWA - Total	Capital requirements - IRB	Capital requirements - Standard	Capital requirements - total
RWA as at end of previous reporting period (31.12.2018)	**181,651**	**116,167**	**297,818**	**14,532**	**9,293**	**23,825**
Asset size	(3,375)	740	(2,636)	(270)	59	(211)
Asset quality	(242)	132	(110)	(19)	11	(9)
Model updates	22	-	22	2	-	2
Methodology and policy	(4,091)	(1,588)	(5,679)	(327)	(127)	(454)
Acquisitions and disposals	(432)	(12,197)	(12,628)	(35)	(976)	(1,010)
Foreign exchange movements	1,074	1,348	2,421	86	108	194
Other	752	(52)	700	60	(4)	56
RWA AS AT END OF REPORTING PERIOD (31.12.2019)	**175,359**	**104,549**	**279,908**	**14,029**	**8,364**	**22,393**

The table above presents the data without CVA (Credit Valuation Adjustment).

The main effects explaining the EUR 17.9 billion decrease in RWA (excluding CVA) in 2019 are as follows:

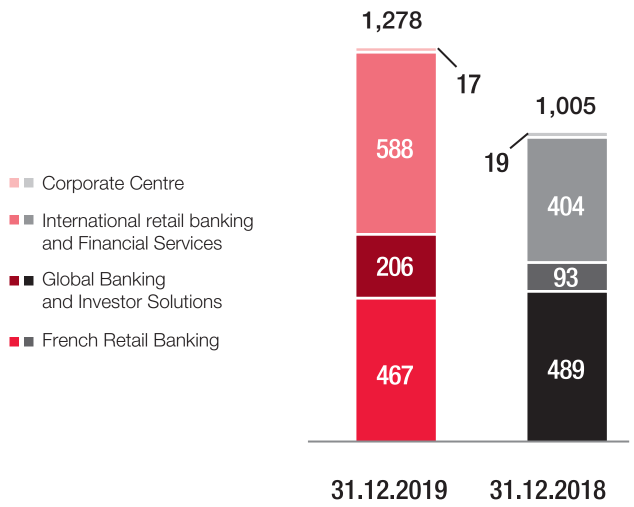
- a decrease of EUR -2.6 billion related to the activity: decreasing Global Banking activity (EUR -4.5 billion), partially offset by an increase of EUR +2.3 billion) in the French network;
- a change in the prudential scope of EUR -12.6 billion related to the several disposals of entities operated in 2019;
- a foreign exchange effect (EUR +2.4 billion), mainly related to the appreciation of the US dollar against the euro (EUR +0.9 billion) as well as that of the Russian rouble against the euro (EUR +0.7 billion).

The effects are defined as follows:

- Asset size: organic changes in book size and composition (including the creation of new business lines and maturing loans) but excluding changes due to acquisitions and disposals of entities;
- Asset quality: changes in the quality of the Bank's assets due to changes in borrower risk, such as rating grade migration or similar effects;
- Model updates: changes due to model implementation, changes in model scope or any changes intended to address model weaknesses;
- Methodology and policy: changes due to methodological changes in calculations driven by regulatory changes, including both revisions to existing regulations and new regulations;
- Acquisitions and disposals: changes in book size due to acquisitions and disposals of entities;
- Foreign exchange movements: changes arising from market fluctuations, such as foreign currency translation movements;
- Other: this category is used to capture changes that cannot be attributed to any other categories.

Net cost of risk

CHANGE IN GROUP NET COST OF RISK (IN EURM)



The **Group's net cost of risk** in 2019 amounted to EUR -1,278 million, up to +27.1% compared to 2018. Normalisation thus remains very gradual compared to the level in 2018.

Measured in basis points on average outstanding at the start of the period of the four quarters preceding the closing, including operating leases, the cost of risk remains low. It stood at 25 basis points in 2019 compared to 21 basis points in 2018.

- In **French Retail Banking**, the commercial cost of risk fell to 24 basis points in 2019 compared to 26 basis points in 2018, illustrating the quality of the credit policy.
- At 43 basis points in 2019 (versus 30 basis points in 2018), the cost of risk of the **Retail Banking and International Financial Services** division is increasing but remains low, demonstrateing the effectiveness of the policies implemented to improve loan portfolio quality.

  More specifically, the cost of risk in the Czech Republic and Romania is a net recovery (- 9 and - 56 basis points, respectively, in 2019).
- **Global Banking and Investor Solutions'** cost of risk stood at 13 basis points (versus 6 basis points in 2018).

NON-PERFORMING LOANS (NPL)

The following tables have been prepared in accordance with the guidelines of the European Banking Authority (EBA) on the publication of non-performing and renegotiated exposures (document EBA/GL/2018/10 of December 2018).

They present the credit quality of restructured exposures and of performing and non-performing exposures, by geographical area and industry sector, with provisions and associated collateral, as well as details of the change over the period of outstanding loans and non-performing advances.

For information purposes, and in accordance with the ECB's recommendations, the concepts of Basel default, impaired assets and non-performing exposures are aligned within the Group.

The non-performing loan ratio at the end of 2019 is 3.1%.

This ratio is calculated in accordance with the guidelines relating to the requirements of prudential disclosures published by the EBA.

The methodology for calculating this ratio differs marginally from that used for the publication of the financial results.

Restructured debt

Within Societe Generale group, "restructured" debt refers to loans for which the amount, term or financial conditions have been contractually modified due to the borrower's insolvency (whether insolvency has already occurred or will definitely occur unless the debt is restructured). Societe Generale aligns its definition of restructured loans with the EBA definition.

Restructured debt does not include commercial renegotiations involving customers for which the Bank has agreed to renegotiate the debt in order to maintain or develop a business relationship, in accordance with credit approval rules in force and without relinquishing any of the principal or accrued interest.

Any situation leading to debt restructuring entails placing the considered customer in the Basel default category and classifying the loans themselves as impaired.

The customers whose loans have been restructured are kept in the default category for as long as the Bank remains uncertain of their ability to meet their future commitments and for at least one year.

TABLE 32: CREDIT QUALITY OF FORBORNE EXPOSURES (TEMPLATE 1)

	31.12.2019							
	Gross carrying amount/nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
		Non-performing forborne						
(In EURm)	Performing forborne	TOTAL	Of which defaulted	Of which impaired	On performing forborne exposures	On non-performing forborne exposures	TOTAL	Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
Loans and advances	**814**	**3,050**	**3,050**	**3,050**	**(18)**	**(1,428)**	**1,644**	**1,208**
Central banks	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-
Other financial corporations	-	-	-	-	-	-	-	-
Non-financial corporations	318	1,490	1,490	1,490	(6)	(768)	987	727
Households	495	1,560	1,560	1,560	(12)	(661)	657	481
Debt Securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Loan commitments given	**1**	**43**	**43**	**43**	**-**	**-**	**28**	**28**
TOTAL	**815**	**3,092**	**3,092**	**3,092**	**(18)**	**(1,428)**	**1,672**	**1,236**

TABLE 33: CREDIT QUALITY OF PERFORMING AND NON-PERFORMING EXPOSURES BY PAST DUE DAYS TEMPLATE 3)

	31.12.2019									
	Performing exposures			Non-performing exposures						
(In EURm)	TOTAL performing	Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days	TOTAL non performing	Unlikely to pay that are not past due or are past due ≤ 90 days	Past due> 90 days≤ 180 days	Past due> 180 days≤ 1 year	Past due> 1 year ≤ 5 years	Past due > 5 years	Of which defaulted
Loans and advances	**506,295**	**505,523**	**772**	**16,014**	**11,380**	**1,001**	**566**	**1,943**	**1,123**	**16,014**
Central banks	9,103	9,103	-	13	-	-	-	-	13	13
General governments	16,680	16,674	6	96	-	-	4	54	38	96
Credit institutions	20,471	20,470	0	19	17	0	-	-	3	19
Other financial corporations	46,125	46,079	46	123	1	-	-	122	-	123
Non-financial corporations	201,285	200,917	369	7,247	5,914	128	222	597	386	7,247
Of which SMEs	*32,260*	*32,154*	*106*	*3,323*	*2,707*	*65*	*68*	*270*	*214*	*3,323*
Households	212,630	212,280	351	8,516	5,449	873	340	1,171	683	8,516
Debt securities	**67,116**	**67,116**	**-**	**17**	**17**	**-**	**-**	**-**	**-**	**17**
Central banks	4,931	4,931	-	-	-	-	-	-	-	-
General governments	46,778	46,778	-	-	-	-	-	-	-	-
Credit institutions	7,525	7,525	-	-	-	-	-	-	-	-
Other financial corporations	4,020	4,020	-	-	-	-	-	-	-	-
Non-financial corporations	3,862	3,862	-	17	17	-	-	-	-	17
Off-balance-sheet exposures	**326,688**	**-**	**-**	**1,254**	**-**	**-**	**-**	**-**	**-**	**1,254**
Central banks	252			-						-
General governments	3,091			-						0
Credit institutions	84,927			-						0
Other financial corporations	44,412			-						-
Non-financial corporations	177,290			1,175						1,175
Households	16,716			79						79
TOTAL	**900,099**	**572,639**	**772**	**17,285**	**11,397**	**1,001**	**566**	**1,943**	**1,123**	**17,285**

TABLE 34: PERFORMING AND NON-PERFORMING EXPOSURES AND RELATED PROVISIONS (TEMPLATE 4)

	31.12.2019														
	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions					
(In EURm)	TOTAL	Of which stage 1[(1)]	Of which stage 2[(2)]	TOTAL	Of which stage 2[(2)]	Of which stage 3[(3)]	TOTAL	Of which stage 1[(1)]	Of which stage 2[(2)]	TOTAL	Of which stage 2[(2)]	Of which stage 3[(3)]	Accumulated partial write-off	On performing exposures	On non performing exposures
Loans and advances	**506,295**	**477,041**	**29,254**	**16,014**	**-**	**16,014**	**(1,916)**	**(858)**	**(1,058)**	**(8,835)**	**-**	**(8,835)**	**(2,134)**	**241,864**	**3,524**
Central banks	9,103	9,103	0	13	-	13	(0)	(0)	(0)	(13)	-	(13)	-	56	-
General governments	16,680	16,589	91	96	-	96	(2)	(1)	(0)	(53)	-	(53)	(0)	4,055	43
Credit institutions	20,471	20,369	101	19	-	19	(3)	(3)	(0)	(6)	-	(6)	(0)	2,591	1
Other financial corporations	46,125	46,051	74	123	-	123	(7)	(6)	(1)	(74)	-	(74)	(1,105)	9,832	1
Non-financial corporations	201,285	192,413	8,873	7,247	-	7,247	(927)	(434)	(493)	(4,150)	-	(4,150)	-	95,100	1,588
Of which SMEs	32,260	28,297	3,963	3,323	-	3,323	(348)	(348)	-	(2,007)	-	(2,007)	-	21,400	694
Households	212,630	192,515	20,115	8,516	-	8,516	(978)	(414)	(563)	(4,539)	-	(4,539)	(1,029)	130,231	1,891
Debt securities	**67,116**	**67,016**	**100**	**17**	**-**	**17**	**(11)**	**(5)**	**(6)**	**(8)**	**-**	**(8)**	**-**	**-**	**-**
Central banks	4,931	4,860	71	-	-	-	(3)	(1)	(2)	-	-	-	-	-	-
General governments	46,778	46,768	10	-	-	-	(6)	(2)	(4)	-	-	-	-	-	-
Credit institutions	7,525	7,525	-	-	-	-	(0)	(0)	-	-	-	-	-	-	-
Other financial corporations	4,020	4,020	-	-	-	-	(0)	(0)	-	-	-	-	-	-	-
Non-financial corporations	3,862	3,843	19	17	-	17	(2)	(1)	(1)	(8)	-	(8)	-	-	-
Off-balance-sheet exposures	**326,688**	**322,985**	**3,703**	**1,254**	**-**	**1,254**	**(320)**	**(136)**	**(184)**	**(320)**	**-**	**(320)**	**-**	**56,523**	**331**
Central banks	252	252	-	-	-	-	(0)	(0)	-	-	-	-		80	-
General governments	3,091	3,091	0	0	-	0	(0)	(0)	-	-	-	-		2,742	-
Credit institutions	84,927	84,615	312	0	-	0	(40)	(1)	(39)	-	-	-		564	-
Other financial corporations	44,412	44,410	2	-	-	-	(3)	(3)	0	-	-	-		5,238	-
Non-financial corporations	177,290	174,443	2,847	1,175	-	1,175	(218)	(106)	(112)	(310)	-	(310)		40,795	322
Households	16,716	16,174	542	79	-	79	(59)	(25)	(34)	(10)	-	(10)		7,105	9
TOTAL	**900,099**	**867,042**	**33,057**	**17,285**	**-**	**17,285**	**(2,247)**	**(999)**	**(1,248)**	**(9,163)**	**-**	**(9,163)**	**(2,134)**	**298,387**	**3,856**

(1) Assets without significant increase in credit risk since initial recognition
(2) Assets with significant increase in credit risk since initial recognition, but not impaired
(3) Impaired assets

TABLE 35: QUALITY OF NON-PERFORMING EXPOSURES BY GEOGRAPHY (TEMPLATE 5)

	31.12.2019					
	Gross carrying/nominal amount					
		dont non Of which non-performing				
(In EURm)	TOTAL nominal	TOTAL non performing	Of which defaulted	Of which subject to impairment	Accumulated impairment	Provisions on off-balance-sheet commitments and financial guarantees given
On-balance-sheet exposures	**589,442**	**16,031**	**16,031**	**563,926**	**(10,770)**	**-**
France	286,467	9,011	9,011	265,062	(5,774)	
United Statest	56,894	241	241	56,027	(105)	
CzechRepublic	35,761	515	515	35,761	(398)	
Germany	23,124	354	354	23,082	(193)	
United Kingdom	17,037	167	167	17,054	(74)	
Luxembourg	12,520	84	84	12,506	(15)	
Japan	1,276	0	0	972	(9)	
Other countries	156,362	5,659	5,659	153,460	(4,201)	
Off-balance-sheet exposures	**327,942**	**1,254**	**1,254**	**-**	**-**	**(640)**
France	164,940	709	709			(296)
United Statest	40,621	101	101			(39)
CzechRepublic	6,821	49	49			(26)
Germany	7,460	1	1			(25)
United Kingdom	24,629	1	1			(6)
Luxembourg	7,789	1	1			(2)
Japan	16,209	-	-			(0)
Other countries	59,474	392	392			(247)
TOTAL	**917,384**	**17,285**	**17,285**	**563,926**	**(10,770)**	**(640)**

TABLE 36: CREDIT QUALITY OF LOANS AND ADVANCES BY INDUSTRY SECTOR (TEMPLATE 6)

The table below indicates loans and advances to non-financial corporations, in accordance with EBA guidelines (EBA/GL/2018/10).

	31.12.2019				
	Gross carrying amount				
		Of which non-performing			
(In EURm)	TOTAL nominal	TOTAL non performant	Of which defaulted	Of which loans and advances subject to impairment	Accumulated impairment
Agriculture, forestry and fishing	1,743	102	102	1,660	(82)
Mining and quarrying	10,527	461	461	10,507	(148)
Manufacturing	29,783	1,349	1,349	28,868	(1,026)
Electricity, gas, steam and air conditioning supply	11,393	129	129	11,237	(83)
Water supply	2,057	37	37	1,646	(27)
Construction	7,128	747	747	6,534	(503)
Wholesale and retail trade	25,168	1,615	1,615	24,076	(1,195)
Transport and storage	16,788	492	492	16,231	(412)
Accommodation and food service activities	2,884	314	314	2,647	(214)
Information and communication	6,208	153	153	6,132	(68)
Financial and insurance actvities	-	-	-	-	-
Real estate activities	24,005	463	463	21,520	(279)
Professional, scientific and technical activities	6,348	199	199	5,886	(171)
Administrative and support service activities	5,896	131	131	5,723	(102)
Public administration and defense, compulsory social security	11,108	4	4	3,434	(6)
Education	283	10	10	277	(8)
Human health services and social work activities	1,565	24	24	1,496	(32)
Arts, entertainment and recreation	714	38	38	670	(24)
Other services	44,934	979	979	41,895	(697)
TOTAL	**208,532**	**7,247**	**7,247**	**190,440**	**(5,077)**

TABLE 37: CHANGES IN THE STOCK OF DEFAULTED AND IMPAIRED LOANS AND DEBT SECURITIES (CR2-B)

	31.12.2019
(In EURm)	Gross carrying value defaulted exposures
Opening balance	**17,891**
Loans and debt securities that have defaulted or impaired since the last reporting period	2,188
Returned to non-defaulted status	(770)
Amounts written off	(2,134)
Other changes	(1,143)
CLOSING BALANCE	**16,031**

TABLE 38: COLLATERAL OBTAINED BY TAKING POSSESSION AND EXECUTION PROCESSES (TEMPLATE 9)

	31.12.2019	
	Collateral obtained by taking possession	
(In EURm)	Value at initial recognition	Accumulated negative changes
Property, plant and equipment (PP&E)	8	-
Other than PP&E	8	-
Residential immovable property	-	-
Commercial Immovable property	-	-
Movable property (auto, shipping, etc.)	-	-
Equity and debt instruments	-	-
Other	8	-
TOTAL	**16**	

6.7 ADDITIONAL QUANTITATIVE INFORMATION ON GLOBAL CREDIT RISK (CREDIT AND COUNTERPARTY RISK)

INTRODUCTION

The additional quantitative disclosures relating to credit risk in the following tables enhance the information of the previous section under Pillar 3 (Credit risk: quantitative information).

The presentation of disclosures is in line with the Guidelines on prudential disclosures issued by the European Banking Authority (EBA) in December 2016 (EBA/GL/2016/11).

These disclosures present exposure classes as they are defined in the COREP regulatory financial statements, so as to link in with the EBA Pillar 3 requirements.

References in parentheses in the table titles are in line with the formats required by the EBA for revised Pillar 3 (EBA/GL/2016/11).

In this section, the amounts indicated correspond to global credit risk which is composed of credit and counterparty credit risk.

DEFINITION OF REGULATORY METRICS

The main metrics used in the following tables are:

- Exposure: defined as all assets (*e.g.* loans, receivables, accruals, etc.) associated with market or customer transactions, recorded on and off-balance sheet;
- Net exposure: corresponds to initial exposure on a net basis, net of provisions;
- EAD (Exposure At Default) is defined as the bank's exposure (on- and off-balance sheet) in the event of a counterparty's default. Unless otherwise specifically indicated to the contrary, the EAD is reported post-CRM (Credit Risk Mitigation), after factoring in guarantees and collateral. Under the Standardised method, EADs are presented net of specific provisions and financial collateral;
- Risk-Weighted Assets (RWA): are computed from the exposures and the associated level of risk, which depends on the debtors' credit quality;
- Expected Loss (EL): potential loss incurred, given the quality of the structuring of a transaction and any risk mitigation measures such as collateral. Under the AIRB method, the following equation summarises the relation between these variables: EL = EAD x PD x LGD (except for defaulted exposures).

A simplified view of credit risk exposures by exposure class is presented below. Further details are available in the appendix (p. 232).

TABLE 39: EXPOSURE CLASSES

Sovereigns	Claims or contingent claims on sovereign governments, regional authorities, local authorities or public sector entities as well as on multilateral development banks and international organisations
Institutions	Claims or contingent claims on regulated credit institutions, as well as on governments, local authorities or other public sector entities that do not qualify as sovereign counterparties.
Corporates	Claims or contingent claims on corporates, which include all exposures not covered in the portfolios defined above. In addition, small/medium-sized enterprises are included in this category as a sub-portfolio, and are defined as entities with total annual sales below EUR 50 m.
Retail	Claims or contingent claims on an individual or individuals, or on a small or medium-sized entity, provided in the latter case that the total amount owed to the credit institution does not exceed EUR 1 m. Retail exposure is further broken down into residential mortgages, revolving credit and other forms of credit to individuals, the remainder relating to exposures to very small entities and self-employed
Others	Claims relating to securitisation transactions, equity, fixed assets, accruals,, contributions to the default fund of a CCP, as well as exposures secured by mortgages on immovable property under the standardised approach, and exposures in default under the standardised approach.

BREAKDOWN OF GLOBAL CREDIT RISK – OVERVIEW

The Group's Exposure At Default (EAD) decreased by EUR 2 billion between 31 December 2018 and 2019 (EUR 918 billion in 2019 against EUR 920 billion in 2018).

By exposure class, the variation can be broken down as follows:

- Sovereigns: increase of EUR 8 billion, mostly relating to exposures to central banks;
- Institutions: decrease of EUR 8 billion, especially on Global Banking and Investor Solutions (GBIS);
- Corporates: decrease of EUR 28 billion, mainly on French Retail Banking (RBDF) and International Banking and Financial Services (IBFS);
- Retail: increase of EUR 14 billion, of which EUR 10 billion on mortage loans in France;
- Others: increase of EUR 12 billion, mainly on securitisation.

TABLE 40: GLOBAL CREDIT RISK EXPOSURE, EAD AND RWA BY APPROACH AND EXPOSURE CLASS

	31.12.2019										
	Global portfolio										
(In EURm)	IRB approach			Standardised approach			Total			Average[1]	
Exposure Class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**RWA**
Sovereign	193,948	205,582	5,698	8,373	8,497	7,980	202,321	214,079	13,678	203,040	14,161
Institutions	69,465	61,876	7,205	42,257	44,888	3,992	111,721	106,764	11,196	118,435	11,856
Corporates	365,942	265,515	103,431	57,800	37,199	34,107	423,741	302,714	137,538	432,234	147,243
Retail	171,615	170,549	35,248	46,759	32,900	22,383	218,374	203,449	57,631	213,793	57,150
Others	36,765	36,532	23,778	59,155	54,626	36,087	95,920	91,157	59,865	91,276	56,992
TOTAL	**837,734**	**740,054**	**175,359**	**214,343**	**178,110**	**104,549**	**1,052,077**	**918,164**	**279,908**	**1,058,779**	**287,402**

(1) The average exposure and RWA are determined by aggregating the total gross exposure and RWA at the end of the last four quarters and dividing the result by 4.

The table as at 31 December 2018 has been modified as follows:

	31.12.2018										
	Global portfolio										
(In EURm)	IRB approach			Standardised approach			Total			Average[1]	
Exposure Class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**RWA**
Sovereign	183,790	195,661	6,482	10,308	10,335	8,426	194,098	205,996	14,908	191,400	14,807
Institutions	65,757	60,090	8,001	49,785	55,078	5,128	115,542	115,168	13,128	120,349	13,664
Corporates	374,826	280,366	116,523	68,302	50,402	47,256	443,128	330,769	163,780	426,044	158,484
Retail	159,822	159,144	33,430	41,722	29,964	20,634	201,544	189,108	54,064	200,113	54,535
Others	27,425	27,408	17,215	56,391	51,409	34,723	83,816	78,817	51,937	78,697	50,974
TOTAL	**811,619**	**722,670**	**181,651**	**226,509**	**197,188**	**116,167**	**1,038,128**	**919,858**	**297,818**	**1,016,603**	**292,465**

(1) The average exposure and RWA are determined by aggregating the total gross exposure and RWA at the end of the last four quarters and dividing the result by 4.

The tables display amounts excluding CVA (Credit Valuation Adjustment) which represents EUR 2.6 billion as at 31 December 2019 (vs. EUR 4.9 billion as at 31 December 2018).

The exposures towards Multilateral Development Banks have been reclassified from Institutions to Sovereign.

TABLE 41: RETAIL CREDIT RISK EXPOSURE, EAD AND RWA BY APPROACH AND EXPOSURE CLASS

	31.12.2019										
	Retail portfolio										
(In EURm)	IRB approach			Standardised approach			Total			Average(1)	
Exposure Class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**RWA**
Residential mortgages	111,271	110,758	16,206	8,671	3	1	119,942	110,762	16,207	115,510	15,874
Revolving credits	5,353	4,794	2,170	5,196	2,579	1,934	10,549	7,373	4,105	10,472	3,969
Other credits to individuals	35,071	35,420	10,761	18,323	16,968	12,169	53,394	52,389	22,931	53,615	23,090
Other – small entities or self employed	19,920	19,577	6,110	14,569	13,349	8,279	34,489	32,927	14,389	34,197	14,216
TOTAL	**171,615**	**170,549**	**35,248**	**46,759**	**32,900**	**22,383**	**218,374**	**203,449**	**57,631**	**213,793**	**57,150**

(1) The average exposure and RWA are determined by aggregating the total gross exposure and RWA at the end of the last four quarters and dividing the result by 4.

	31.12.2018										
	Retail portfolio										
(In EURm)	IRB approach			Standardised approach			Total			Average(1)	
Exposure Class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**RWA**
Residential mortgages	100,760	100,170	15,358	7,178	10	10	107,938	100,179	15,368	106,607	15,046
Revolving credits	5,517	4,906	2,206	4,956	2,531	1,901	10,473	7,438	4,106	10,313	4,103
Other credits to individuals	34,145	34,404	9,913	20,806	19,260	14,096	54,952	53,664	24,009	54,575	24,425
Other – small entities or self employed	19,400	19,664	5,953	8,782	8,163	4,628	28,182	27,827	10,581	28,618	10,961
TOTAL	**159,822**	**159,144**	**33,430**	**41,722**	**29,964**	**20,634**	**201,544**	**189,108**	**54,064**	**200,113**	**54,535**

(1) The average exposure and RWA are determined by aggregating the total gross exposure and RWA at the end of the last four quarters and dividing the result by 4.

BREAKDOWN OF GLOBAL CREDIT RISK – DETAIL

TABLE 42: GEOGRAPHICAL BREAKDOWN OF AVERAGE PD AND LGD

The following table presents the average PD and LGD calculated on performing exposures (EAD) subject to the Advanced Internal Ratings-Based (AIRB) approach. The geographical areas are grouped according to their significance.

	31.12.2019											
	Sovereign			Institutions			Corporates			Retail		
(In EURm)	EAD	Average PD	Average LGD	EAD	Average PD	Average LGD	EAD	Average PD	Average LGD	EAD	Average PD	Average LGD
France	73,966	0.02%	1%	22,534	0.12%	8%	89,711	1.74%	30%	137,651	1.80%	16%
Western Europe (excl.France)	44,277	0.03%	1%	14,057	0.15%	21%	67,999	1.24%	25%	12,214	2.62%	33%
Eastern Europe	16,837	0.05%	6%	2,191	0.46%	24%	13,949	1.56%	29%	13,374	1.20%	25%
Eastern Europe (excl. UE)	2,591	0.24%	25%	642	3.00%	33%	3,425	1.72%	23%	216	1.49%	25%
North America	41,439	0.00%	0%	11,303	0.06%	21%	50,401	0.67%	25%	189	3.06%	47%
Rest of the world	26,357	0.42%	20%	10,585	0.52%	32%	27,540	1.09%	25%	1,776	0.98%	21%
TOTAL	**205,466**	**0.07%**	**4%**	**61,312**	**0.23%**	**16%**	**253,025**	**1.31%**	**27%**	**165,421**	**1.80%**	**18%**

The table as at 31 December 2018 has been modified as follows:

	31.12.2018											
	Sovereign			Institutions			Corporates			Retail		
(In EURm)	EAD	Average PD	Average LGD	EAD	Average PD	Average LGD	EAD	Average PD	Average LGD	EAD	Average PD	Average LGD
France	67,922	0.00%	1%	20,551	0.09%	8%	96,481	1.64%	30%	127,332	1.95%	17%
Western Europe (excl.France)	42,403	0.04%	2%	16,314	0.22%	18%	77,807	1.34%	25%	11,545	2.80%	30%
Eastern Europe	17,535	0.06%	20%	1,540	0.42%	23%	14,027	1.50%	30%	12,771	1.30%	25%
Eastern Europe (excl. UE)	3,728	0.53%	25%	592	2.95%	37%	3,290	2.15%	22%	158	0.55%	25%
North America	42,902	0.00%	0%	10,720	0.06%	20%	47,910	0.74%	26%	180	2.69%	46%
Rest of the world	21,055	0.44%	21%	10,340	0.70%	30%	28,239	1.10%	28%	1,448	1.22%	24%
TOTAL	**195,546**	**0.07%**	**5%**	**60,056**	**0.26%**	**14%**	**267,754**	**1.33%**	**28%**	**153,435**	**1.95%**	**18%**

TABLE 43: CORPORATE PORTFOLIO'S EAD BY INDUSTRY SECTOR

	31.12.2019	
(In EURm)	**EAD**	**Breakdown in %**
Finance & Insurance	62,519	21%
Real estate	29,883	10%
Public administration	3,555	1%
Food & agriculture	12,543	4%
Consumer goods	5,155	2%
Chemicals, rubber, plastics	5,306	2%
Retail trade	16,288	5%
Wholesale trade	22,708	8%
Construction	10,563	3%
Transport equip. Manuf.	3,567	1%
Hotels and catering	4,455	1%
Automobiles	8,260	3%
Machinery and equipment	9,452	3%
Metals, minerals	9,863	3%
Media	-	0%
Oil and Gas	16,439	5%
Health Care and Social Assistance	3,350	1%
Business services (including conglomerates)	33,703	11%
Collective services	17,379	6%
Telecoms	7,060	2%
Transport & logistics	18,631	6%
Others	2,037	1%
TOTAL	**302,714**	**100%**

The EAD of the Corporate portfolio amounted to EUR 303 billion and has been broken down based on the guarantor's characteristics after the substitution effect (compared to an EAD of EUR 326 billion broken down by obligor before taking into account the substitution effect).

	31.12.2018	
(In EURm)	**EAD**	**Breakdown in %**
Finance & Insurance	64,373	19%
Real estate	30,148	9%
Public Administration	3,719	1%
Food & agriculture	13,724	4%
Consumer goods	5,601	2%
Chemicals, rubber, plastics	6,239	2%
Retail trade	17,468	5%
Wholesale trade	25,688	8%
Construction	11,778	4%
Transport equip. Manuf.	3,300	1%
Hotels and catering	4,854	1%
Automobiles	7,577	2%
Machinery and equipment	12,076	4%
Metals, minerals	11,095	3%
Media	3,196	1%
Oil and Gas	17,042	5%
Health Care and Social Assistance	3,698	1%
Business services (including conglomerates)	32,540	10%
Collective services	18,771	6%
Telecoms	7,326	2%
Transport & logistics	18,744	6%
Others	11,811	4%
TOTAL	**330,769**	**100%**

TABLE 44: EAD BY GEOGRAPHIC REGION AND MAIN COUNTRIES AND BY EXPOSURE CLASS

	31.12.2019						
(In EURm)	Sovereign	Institutions	Corporates	Retail	Others	Total	Breakdown in %
France	77,805	35,401	110,656	151,942	33,457	409,261	45%
United Kingdom	5,425	10,142	14,159	3,838	4,365	37,930	4%
Germany	7,011	7,207	10,871	8,901	6,494	40,484	4%
Italy	2,914	626	7,134	7,249	4,225	22,147	2%
Luxembourg	11,340	911	10,636	207	1,326	24,420	3%
Spain	1,061	1,836	5,684	707	1,639	10,925	1%
Switzerland	12,009	2,068	4,586	1,275	325	20,263	2%
Other Western European countries	7,123	4,461	22,672	1,840	5,224	41,320	5%
Czech Republic	12,253	1,502	12,791	14,518	978	42,042	5%
Romania	3,687	241	1,823	2,188	3,353	11,292	1%
Other Eastern European countries EU	975	792	3,877	530	396	6,569	1%
Russia	2,554	1,806	6,204	3,728	4,164	18,455	2%
Other Eastern European countries excluding EU	72	585	1,650	140	246	2,692	0%
United States	41,805	19,828	48,477	222	16,406	126,739	14%
Other countries of North America	209	1,975	2,838	100	484	5,606	1%
Latin America and Caribbean	510	1,862	5,361	91	442	8,265	1%
Africa and Middle East	7,669	2,911	15,780	5,668	5,358	37,386	4%
Japan	13,730	2,610	2,714	5	266	19,325	2%
Asia-Pacific	5,927	10,000	14,803	301	2,011	33,042	4%
TOTAL	**214,079**	**106,764**	**302,714**	**203,449**	**91,157**	**918,164**	**100%**

At the end of 2019, Western Europe, including France, accounted for 66% of total Group exposures (86% as regards the Retail portfolio alone).

The EUR 14 billion increase of the Retail customers portfolio mostly comes from France (EUR +12 billion euros).

The EUR 28 billion decrease of the Corporate portfolio is notably driven by France (EUR -9 billion, mainly on commitments as well as loans and receivables), the United Kingdom (EUR -4 billion) but also by Eastern Europe entities (EUR -5 billion, mainly following disposals that occurred over the course of the year).

	31.12.2018						
(In EURm)	**Sovereign**	**Institutions**	**Corporates**	**Retail**	**Others**	**Total**	**Breakdown in %**
France	71,463	31,452	119,863	139,537	24,053	386,369	42%
United Kingdom	4,760	13,534	18,370	2,805	4,316	43,785	5%
Germany	6,714	9,313	13,492	9,266	5,304	44,090	5%
Italy	3,233	641	7,763	6,242	4,658	22,537	2%
Luxembourg	7,021	731	10,897	240	1,197	20,086	2%
Spain	1,057	1,416	6,618	519	1,533	11,143	1%
Switzerland	15,811	1,764	6,118	875	300	24,870	3%
Other Western European countries	7,083	6,147	21,781	1,786	4,545	41,341	5%
Czech Republic	12,471	1,231	13,171	13,611	814	41,299	4%
Romania	3,615	272	2,048	1,934	3,353	11,222	1%
Other Eastern European countries EU	2,603	482	6,493	3,270	3,370	16,218	2%
Russia	3,124	266	6,061	2,845	3,149	15,445	2%
Other Eastern European countries excluding EU	1,126	548	4,136	1,045	1,230	8,084	1%
United States	43,046	23,084	48,724	239	13,852	128,945	14%
Other countries of North America	308	3,371	2,291	49	509	6,528	1%
Latin America and Caribbean	693	1,277	6,543	79	623	9,215	1%
Africa and Middle East	6,736	3,420	16,888	4,437	4,455	35,935	4%
Japan	10,008	4,345	2,761	12	444	17,571	2%
Asia-Pacific	5,124	11,874	16,751	317	1,110	35,177	4%
TOTAL	**205,996**	**115,168**	**330,769**	**189,108**	**78,817**	**919,858**	**100%**

TABLE 45: RETAIL EAD BY GEOGRAPHIC REGION AND MAIN COUNTRIES

	31.12.2019					
(In EURm)	Residential mortgages	Revolving credits	Others credits to individuals	Others – small entities or self employed	Total	Breakdown in %
France	97,170	4,965	30,953	18,854	151,942	75%
Germany	19	312	4,108	4,461	8,901	4%
Italy	47	83	4,786	2,333	7,249	4%
Other Western European countries	1,886	407	2,405	3,169	7,867	4%
Czech Republic	11,216	383	1,433	1,485	14,518	7%
Romania	1	454	1,305	428	2,188	1%
Other Eastern European countries EU	8	37	19	466	530	0%
Russia	45	187	3,289	207	3,728	2%
Other Eastern European countries excluding EU	39	39	57	4	140	0%
North America	21	166	7	129	323	0%
Latin America and Carribbean	13	27	36	14	91	0%
Africa and Middle East	214	241	3,919	1,293	5,668	3%
Asia-Pacific	83	70	71	82	306	0%
TOTAL	**110,762**	**7,373**	**52,389**	**32,927**	**203,449**	**100%**

	31.12.2018					
(In EURm)	Residential mortgages	Revolving credits	Others credits to individuals	Others – small entities or self employed	Total	Breakdown in %
France	87,216	5,055	30,476	16,790	139,537	74%
Germany	24	304	4,523	4,415	9,266	5%
Italy	29	81	4,268	1,864	6,242	3%
Other Western European countries	1,766	360	2,463	1,636	6,225	3%
Czech Republic	10,655	385	1,461	1,110	13,611	7%
Romania	1	443	1,310	181	1,934	1%
Other Eastern European countries EU	8	90	2,358	813	3,270	2%
Russia	54	157	2,622	12	2,845	2%
Other Eastern European countries excluding EU	37	33	700	275	1,045	1%
North America	19	157	9	103	287	0%
Latin America and Carribbean	15	18	44	3	79	0%
Africa and Middle East	265	269	3,369	534	4,437	2%
Asia-Pacific	91	86	62	92	330	0%
TOTAL	**100,179**	**7,438**	**53,664**	**27,827**	**189,108**	**100%**

TABLE 46: EXPOSURE TREATED UNDER STANDARDISED APPROACH BY EXPOSURE CLASS AND EXTERNAL RATING

The amounts are presented without default, securitisation and contributions to default funds of central counterparties.

The exposures towards Multilateral Development Banks have been reclassified from Institutions to Sovereign.

	31.12.2019		
(In EURm)			
Exposure class	**External rating**	**Exposure**	**EAD**
Sovereign			
	AAA to AA-	1,409	1,413
	A+ to A-	-	-
	BBB+ to B-	999	924
	< B-	12	12
	Without external rating	5,952	6,148
	Sub-total	**8,373**	**8,497**
Institutions			
	AAA to AA-	9,555	4,003
	A+ to A-	298	313
	BBB+ to B-	1,658	709
	< B-	-	-
	Without external rating	30,745	39,864
	Sub-total	**42,257**	**44,888**
Corporates			
	AAA to AA-	-	-
	A+ to A-	-	-
	BBB+ to B-	118	118
	< B-	23	23
	Without external rating	57,659	37,059
	Sub-total	**57,800**	**37,199**
Retail			
	Without external rating	46,759	32,900
Other			
	Without external rating	47,282	46,665
TOTAL		**202,470**	**170,149**

The table as at 31 December 2018 has been modified as follows:

	31.12.2018		
(In EURm)			
Exposure class	**External rating**	**Exposure**	**EAD**
Sovereign			
	AAA to AA-	1,803	1,803
	A+ to A-	1	0
	BBB+ to B-	1,295	1,285
	< B-	180	180
	Without external rating	7,029	7,066
	Sub-total	**10,308**	**10,335**
Institutions			
	AAA to AA-	8,537	7,237
	A+ to A-	612	640
	BBB+ to B-	1,165	999
	< B-	-	-
	Without external rating	39,471	46,202
	Sub-total	**49,785**	**55,078**
Corporates			
	AAA to AA-	-	-
	A+ to A-	-	-
	BBB+ to B-	105	105
	< B-	29	29
	Without external rating	68,168	50,268
	Sub-total	**68,302**	**50,402**
Retail			
	Without external rating	41,722	29,964
Other			
	Without external rating	45,646	44,830
TOTAL		**215,764**	**190,609**

6.8 CREDIT RISK DETAIL

Amounts indicated in this section correspond solely to credit risk (without counterparty credit risk). They take into account risk exposure for contributions to the default funds of central counterparties (EUR 1.1 billion of RWA as at 31 December 2019).

BREAKDOWN OF CREDIT RISK – OVERVIEW

TABLE 47: CREDIT RISK EXPOSURE, EAD AND RWA BY APPROACH AND EXPOSURE CLASS

The exposures towards Multilateral Development Banks have been reclassified from Institutions to Sovereign.

	31.12.2019								
(In EURm)	IRB approach			Standardised approach			Total		
Exposure class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**
Sovereign	171,106	182,628	5,396	8,370	8,495	7,980	179,476	191,123	13,376
Institutions	49,459	41,870	4,304	13,047	15,679	2,957	62,506	57,549	7,260
Corporates	321,911	221,595	92,792	56,758	36,158	33,280	378,669	257,753	126,072
Retail	171,426	170,360	35,238	46,758	32,899	22,382	218,184	203,259	57,621
Others	36,756	36,522	23,778	58,965	54,436	35,897	95,721	90,959	59,675
TOTAL	**750,657**	**652,977**	**161,507**	**183,898**	**147,666**	**102,498**	**934,555**	**800,642**	**264,005**

The table as at 31 December 2018 has been modified as follows:

	31.12.2018								
(In EURm)	IRB approach			Standardised approach			Total		
Exposure class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**
Sovereign	166,335	178,129	5,821	10,307	10,334	8,425	176,642	188,463	14,246
Institutions	45,783	40,116	4,175	18,646	23,939	4,014	64,429	64,055	8,189
Corporates	326,953	232,571	103,998	66,019	48,119	45,067	392,972	280,690	149,065
Retail	159,434	158,756	33,369	41,435	29,963	20,633	200,869	188,719	54,003
Others	27,418	27,401	17,214	55,956	50,973	34,275	83,373	78,374	51,490
TOTAL	**725,923**	**636,974**	**164,576**	**192,363**	**163,327**	**112,415**	**918,286**	**800,301**	**276,991**

BREAKDOWN OF CREDIT RISK – DETAIL

TABLE 48: CREDIT QUALITY OF EXPOSURES BY EXPOSURE CLASS AND INSTRUMENT (CR1-A)

	31.12.2019			
	Gross carrying values of exposures			
(In EURm)	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	Net values
Central governments and central banks	115	170,990	70	171,036
Institutions	47	49,412	62	49,397
Corporates	5,693	316,218	3,192	318,720
of which: Specialised Lending	*720*	*61,234*	*449*	*61,505*
of which: SME	*1,678*	*39,099*	*985*	*39,792*
Retail	5,896	165,529	3,376	168,050
Secured by real estate property	*2,058*	*109,213*	*665*	*110,607*
SME	*260*	*6,132*	*106*	*6,287*
Non-SME	*1,798*	*103,081*	*559*	*104,320*
Qualifying Revolving	*410*	*4,942*	*315*	*5,037*
Other Retail	*3,428*	*51,374*	*2,396*	*52,405*
SME	1,568	18,352	1,151	18,769
Non-SME	1,860	33,021	1,245	33,636
Equity exposures IRB	-	5,520	-	5,520
TOTAL IRB APPROACH	**11,752**	**707,670**	**6,700**	**712,722**
Central governments or central banks	-	7,927	4	7,923
Regional governments or local authorities	-	724	4	720
Public sector entities	-	423	2	421
Multilateral developments banks	-	443	-	443
International Organisations	-	-	-	-
Institutions	-	11,901	1	11,899
Corporates	-	56,758	258	56,500
of which: SME	-	*11,729*	*91*	*11,638*
Retail	-	46,758	331	46,427
of which: SME	-	*14,651*	*101*	*14,550*
Secured by mortgages on immovable property	-	15,224	155	15,069
of which: SME	-	*1,341*	*20*	*1,321*
Exposures in default	6,727	-	3,453	3,274
Items associated with particularly	70	430	50	450
Covered bonds	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-
Claims in the form of CIU	-	69	-	69
Equity exposures	-	1,636	-	1,636
Other items	-	29,664	-	29,664
TOTAL SA APPROACH	**6,797**	**171,956**	**4,257**	**174,496**
TOTAL	**18,548**	**879,627**	**10,957**	**887,218**
of which: Loans	*17,034*	*603,349*	*10,372*	*610,011*
of which: Debt securities	*6*	*65,572*	*5*	*65,573*
of which: Off-balance-sheet exposures	*1,508*	*210,705*	*580*	*211,633*

TABLE 49: NET EXPOSURES BY EXPOSURE CLASS (CRB-B)

	31.12.2019		31.12.2018	
(In EURm)	**Net value ofexposures at the end of the period**	**Average net exposure over the period**	**Net value ofexposures at the end of the period**	**Average net exposure over the period**
Central governments or central banks	171,036	167,133	166,267	164,088
Institutions	49,397	49,446	45,761	45,823
Corporates	318,720	320,478	323,571	308,470
of which: Specialised Lending	*61,505*	*59,401*	*61,146*	*53,573*
of which: SME	*39,792*	*41,068*	*40,746*	*40,084*
Retail	168,050	162,473	155,770	154,240
of which: Secured by real estate property	*110,607*	*106,596*	*100,056*	*99,109*
of which: SME	*6,287*	*6,280*	*6,110*	*6,124*
of which: Non-SME	*104,320*	*100,316*	*93,946*	*92,986*
of which: Qualifying Revolving	*5,037*	*5,093*	*5,149*	*5,275*
of which: Other Retail	*52,405*	*50,784*	*50,565*	*49,855*
of which: SME	*18,769*	*18,396*	*18,150*	*18,115*
of which: Non-SME	*33,636*	*32,387*	*32,415*	*31,740*
Equity	5,520	4,913	4,202	4,609
TOTAL IRB APPROACH	**712,722**	**704,443**	**695,571**	**677,229**
Central governments or central banks	7,923	9,029	9,998	9,609
Regional governments or localauthorities	720	855	979	915
Public sector entities	421	534	567	477
Multilateral Development Banks	443	440	304	114
International Organisations	-	-	-	-
Institutions	11,899	14,788	17,091	19,458
Corporates	56,500	58,083	65,642	62,499
of which: SME	*11,638*	*12,962*	*19,628*	*18,914*
Retail	46,427	46,761	41,119	41,056
of which: SME	*14,550*	*14,727*	*9,199*	*9,482*
Secured by mortgages on immovable property	15,069	15,073	16,160	14,455
of which: SME	*1,321*	*1,074*	*698*	*597*
Exposures in default	3,274	3,016	3,113	3,178
Items associated with particularly high risk	450	396	-	-
Covered bonds	-	-	2	2
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-
Collective investments undertakings (CIU)	69	110	172	138
Equity exposures	1,636	1,679	1,578	1,455
Other exposures	29,664	30,763	27,150	26,029
TOTAL SA APPROACH	**174,496**	**181,527**	**183,873**	**179,385**
TOTAL	**887,218**	**885,970**	**879,444**	**856,615**

In accordance with the EBA guidelines for revised Pillar 3 (EBA/GL/2016/11), amounts are presented without securitisation, contributions to the default funds of central counterparties, as well as other non-credit obligation assets under the internal approach.

TABLE 50: STANDARDISED APPROACH – CREDIT RISK EXPOSURE AND CREDIT RISK MITIGATION EFFECTS (CRM) (CR4)

The credit conversion factor (CCF) is the ratio between the current undrawn part of a credit line which could be drawn and would therefore be exposed in the event of default and the undrawn part of this credit line. The significance of the credit line depends on the authorised limit, unless the unauthorised limit is greater.

The concept of "credit risk mitigation" (CRM) is the technique used by an institution to reduce the credit risk associated with its exposures.

Amounts indicated in this table are without securitisation and contributions to default funds of CCPs.

	31.12.2019					
(In EURm)	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
Asset classes	**On-balance sheet amount**	**Off-balance sheet amount**	**On-balance sheet amount**	**Off-balance sheet amount**	**RWA**	**RWA density**
Central governments or central banks	7,798	126	7,928	21	7,980	100%
Regional government or local authorities	644	76	661	33	206	30%
Public sector entities	405	16	389	4	120	31%
Multilateral development banks	422	21	545	-	-	0%
International organisations	-	-	-	-	-	
Institutions	6,233	5,666	13,299	1,293	2,631	18%
Corporates	41,170	15,330	32,997	3,160	33,280	92%
Retail	39,941	6,486	31,353	1,546	22,382	68%
Secured by mortgages on immovable property	14,586	482	14,547	189	6,273	43%
Exposures in defaul	2,856	418	2,805	97	3,100	107%
Higher-risk categories	296	154	295	77	561	151%
Covered bonds	-	-	-	-	-	
Institutions and corporates with a short term credit assessment	-	-	-	-	-	
Collective investment undertakings	65	4	65	2	67	100%
Equity	1,636	-	1,636	-	1,942	119%
Other items	29,664	-	29,664	-	22,811	77%
TOTAL	**145,716**	**28,780**	**136,185**	**6,421**	**101,354**	**71%**

	31.12.2018					
(In EURm)	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
Asset classes	**On-balance sheet amount**	**Off-balance sheet amount**	**On-balance sheet amount**	**Off-balance sheet amount**	**RWA**	**RWA density**
Central governments or central banks	9,860	138	9,952	60	8,425	84%
Regional government or local authorities	846	133	860	32	305	34%
Public sector entities	388	179	382	89	122	26%
Multilateral development banks	284	20	322	-	-	0%
International organisations	-	-	-	-	-	
Institutions	16,461	629	21,974	600	3,587	16%
Corporates	50,619	15,022	42,796	5,323	45,067	94%
Retail	35,705	5,414	28,611	1,352	20,622	69%
Secured by mortgages on immovable property	15,924	236	15,403	89	6,967	45%
Exposures in default	2,870	242	2,800	110	3,634	125%
Higher-risk categories	-	-	-	-	-	
Covered bonds	2	-	2	-	-	10%
Institutions and corporates with a short term credit assessment	-	-	-	-	-	
Collective investment undertakings	131	41	131	41	131	76%
Equity	1,578	-	1,578	-	2,765	175%
Other items	27,150	-	27,150	-	19,501	72%
TOTAL	**161,817**	**22,056**	**151,961**	**7,698**	**111,127**	**70%**

TABLE 51: INTERNAL APPROACH - CREDIT RISK EXPOSURES BY EXPOSURE CLASS AND PD RANGE (CR6) - AIRB

The table below pesents Group exposures subject to credit risk and for which an internal model is used with a view to calculating RWA.

	31.12.2019											
(In EURm)	PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD	Average LGD	Average maturity	RWA	RWA density	EL	Value adjust-ments and Provi-sions
Central governments and central banks	0.00 to <0.15	147,518	1,692	64%	173,727	0.01%	3.22%	1.50	1,742	1%	3	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	1,618	23	75%	3,174	0.26%	16.07%	2.93	681	21%	1	
	0.50 to <0.75	13,998	0	0%	2,307	0.50%	30.02%	1.61	1,084	47%	3	
	0.75 to <2.50	1,946	877	75%	2,042	1.79%	24.64%	2.65	996	49%	9	
	2.50 to <10.00	1,854	722	67%	1,025	4.40%	18.22%	3.12	649	63%	9	
	10.00 to <100.00	297	410	50%	237	11.78%	19.73%	1.94	222	94%	6	
	100.00 (default)	115	0	75%	70	100.00%	77.99%	1.49	21	30%	61	
	Sub-total	**167,346**	**3,724**	**66%**	**182,582**	**0.12%**	**4.15%**	**1.55**	**5,396**	**3%**	**93**	**(70)**
Institutions	0.00 to <0.15	25,538	8,090	62%	37,548	0.04%	12.72%	2.46	2,111	6%	3	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	509	636	60%	922	0.26%	24.66%	1.97	229	25%	1	
	0.50 to <0.75	6,093	1,608	8%	732	0.50%	32.32%	1.66	321	44%	1	
	0.75 to <2.50	3,656	967	53%	1,682	1.50%	19.00%	1.59	822	49%	5	
	2.50 to <10.00	1,248	602	33%	764	4.03%	24.64%	1.21	578	76%	7	
	10.00 to <100.00	245	214	38%	170	15.20%	11.79%	1.27	191	113%	6	
	100.00 (default)	47	0	89%	46	100.00%	29.09%	4.23	49	106%	13	
	Sub-total	**37,336**	**12,116**	**52%**	**41,864**	**0.36%**	**14.01%**	**2.37**	**4,302**	**10%**	**35**	**(62)**
Corporate – SME	0.00 to <0.15	752	590	52%	1,274	0.09%	35.87%	2.47	236	19%	2	
	0.15 to <0.25	3,358	500	93%	3,872	0.20%	12.36%	1.05	285	7%	1	
	0.25 to <0.50	1,383	773	49%	1,775	0.28%	37.03%	2.16	614	35%	2	
	0.50 to <0.75	3,836	1,006	48%	3,169	0.51%	33.22%	2.43	1,365	43%	5	
	0.75 to <2.50	9,948	2,421	46%	11,174	1.48%	27.76%	3.34	6,544	59%	47	
	2.50 to <10.00	7,947	1,221	58%	8,876	4.56%	30.24%	2.48	7,055	79%	121	
	10.00 to <100.00	2,349	204	48%	2,500	17.14%	27.01%	2.35	2,558	102%	113	
	100.00 (default)	1,408	167	40%	1,459	100.00%	38.99%	2.04	1,126	77%	689	
	Sub-total	**30,981**	**6,883**	**53%**	**34,099**	**7.30%**	**28.38%**	**2.55**	**19,784**	**58%**	**980**	**(918)**
Corporate – Specialised lending	0.00 to <0.15	5,223	2,911	35%	10,924	0.07%	17.89%	2.94	1,099	10%	1	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	3,268	2,096	40%	3,696	0.26%	14.49%	2.68	652	18%	1	
	0.50 to <0.75	7,727	2,274	50%	8,947	0.50%	13.45%	3.65	2,268	25%	6	
	0.75 to <2.50	15,826	7,114	40%	13,464	1.51%	13.50%	3.22	5,336	40%	32	
	2.50 to <10.00	8,377	3,031	37%	5,811	4.07%	14.80%	2.80	3,183	55%	39	
	10.00 to <100.00	469	56	49%	215	13.76%	17.95%	2.43	180	83%	5	
	100.00 (default)	668	32	60%	602	100.00%	35.87%	2.20	33	5%	359	
	Sub-total	**41,560**	**17,514**	**40%**	**43,660**	**2.60%**	**15.16%**	**3.12**	**12,751**	**29%**	**443**	**(446)**
Corporate – Other	0.00 to <0.15	19,116	73,155	46%	60,138	0.07%	32.54%	2.50	10,048	17%	13	
	0.15 to <0.25	12	2	53%	12	0.16%	33.35%	3.21	4	32%	0	
	0.25 to <0.50	7,629	20,631	44%	15,774	0.26%	30.98%	2.45	5,689	36%	13	
	0.50 to <0.75	21,101	9,581	59%	13,715	0.50%	27.63%	2.39	5,831	43%	18	
	0.75 to <2.50	21,775	16,420	44%	26,166	1.55%	24.82%	2.31	15,695	60%	102	
	2.50 to <10.00	12,024	7,798	46%	15,528	4.25%	26.22%	2.18	13,195	85%	178	
	10.00 to <100.00	2,419	932	39%	2,186	15.35%	27.55%	2.09	2,912	133%	93	
	100.00 (default)	2,512	717	50%	2,703	100.00%	34.90%	1.76	1,333	49%	1,258	
	Sub-total	**86,588**	**129,237**	**47%**	**136,223**	**3.12%**	**29.60%**	**2.39**	**54,707**	**40%**	**1,676**	**(1,717)**
Retail – Secured by real estate SME	0.00 to <0.15	17	5	100%	80	0.03%	11.73%	-	31	39%	0	
	0.15 to <0.25	0	0	0%	0	0.19%	15.74%	-	0	5%	0	
	0.25 to <0.50	863	13	100%	876	0.27%	16.19%	-	57	7%	0	
	0.50 to <0.75	1,606	26	100%	1,592	0.62%	9.65%	-	112	7%	1	
	0.75 to <2.50	2,428	39	100%	2,503	1.11%	13.91%	-	368	15%	4	
	2.50 to <10.00	754	13	100%	767	3.02%	14.75%	-	224	29%	3	
	10.00 to <100.00	360	9	100%	369	16.05%	10.17%	-	163	44%	7	
	100.00 (default)	260	0	100%	207	100.00%	44.17%	-	191	92%	98	
	Sub-total	**6,288**	**105**	**100%**	**6,393**	**5.15%**	**14.00%**	**-**	**1,146**	**18%**	**113**	**(106)**

	31.12.2019											
(In EURm)	**PD scale**	**Original on-balance sheet gross exposure**	**Off-balance sheet exposures pre CCF**	**Average CCF**	**EAD post CRM and post-CCF**	**Average PD**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**	**EL**	**Value adjust-ments and Provi-sions**
Retail – Secured by real estate non-SME	0.00 to <0.15	24,742	984	100%	26,897	0.06%	13.85%	-	2,077	8%	2	
	0.15 to <0.25	22,289	632	88%	22,815	0.22%	14.35%	-	1,481	6%	7	
	0.25 to <0.50	7,625	229	74%	7,686	0.41%	17.59%	-	977	13%	6	
	0.50 to <0.75	12,527	508	83%	12,510	0.62%	10.52%	-	1,247	10%	8	
	0.75 to <2.50	23,467	866	89%	24,179	1.44%	10.62%	-	4,250	18%	33	
	2.50 to <10.00	7,620	156	94%	7,755	4.94%	12.17%	-	3,141	41%	43	
	10.00 to <100.00	1,403	34	99%	1,431	17.93%	9.19%	-	758	53%	26	
	100.00 (default)	1,795	3	97%	1,092	100.00%	42.12%	-	1,128	103%	448	
	Sub-total	**101,467**	**3,412**	**91%**	**104,366**	**2.16%**	**13.19%**	**-**	**15,060**	**14%**	**573**	**(559)**
Retail – Qualifying revolving	0.00 to <0.15	62	1,111	38%	607	0.10%	43.03%	-	16	3%	0	
	0.15 to <0.25	0	286	41%	118	0.23%	35.70%	-	5	5%	0	
	0.25 to <0.50	87	232	37%	356	0.42%	48.77%	-	36	10%	1	
	0.50 to <0.75	108	604	37%	331	0.60%	36.14%	-	33	10%	1	
	0.75 to <2.50	359	567	37%	871	1.48%	44.18%	-	207	24%	6	
	2.50 to <10.00	729	307	38%	1,537	4.77%	45.85%	-	1,036	67%	33	
	10.00 to <100.00	456	36	37%	569	21.77%	43.54%	-	641	113%	52	
	100.00 (default)	403	8	38%	405	100.00%	61.04%	-	196	48%	248	
	Sub-total	**2,203**	**3,150**	**38%**	**4,794**	**12.93%**	**45.50%**	**-**	**2,170**	**45%**	**340**	**(315)**
Retail – Other SME	0.00 to <0.15	35	1	100%	36	0.03%	7.90%	-	0	1%	0	
	0.15 to <0.25	15	6	10%	15	0.24%	31.01%	-	2	11%	0	
	0.25 to <0.50	1,291	357	49%	1,530	0.36%	29.93%	-	224	15%	2	
	0.50 to <0.75	1,382	29	73%	1,320	0.57%	31.86%	-	263	20%	2	
	0.75 to <2.50	8,518	596	66%	8,968	1.46%	24.91%	-	2,101	23%	34	
	2.50 to <10.00	4,229	235	65%	4,464	5.00%	28.79%	-	2,015	45%	65	
	10.00 to <100.00	1,465	195	75%	1,680	19.16%	34.00%	-	952	57%	107	
	100.00 (default)	1,551	16	84%	1,565	100.00%	47.77%	-	553	35%	981	
	Sub-total	**18,485**	**1,435**	**63%**	**19,577**	**11.52%**	**29.24%**	**-**	**6,110**	**31%**	**1,192**	**(1,151)**
Retail – Other non – SME	0.00 to <0.15	1,573	125	100%	1,807	0.09%	18.46%	-	84	5%	0	
	0.15 to <0.25	6,463	1,267	99%	7,708	0.20%	13.30%	-	432	6%	2	
	0.25 to <0.50	4,304	546	100%	4,921	0.38%	30.24%	-	935	19%	5	
	0.50 to <0.75	2,510	102	100%	2,612	0.60%	37.46%	-	816	31%	6	
	0.75 to <2.50	7,769	892	100%	8,732	1.34%	32.06%	-	3,344	38%	39	
	2.50 to <10.00	5,824	229	100%	6,186	4.30%	33.30%	-	3,310	54%	90	
	10.00 to <100.00	1,383	36	58%	1,406	25.32%	33.67%	-	1,094	78%	114	
	100.00 (default)	1,851	9	96%	1,859	100.00%	49.82%	-	737	40%	1,018	
	Sub-total	**31,677**	**3,205**	**99%**	**35,231**	**7.52%**	**28.62%**	**-**	**10,752**	**31%**	**1,275**	**(1,245)**
SPECIALISED LENDING SLOTTING CRITERIA	**Sub-total**	**684**	**2,196**	**0%**	**1,430**	**0.00%**	**0.00%**	**-**	**827**	**58%**	**10**	**(3)**
OTHER NON CREDIT-OBLIGATION ASSETS	**Sub-total**	**35**	**0**	**0%**	**24**	**0.00%**	**0.00%**	**-**	**21**	**88%**	**0**	**-**
SECURITISATION POSITIONS	**Sub-total**	**6,612**	**24,588**	**0%**	**30,978**	**0.00%**	**0.00%**	**-**	**3,695**	**12%**	**0**	**-**
EQUITY	**Sub-total**	**5,520**	**0**	**0%**	**5,520**	**0.00%**	**0.00%**	**-**	**20,061**	**363%**	**129**	**-**
TOTAL	**SUB-TOTAL**	**536,782**	**207,565**	**43%**	**646,740**	**2.69%**	**16.84%**	**2.12**	**156,782**	**24%**	**6,859**	**(6,593)**

The table as at 31 December 2018 has been modified as follows to take into account the integration of default for each exposure class (probability of default equal to 100%):

		31.12.2018										
(In EURm)	PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre-CCF	Average CCF	EAD post CRM and post-CCF	Average PD	Average LGD	Average maturity	RWA	RWA density	EL	Value adjust-ments and Provi-sions
Central governments and central banks	0.00 to <0.15	144,523	2,045	0	169,094	0	0	0	1,981	0	3	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	2,033	25	75%	3,898	0.26%	17.93%	2.61	857	22%	2	
	0.50 to <0.75	12,487	24	58%	2,352	0.50%	35.37%	2.46	1,338	57%	4	
	0.75 to <2.50	1,202	770	75%	1,977	1.86%	25.95%	2.00	935	47%	9	
	2.50 to <10.00	1,539	778	75%	479	6.12%	30.07%	1.88	512	107%	8	
	10.00 to <100.00	284	392	42%	214	11.89%	18.89%	1.92	195	91%	5	
	100.00 (default)	203	0	75%	75	100.00%	66.10%	1.24	2	3%	58	
	Sub-total	**162,271**	**4,034**	**70%**	**178,089**	**0.11%**	**4.39%**	**1.54**	**5,821**	**3%**	**89**	**(68)**
Institutions	0.00 to <0.15	22,107	7,848	58%	35,794	0.04%	11.31%	2.39	1,833	5%	4	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	823	641	61%	1,511	0.26%	19.59%	1.73	371	25%	1	
	0.50 to <0.75	7,910	210	24%	760	0.50%	28.09%	1.28	340	45%	1	
	0.75 to <2.50	3,393	760	54%	1,087	1.44%	18.91%	1.61	580	53%	3	
	2.50 to <10.00	1,054	360	46%	718	4.00%	25.25%	1.31	599	83%	7	
	10.00 to <100.00	272	328	46%	213	15.76%	15.21%	0.99	433	204%	14	
	100.00 (default)	72	0	80%	28	100.00%	25.10%	2.37	16	56%	11	
	Sub-total	**35,631**	**10,146**	**56%**	**40,111**	**0.32%**	**12.47%**	**2.30**	**4,172**	**10%**	**41**	**(22)**
Corporate – SME	0.00 to <0.15	1,028	628	64%	3,385	0.06%	25.18%	1.59	1,009	30%	1	
	0.15 to <0.25	2,680	306	100%	2,985	0.19%	11.21%	1.00	198	7%	1	
	0.25 to <0.50	1,048	658	48%	1,420	0.26%	35.27%	2.33	464	33%	1	
	0.50 to <0.75	5,583	835	53%	3,099	0.51%	34.22%	2.62	1,402	45%	5	
	0.75 to <2.50	9,993	2,022	51%	11,231	1.52%	30.17%	2.94	6,990	62%	55	
	2.50 to <10.00	8,074	1,311	58%	9,077	4.49%	29.87%	2.48	7,310	81%	119	
	10.00 to <100.00	2,550	210	55%	2,704	16.72%	25.38%	2.27	2,754	102%	114	
	100.00 (default)	1,791	183	43%	1,880	100.00%	36.53%	1.89	1,791	95%	773	
	Sub-total	**32,746**	**6,153**	**56%**	**35,780**	**8.21%**	**28.56%**	**2.38**	**21,919**	**61%**	**1,069**	**(995)**
Corporate – Specialised lending	0.00 to <0.15	4,638	2,978	38%	9,285	0.07%	19.61%	2.86	1,047	11%	1	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	2,933	1,509	46%	3,310	0.26%	14.60%	2.81	600	18%	1	
	0.50 to <0.75	7,842	2,712	43%	8,016	0.50%	14.66%	3.16	2,120	26%	6	
	0.75 to <2.50	14,706	7,539	38%	14,137	1.51%	15.97%	3.25	6,062	43%	34	
	2.50 to <10.00	8,629	3,957	35%	7,292	4.10%	16.47%	2.72	3,914	54%	46	
	10.00 to <100.00	479	180	41%	261	14.01%	16.60%	2.36	217	83%	6	
	100.00 (default)	843	95	78%	718	100.00%	36.27%	2.63	129	18%	333	
	Sub-total	**40,068**	**18,970**	**39%**	**43,019**	**3.07%**	**16.61%**	**3.01**	**14,089**	**33%**	**427**	**(380)**
Corporate – Other	0.00 to <0.15	25,227	67,742	50%	65,179	0.07%	31.97%	2.43	11,510	18%	14	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	8,662	19,393	47%	17,923	0.26%	32.20%	2.61	7,019	39%	19	
	0.50 to <0.75	21,005	13,504	44%	14,751	0.50%	30.37%	2.31	7,378	50%	24	
	0.75 to <2.50	20,872	15,216	48%	26,968	1.56%	25.55%	2.28	16,860	63%	110	
	2.50 to <10.00	12,312	9,371	41%	16,736	4.21%	27.13%	2.22	14,706	88%	190	
	10.00 to <100.00	2,643	1,226	46%	2,335	15.33%	31.34%	1.90	3,583	153%	110	
	100.00 (default)	2,747	590	58%	2,765	100.00%	45.52%	2.06	1,617	58%	1,474	
	Sub-total	**93,467**	**127,042**	**48%**	**146,657**	**3.01%**	**30.30%**	**2.37**	**62,673**	**43%**	**1,942**	**(1,895)**
Retail – Secured by real estate SME	0.00 to <0.15	22	3	100%	90	0.04%	13.41%	-	6	6%	0	
	0.15 to <0.25	0	0	0%	0	0.16%	10.00%	-	0	3%	0	
	0.25 to <0.50	741	5	100%	746	0.27%	16.19%	-	49	7%	0	
	0.50 to <0.75	1,459	18	100%	1,476	0.54%	11.45%	-	113	8%	1	
	0.75 to <2.50	2,447	26	100%	2,472	1.13%	13.99%	-	367	15%	4	
	2.50 to <10.00	785	8	100%	793	2.99%	14.68%	-	230	29%	4	
	10.00 to <100.00	396	6	100%	401	16.23%	10.45%	-	182	45%	7	
	100.00 (default)	324	0	100%	259	100.00%	46.51%	-	295	114%	121	
	Sub-total	**6,173**	**67**	**100%**	**6,238**	**6.19%**	**14.86%**	**-**	**1,241**	**20%**	**137**	**(130)**

		31.12.2018										
(In EURm)	PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre-CCF	Average CCF	EAD post CRM and post-CCF	Average PD	Average LGD	Average maturity	RWA	RWA density	EL	Value adjust-ments and Provi-sions
Retail – Secured by real estate non-SME	0.00 to <0.15	22,173	797	100%	24,040	0.06%	15.22%	-	1,803	7%	2	
	0.15 to <0.25	19,638	540	86%	20,084	0.21%	15.43%	-	1,358	7%	6	
	0.25 to <0.50	6,863	226	72%	6,909	0.41%	17.56%	-	881	13%	5	
	0.50 to <0.75	11,256	425	79%	11,334	0.59%	11.81%	-	1,238	11%	8	
	0.75 to <2.50	21,124	654	89%	21,573	1.48%	10.91%	-	4,033	19%	29	
	2.50 to <10.00	7,399	103	92%	7,469	5.15%	11.46%	-	2,768	37%	40	
	10.00 to <100.00	1,395	15	99%	1,405	18.58%	8.98%	-	859	61%	26	
	100.00 (default)	1,908	3	96%	1,118	100.00%	43.41%	-	1,177	105%	455	
	Sub-total	**91,756**	**2,764**	**89%**	**93,932**	**2.38%**	**13.98%**	**-**	**14,117**	**15%**	**571**	**(574)**
Retail – Qualifying revolving	0.00 to <0.15	57	1,071	36%	561	0.09%	42.95%	-	14	3%	0	
	0.15 to <0.25	0	277	38%	105	0.23%	35.07%	-	5	4%	0	
	0.25 to <0.50	89	258	33%	356	0.42%	48.53%	-	36	10%	1	
	0.50 to <0.75	106	597	36%	319	0.61%	34.99%	-	31	10%	1	
	0.75 to <2.50	365	583	35%	883	1.49%	44.01%	-	209	24%	6	
	2.50 to <10.00	764	320	34%	1,574	4.84%	45.07%	-	1,042	66%	34	
	10.00 to <100.00	493	40	34%	617	22.33%	42.51%	-	694	112%	56	
	100.00 (default)	488	9	41%	492	100.00%	54.64%	-	175	36%	311	
	Sub-total	**2,362**	**3,155**	**35%**	**4,906**	**14.73%**	**44.66%**	**-**	**2,206**	**45%**	**408**	**(368)**
Retail – Other SME	0.00 to <0.15	27	1	100%	31	0.03%	7.41%	-	0	1%	0	
	0.15 to <0.25	14	1	100%	15	0.24%	30.59%	-	2	11%	0	
	0.25 to <0.50	1,288	191	85%	1,487	0.36%	29.26%	-	211	14%	2	
	0.50 to <0.75	1,328	35	83%	1,284	0.57%	31.04%	-	249	19%	2	
	0.75 to <2.50	8,109	440	88%	8,612	1.46%	23.91%	-	2,123	25%	31	
	2.50 to <10.00	4,345	208	91%	4,688	5.05%	26.49%	-	1,626	35%	64	
	10.00 to <100.00	1,510	185	99%	1,751	19.46%	33.58%	-	1,084	62%	113	
	100.00 (default)	1,702	15	98%	1,795	100.00%	48.04%	-	657	37%	1,092	
	Sub-total	**18,323**	**1,076**	**90%**	**19,664**	**12.77%**	**28.44%**	**-**	**5,953**	**30%**	**1,304**	**(1,250)**
Retail – Other non – SME	0.00 to <0.15	1,980	209	100%	2,746	0.07%	15.48%	-	116	4%	0	
	0.15 to <0.25	5,337	411	81%	6,020	0.18%	11.06%	-	248	4%	1	
	0.25 to <0.50	4,344	957	74%	4,989	0.39%	28.15%	-	893	18%	5	
	0.50 to <0.75	2,629	139	100%	2,331	0.62%	35.68%	-	702	30%	5	
	0.75 to <2.50	7,329	588	100%	7,968	1.34%	30.37%	-	2,960	37%	34	
	2.50 to <10.00	6,066	285	100%	6,440	4.33%	29.77%	-	2,945	46%	84	
	10.00 to <100.00	1,447	25	99%	1,477	25.17%	30.45%	-	1,195	81%	108	
	100.00 (default)	1,994	18	98%	2,046	100.00%	46.06%	-	794	39%	1,117	
	Sub-total	**31,126**	**2,631**	**84%**	**34,016**	**8.38%**	**26.62%**	**-**	**9,852**	**29%**	**1,354**	**(1,343)**
SPECIALISED LENDING SLOTTING CRITERIA	**Sub-total**	**550**	**1,941**	**0%**	**1,193**	**0.00%**	**0.00%**	**-**	**731**	**61%**	**15**	**(3)**
OTHER NON CREDIT-OBLIGATION ASSETS	**Sub-total**	**47**	**0**	**0%**	**22**	**0.00%**	**0.00%**	**-**	**22**	**100%**	**0**	**-**
SECURITISATION POSITIONS	**Sub-total**	**331**	**22,838**	**0%**	**23,177**	**0.00%**	**0.00%**	**-**	**2,015**	**9%**	**0**	**-**
EQUITY	**Sub-total**	**4,202**	**0**	**0%**	**4,202**	**0.00%**	**0.00%**	**-**	**15,178**	**361%**	**97**	**-**
TOTAL		**519,055**	**200,816**	**44%**	**631,006**	**2.94%**	**17.47%**	**2.09**	**159,988**	**25%**	**7,453**	**(7,027)**

TABLE 52: INTERNAL APPROACH - CREDIT RISK EXPOSURES BY EXPOSURE CLASS AND PD RANGE (CR6) - FIRB

		31.12.2019										
(In EURm)	PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD	Average LGD	Average maturity	RWA	RWA density	EL	Value adjustments and Provisions
Central governments and central banks	0.00 to <0.15	30	5	75%	46	0.02%	44.85%	2.50	0	0%	-	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	-	-	-	-	-	-	-	-	-	-	
	0.50 to <0.75	-	-	-	-	-	-	-	-	-	-	
	0.75 to <2.50	-	-	-	-	-	-	-	-	-	-	
	2.50 to <10.00	-	-	-	-	-	-	-	-	-	-	
	10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	
	100.00 (default)	-	-	-	-	-	-	-	-	-	-	
	Sub-total	**30**	**5**	**75%**	**46**	**0.02%**	**44.85%**	**2.50**	**0**	**0%**	**-**	**(0)**
Institutions	0.00 to <0.15	4	0	75%	4	0.03%	44.68%	2.50	1	16%	0	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	0	-	0%	0	0.26%	45.00%	2.50	0	53%	0	
	0.50 to <0.75	0	-	0%	0	0.50%	45.00%	2.50	0	74%	0	
	0.75 to <2.50	0	-	0%	0	1.10%	45.00%	2.50	0	2%	0	
	2.50 to <10.00	0	-	0%	0	3.28%	44.70%	2.50	1	139%	0	
	10.00 to <100.00	0	-	0%	0	14.33%	45.00%	2.50	0	232%	0	
	100.00 (default)	-	-	-	-	-	-	-	-	-	-	
	Sub-total	**5**	**0**	**75%**	**5**	**0.40%**	**44.69%**	**2.50**	**1**	**29%**	**0**	**(0)**
Corporate – SME	0.00 to <0.15	88	7	50%	92	0.12%	42.83%	2.50	1	2%	0	
	0.15 to <0.25	94	7	75%	99	0.16%	42.56%	2.50	29	30%	0	
	0.25 to <0.50	127	14	75%	137	0.27%	42.68%	2.50	55	40%	0	
	0.50 to <0.75	318	22	75%	332	0.53%	42.50%	2.50	183	55%	1	
	0.75 to <2.50	849	52	75%	890	1.54%	42.60%	2.50	693	78%	6	
	2.50 to <10.00	770	38	75%	792	4.37%	42.75%	2.50	855	108%	15	
	10.00 to <100.00	164	2	75%	160	16.09%	42.72%	2.50	250	156%	11	
	100.00 (default)	102	0	75%	100	100.00%	44.04%	2.50	-	-	44	
	Sub-total	**2,512**	**142**	**74%**	**2,603**	**6.79%**	**42.71%**	**2.50**	**2,067**	**79%**	**77**	**(66)**
Corporate – Other	0.00 to <0.15	955	48	75%	997	0.07%	44.02%	2.50	232	23%	0	
	0.15 to <0.25	3	0	75%	3	0.16%	42.27%	2.50	1	26%	0	
	0.25 to <0.50	165	10	75%	173	0.26%	43.90%	2.50	88	51%	0	
	0.50 to <0.75	548	13	75%	559	0.51%	43.43%	2.50	393	70%	1	
	0.75 to <2.50	632	47	75%	663	1.58%	43.21%	2.50	681	103%	5	
	2.50 to <10.00	636	21	75%	650	4.49%	43.15%	2.50	917	141%	13	
	10.00 to <100.00	86	1	75%	86	15.34%	43.37%	2.50	166	193%	6	
	100.00 (default)	66	0	75%	66	100.00%	43.93%	2.50	-	-	29	
	Sub-total	**3,091**	**140**	**75%**	**3,196**	**3.83%**	**43.54%**	**2.50**	**2,477**	**77%**	**53**	**(40)**
ALTERNATIVE TREATMENT: SECURED BY REAL ESTATE	**Sub-total**	**386**	**-**	**100%**	**386**	**0.00%**	**0.00%**	**-**	**179**	**46%**	**-**	**-**
TOTAL		**6,023**	**287**	**74%**	**6,237**	**5.12%**	**43.18%**	**2.50**	**4,725**	**76%**	**130**	**(107)**

The table as at 31 December 2018 has been modified as follows to take into account the integration of default for each exposure class (probability of default equal to 100%):

		31.12.2018										
(In EURm)	**PD scale**	**Original on-balance sheet gross exposure**	**Off-balance sheet exposures pre CCF**	**Average CCF**	**EAD post CRM and post-CCF**	**Average PD**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**	**EL**	**Value adjustments and Provisions**
Central governments and central banks	0.00 to <0.15	28	2	75%	40	0.01%	44.86%	2.50	0	0%	-	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	-	-	-	0	-	-	-	-	-	-	
	0.50 to <0.75	-	-	-	0	-	-	-	-	-	-	
	0.75 to <2.50	-	-	-	0	-	-	-	-	-	-	
	2.50 to <10.00	-	-	-	0	-	-	-	-	-	-	
	10.00 to <100.00	-	-	-	0	-	-	-	-	-	-	
	100.00 (default)	-	-	-	0	-	-	-	-	-	-	
	Sub-total	**28**	**2**	**75%**	**40**	**0.01%**	**44.86%**	**2.50**	**0**	**0%**	**-**	**-**
Institutions	0.00 to <0.15	3	-	0%	3	0.03%	44.37%	2.50	1	16%	0	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	0	-	0%	0	0.26%	45.00%	2.50	0	69%	0	
	0.50 to <0.75	0	-	0%	0	0.50%	45.00%	2.50	0	74%	0	
	0.75 to <2.50	0	-	0%	0	1.24%	43.97%	2.50	0	22%	0	
	2.50 to <10.00	1	-	0%	1	3.31%	44.47%	2.50	1	142%	0	
	10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	
	100.00 (default)	-	-	-	-	-	-	-	-	-	-	
	Sub-total	**5**	**-**	**0%**	**5**	**0.54%**	**44.40%**	**2.50**	**2**	**35%**	**0**	**(0)**
Corporate – SME	0.00 to <0.15	121	13	68%	131	0.12%	42.65%	2.50	32	25%	0	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	100	7	75%	104	0.26%	42.69%	2.50	41	39%	0	
	0.50 to <0.75	304	27	75%	321	0.50%	42.64%	2.50	163	51%	1	
	0.75 to <2.50	978	61	75%	1,025	1.58%	42.64%	2.50	807	79%	7	
	2.50 to <10.00	698	34	75%	717	4.41%	42.80%	2.50	780	109%	14	
	10.00 to <100.00	138	1	75%	135	15.09%	42.70%	2.50	213	158%	9	
	100.00 (default)	98	0	75%	96	100.00%	44.04%	2.50	-	-	42	
	Sub-total	**2,437**	**142**	**74%**	**2,530**	**6.56%**	**42.74%**	**2.50**	**2,036**	**81%**	**72**	**(64)**
Corporate – Other	0.00 to <0.15	809	80	75%	880	0.07%	43.99%	2.50	220	25%	0	
	0.15 to <0.25	-	-	-	-	-	-	-	-	-	-	
	0.25 to <0.50	169	5	75%	173	0.26%	44.00%	2.50	90	52%	0	
	0.50 to <0.75	442	12	75%	453	0.50%	43.40%	2.50	323	71%	1	
	0.75 to <2.50	733	37	75%	752	1.58%	43.16%	2.50	808	107%	5	
	2.50 to <10.00	504	14	75%	514	4.37%	43.11%	2.50	746	145%	10	
	10.00 to <100.00	60	1	75%	59	15.00%	42.91%	2.50	129	218%	4	
	100.00 (default)	72	-	0%	71	100.00%	44.05%	2.50	-	-	31	
	Sub-total	**2,788**	**149**	**75%**	**2,902**	**4.07%**	**43.51%**	**2.50**	**2,316**	**80%**	**52**	**(45)**
ALTERNATIVE TREATMENT: SECURED BY REAL ESTATE	**Sub-total**	**474**	**26**	**100%**	**492**	**0.00%**	**0.00%**	**-**	**234**	**48%**	**-**	**(0)**
TOTAL		**5,731**	**320**	**69%**	**5,968**	**5.19%**	**43.16%**	**2.50**	**4,588**	**77%**	**124**	**(109)**

TABLE 53: CREDIT RISK IN STANDARDISED APPROACH - EAD DISTRIBUTED BY RISK WEIGHT (CR5)

In accordance with the EBA's guidelines for revised Pillar 3 (EBA/GL/2016/11), amounts are presented without securitisation and contributions to default funds of central counterparties.

	31.12.2019															
(In EURm)	Risk Weight															
Exposure Class	**0%**	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1250%**	**Other Risk Weight**	**Total**
Central governments or central banks	4,023	-	2	-	2	-	83	-	-	1,108	-	2,732	-	-	-	7,949
Regional governments or local authorities	154	-	-	-	418	-	-	-	-	122	-	-	-	-	-	694
Public sector entities	-	-	-	-	340	-	-	-	-	52	-	-	-	-	-	393
Multilateral Development Banks	545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	545
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	1,711	2,884	-	-	9,160	-	179	-	-	640	-	-	-	-	18	14,592
Corporates	-	-	-	-	716	-	1,321	-	326	32,485	332	-	-	-	977	36,158
Retail	-	-	-	-	17	1,496	-	-	30,974	350	-	-	-	-	63	32,899
Secured by mortgages on immovable property	-	-	-	-	-	9,043	1,465	-	2,903	177	-	-	-	-	1,149	14,736
Exposures in default	-	-	-	-	-	-	-	-	-	1,612	897	-	-	-	392	2,902
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	372	-	-	-	-	372
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	67
Equity exposures	3	-	-	-	-	-	-	-	-	657	-	503	-	-	472	1,636
Other exposures	1,039	-	58	-	644	-	1,979	-	-	15,663	1	-	-	-	10,281	29,664
TOTAL	**7,475**	**2,884**	**60**	**-**	**11,297**	**10,539**	**5,027**	**-**	**34,203**	**52,933**	**1,602**	**3,235**	**-**	**-**	**13,353**	**142,606**

	31.12.2018															
(In EURm)	Risk Weight															
Exposure Class	**0%**	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1250%**	**Other Risk Weight**	**Total**
Central governments or central banks	5,481	-	-	-	5	-	62	-	-	1,844	-	2,620	-	-	-	10,012
Regional governments or local authorities	171	-	-	-	513	-	13	-	-	196	-	-	-	-	-	892
Public sector entities	-	-	-	-	436	-	-	-	-	35	-	-	-	-	-	472
Multilateral Development Banks	322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	322
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	4,430	4,060	-	-	12,877	3	546	-	-	655	-	-	-	-	3	22,574
Corporates	-	21	-	-	905	-	685	-	543	44,964	428	-	-	-	574	48,119
Retail	-	-	-	-	-	860	-	-	28,686	314	-	-	-	-	103	29,963
Secured by mortgages on immovable property	-	-	-	-	-	9,295	514	-	3,998	274	-	-	-	-	1,412	15,492
Exposures in default	-	-	-	-	-	-	-	-	-	1,062	1,636	-	-	-	212	2,910
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Covered bonds	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	42	-	-	-	-	-	-	-	-	128	2	-	-	-	-	172
Equity exposures	3	-	-	-	-	-	-	-	-	332	11	943	-	-	290	1,578
Other exposures	-	-	-	-	207	-	130	-	-	18,017	-	-	-	-	8,796	27,150
TOTAL	**10,450**	**4,081**	**-**	**2**	**14,943**	**10,157**	**1,950**	**-**	**33,227**	**67,821**	**2,076**	**3,562**	**-**	**-**	**11,389**	**159,659**

TABLE 54: GEOGRAPHICAL BREAKDOWN OF NET EXPOSURES (CRB-C)

The EBA's recommendation to institutions for this table (EBA Guidelines 2016/11) is to report exposures only for material exposure classes, as described in EBA Guidelines 2014/14. Societe Generale opted not to present unused exposure classes.

In accordance with the EBA's guidelines for revised Pillar 3 (EBA/GL/2016/11), amounts are presented without securitisation, contributions to default funds of CCPs, as well as other non-credit obligation assets under the internal approach.

	2019									
(In EURm)	France	United Kingdom	Germany	Italy	Luxem-bourg	Spain	Switzer-land	Other Western European countries	Czech Republic	Romania
Central governments or central banks	64,954	3,680	4,306	498	4,333	124	11,744	3,138	3,703	3,452
Institutions	22,382	2,043	237	141	815	913	385	1,633	1,392	1
Corporates	123,438	10,966	11,208	8,336	7,491	7,285	7,712	20,609	15,373	282
Retail	140,255	1,715	3,131	5,238	163	49	921	711	14,163	1
Equity	4,774	13	11	1	360	0	5	103	43	13
TOTAL IRB APPROACH	**355,802**	**18,416**	**18,894**	**14,213**	**13,162**	**8,372**	**20,768**	**26,193**	**34,673**	**3,748**
Central governments or central banks	3,399	864	389	938	23	72	64	163	5	26
Regional governments or local authorities	249	1	36	25	-	46	0	32	2	197
Public sector entities	46	75	42	3	-	19	6	93	12	4
Multilateral Development Banks	375	47	-	-	-	-	-	-	-	-
International Organisations	-	-	-	-	-	-	-	-	-	-
Institutions	1,913	1,026	553	60	9	315	50	228	3	4
Corporates	18,731	1,048	2,128	1,995	546	626	266	4,065	1,488	2,541
Retail	20,822	2,044	6,552	1,748	4	587	297	1,025	1,022	2,440
Secured by mortgages on immovable property	4,062	352	1,536	3	0	2	7	1	20	2,839
Exposures in default	938	51	144	109	1	34	4	592	46	103
Items associated with particularly high risk	97	-	-	-	-	-	-	-	-	1
Covered bonds	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	21	6	-	4	24	0	0	7	-	-
Equity exposures	679	48	7	14	8	-	83	274	-	6
Other exposures	11,212	1,858	2,448	2,595	786	1,561	181	3,139	862	432
TOTAL SA APPROACH	**62,543**	**7,420**	**13,833**	**7,495**	**1,400**	**3,263**	**959**	**9,617**	**3,460**	**8,593**
TOTAL	**418,345**	**25,836**	**32,727**	**21,708**	**14,562**	**11,635**	**21,727**	**35,810**	**38,132**	**12,341**

(In EURm)	2019									
	Other Eastern European countries EU	Russia	Other Eastern European countries excluding EU	United States	Other countries of North America	Latin America and Caribbean	Africa and Middle East	Japan	Asia-Pacific	Total
Central governments or central banks	896	2,521	556	38,696	201	1,311	10,425	12,736	3,764	171,036
Institutions	664	98	1,646	7,810	1,013	327	2,514	335	5,047	49,397
Corporates	2,853	2,964	3,872	52,244	2,826	9,172	11,179	1,782	19,129	318,720
Retail	25	73	92	22	5	46	1,293	4	143	168,050
Equity	6	23	-	3	90	5	59	-	14	5,520
TOTAL IRB APPROACH	**4,444**	**5,679**	**6,166**	**98,774**	**4,134**	**10,860**	**25,470**	**14,857**	**28,097**	**712,722**
Central governments or central banks	54	16	2	536	3	115	1,172	16	68	7,923
Regional governments or local authorities	2	34	-	0	80	-	16	-	-	720
Public sector entities	0	23	-	62	-	-	36	-	-	421
Multilateral Development Banks	-	21	-	-	-	-	-	-	-	443
International Organisations	-	-	-	-	-	-	-	-	-	-
Institutions	72	643	3	5,509	150	343	197	252	569	11,899
Corporates	1,630	6,658	251	1,288	79	342	12,546	1	270	56,500
Retail	473	4,118	10	130	12	23	5,008	1	113	46,427
Secured by mortgages on immovable property	0	3,275	0	1	0	5	2,955	0	11	15,069
Exposures in default	37	108	2	9	1	10	1,083	0	2	3,274
Items associated with particularly high risk	-	-	-	-	-	-	352	-	-	450
Covered bonds	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	0	-	-	4	0	0	3	-	0	69
Equity exposures	2	-	-	430	4	-	61	2	19	1,636
Other exposures	336	768	242	720	21	390	1,197	49	868	29,664
TOTAL SA APPROACH	**2,607**	**15,664**	**511**	**8,689**	**349**	**1,228**	**24,626**	**320**	**1,920**	**174,496**
TOTAL	**7,051**	**21,344**	**6,676**	**107,463**	**4,484**	**12,088**	**50,096**	**15,177**	**30,017**	**887,218**

	2018									
(In EURm)	**France**	**United Kingdom**	**Germany**	**Italy**	**Luxembourg**	**Spain**	**Switzer-land**	**Other Western European countries**	**Czech Republic**	**Romania**
Central governments or central banks	57,653	2,499	3,737	1,123	5,877	176	15,640	3,096	3,395	3,584
Institutions	19,981	2,370	1,047	189	350	279	1,005	3,478	1,213	2
Corporates	122,256	18,742	14,001	8,870	7,671	7,224	7,193	21,215	15,022	206
Retail	129,975	1,609	3,148	4,567	191	66	757	606	13,545	1
Equity	3,496	101	10	1	338	0	1	104	30	13
TOTAL IRB APPROACH	**333,361**	**25,321**	**21,943**	**14,750**	**14,427**	**7,745**	**24,596**	**28,499**	**33,206**	**3,806**
Central governments or central banks	3,507	1,276	564	595	34	95	45	335	15	31
Regional governments or local authorities	356	6	59	42	-	43	0	34	1	240
Public sector entities	59	86	33	3	-	16	10	92	14	1
Multilateral Development Banks	-	-	-	-	284	-	-	-	-	-
International Organisations	-	-	-	-	-	-	-	-	-	-
Institutions	2,589	2,639	857	196	30	407	90	860	5	6
Corporates	19,843	1,662	2,125	1,673	358	739	580	4,397	1,572	2,897
Retail	16,144	1,069	6,689	1,289	17	486	93	1,054	680	2,119
Secured by mortgages on immovable property	2,441	397	1,271	840	0	12	29	109	8	2,849
Exposures in default	1,051	46	186	147	0	22	52	43	56	120
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	2	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	21	7	-	45	16	0	2	11	-	2
Equity exposures	925	40	7	15	-	-	7	75	-	6
Other exposures	10,909	1,452	1,980	2,467	764	1,444	193	2,891	730	368
TOTAL SA APPROACH	**57,846**	**8,680**	**13,771**	**7,312**	**1,503**	**3,266**	**1,102**	**9,903**	**3,080**	**8,638**
TOTAL	**391,206**	**34,001**	**35,714**	**22,062**	**15,930**	**11,010**	**25,697**	**38,402**	**36,286**	**12,445**

	2018									
(In EURm)	**Other Eastern European countries EU**	**Russia**	**Other Eastern European countries excluding EU**	**United States**	**Other countries of North America**	**Latin America and Caribbean**	**Africa and Middle East**	**Japan**	**Asia-Pacific**	**Total**
Central governments or central banks	1,461	2,440	1,163	41,273	279	1,549	8,920	9,254	3,149	166,267
Institutions	129	139	1,390	6,012	1,256	99	2,516	229	4,076	45,761
Corporates	3,190	2,225	3,898	51,363	1,601	5,141	11,836	1,363	20,555	323,571
Retail	34	79	45	21	5	56	918	4	141	155,770
Equity	4	14	8	11	2	11	37	2	19	4,202
TOTAL IRB APPROACH	**4,818**	**4,897**	**6,505**	**98,680**	**3,143**	**6,856**	**24,228**	**10,853**	**27,939**	**695,571**
Central governments or central banks	1,077	35	487	451	1	55	1,310	19	66	9,998
Regional governments or local authorities	60	43	15	0	75	-	5	-	0	979
Public sector entities	4	13	3	38	1	-	19	-	175	567
Multilateral Development Banks	-	20	-	-	-	-	-	-	-	304
International Organisations	-	-	-	-	-	-	-	-	-	-
Institutions	88	245	57	4,175	592	354	379	1,634	1,887	17,091
Corporates	4,718	6,027	2,782	2,432	44	347	13,082	15	346	65,642
Retail	3,381	3,077	1,003	105	2	9	3,782	1	120	41,119
Secured by mortgages on immovable property	2,655	2,491	813	9	6	1	2,205	0	22	16,160
Exposures in default	277	90	77	18	0	5	920	2	1	3,113
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-	-	-	2
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	3	-	-	64	1	-	0	-	0	172
Equity exposures	2	-	-	294	-	-	191	1	14	1,578
Other exposures	467	557	336	462	17	334	1,172	105	501	27,150
TOTAL SA APPROACH	**12,733**	**12,598**	**5,573**	**8,048**	**740**	**1,104**	**23,067**	**1,778**	**3,133**	**183,873**
TOTAL	**17,551**	**17,495**	**12,078**	**106,728**	**3,882**	**7,960**	**47,294**	**12,630**	**31,073**	**879,444**

TABLE 55: CONCENTRATION OF EXPOSURES BY INDUSTRY OR COUNTERPARTY TYPE (CRB-D)

	31.12.2019													
(In EURm)	**Finance & Insurance**	**Real estate**	**Public adminis-tration**	**Food & agri-culture**	**Cons-umer goods**	**Chemi-cals, rubber, plastics**	**Retail trade**	**Whole-sale trade**	**Cons-truction**	**Trans-port equip. Manuf.**	**Education and asso-ciative activities**	**Hotels and catering**	**Auto-mobiles**	**Machinery and equip-ment**
Central governments and central banks	4,884	-	162,891	-	(0)	-	-	-	(0)	-	112	-	(0)	(0)
Institutions	31,301	143	13,950	-	-	-	0	(0)	8	-	4	4	71	-
Corporates	40,610	31,697	3,604	12,090	6,131	6,257	14,639	23,428	15,267	5,762	394	4,793	10,199	12,848
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equity Exposures IRB	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL IRB APPROACH	**76,795**	**31,840**	**180,444**	**12,090**	**6,131**	**6,257**	**14,640**	**23,428**	**15,274**	**5,762**	**510**	**4,796**	**10,270**	**12,848**
Central governments or central banks	10	0	2,914	-	-	-	-	-	0	-	3	0	-	-
Regional governments or local authorities	0	14	485	0	-	-	-	-	0	-	15	0	-	0
Public sector entities	4	48	137	0	-	-	0	0	0	-	64	1	-	-
Multilateral developments banks	443	-	-	-	-	-	-	-	-	-	-	-	-	-
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	10,305	-	610	-	-	-	-	-	-	-	0	-	180	-
Corporates	7,299	3,510	105	3,826	1,171	1,520	5,176	5,154	3,311	686	1,211	828	1,109	1,965
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Secured by mortgages on immovable property	9	1,163	0	73	33	12	92	138	67	0	68	77	2	16
Exposures in default	4	103	3	107	29	17	115	173	185	8	5	67	5	22
Items associated with particularly high risk	0	434	-	0	0	-	-	1	5	-	-	1	-	-
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims in the form of CIU	69	-	-	-	-	-	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other items	1	0	32	3	2	2	11	7	2	0	2	0	2	3
TOTAL SA APPROACH	**18,145**	**5,273**	**4,287**	**4,009**	**1,236**	**1,552**	**5,394**	**5,472**	**3,570**	**694**	**1,368**	**975**	**1,297**	**2,007**
TOTAL	**94,940**	**37,113**	**184,731**	**16,099**	**7,367**	**7,809**	**20,033**	**28,901**	**18,845**	**6,456**	**1,878**	**5,771**	**11,567**	**14,855**

	31.12.2019												
(In EURm)	**Wood and paper industry**	**Metals, minerals**	**Media**	**Oil and Gas**	**Health, social services**	**Business services (including conglo-merates)**	**Collective services**	**Personal and domestic Services**	**Telecoms**	**Transport & logistics**	**Retail**	**Others**	**Total**
Central governments and central banks	-	(0)	(0)	-	1,789	236	(0)	1	-	-	-	1,124	171,036
Institutions	-	-	-	(0)	34	811	468	0	33	693	-	1,877	49,397
Corporates	932	10,639	3,428	24,794	1,771	36,611	21,500	167	9,553	21,495	-	109	318,720
Retail	-	-	-	-	-	-	-	-	-	-	168,050	-	168,050
Equity Exposures IRB	-	-	-	-	-	-	-	-	-	-	-	5,520	5,520
TOTAL IRB APPROACH	**932**	**10,639**	**3,428**	**24,794**	**3,594**	**37,658**	**21,968**	**168**	**9,587**	**22,188**	**168,050**	**8,630**	**712,722**
Central governments or central banks	-	-	-	-	27	0	-	-	-	-	-	4,968	7,923
Regional governments or local authorities	-	-	0	-	61	11	1	-	-	66	-	67	720
Public sector entities	-	-	0	-	86	70	6	0	0	5	-	0	421
Multilateral developments banks	-	-	-	-	-	-	-	-	-	-	-	-	443
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	-	-	-	-	20	-	-	-	-	-	783	11,899
Corporates	627	3,282	532	1,120	1,517	5,063	3,188	119	1,077	2,795	-	309	56,500
Retail	-	-	-	-	-	-	-	-	-	-	46,427	-	46,427
Secured by mortgages immovable property	8	84	5	1	106	93	13	4	6	30	12,970	-	15,069
Exposures in default	9	55	9	1	7	61	38	3	12	50	-	2,185	3,274
Items associated with particularly high risk	-	-	-	-	-	8	-	0	-	-	-	-	450
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims in the form of CIU	-	-	-	-	-	-	-	-	-	-	-	-	69
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	1,636	1,636
Other items	0	3	0	0	2	24	0	0	0	7	-	29,560	29,664
TOTAL SA APPROACH	**644**	**3,424**	**547**	**1,122**	**1,805**	**5,351**	**3,246**	**126**	**1,095**	**2,952**	**59,397**	**39,508**	**174,496**
TOTAL	**1,577**	**14,063**	**3,975**	**25,916**	**5,399**	**43,009**	**25,214**	**293**	**10,681**	**25,140**	**227,447**	**48,138**	**887,218**

(In EURm)	31.12.2018 Finance & Insurance	Real estate	Public adminis-tration	Food & agri-culture	Consumer goods	Chemicals, rubber, plastics	Retail trade	Whole-sale trade	Cons-truction	Transport equip. Manuf.	Education and asso-ciative activities	Hotels and catering	Auto-mobiles	Machinery and equip-ment
Central governments and central banks	3,834	0	159,198	0	0	0	0	0	0	0	117	0	0	0
Institutions	30,184	56	12,559	0	0	0	0	0	11	0	20	4	6	0
Corporates	41,714	31,103	5,364	13,118	5,957	6,935	16,675	24,376	15,959	5,921	463	4,971	9,397	14,455
Retail	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equity Exposures IRB	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL IRB APPROACH	**75,732**	**31,159**	**177,121**	**13,118**	**5,957**	**6,935**	**16,675**	**24,376**	**15,971**	**5,921**	**599**	**4,974**	**9,403**	**14,455**
Central governments or central banks	1	0	4,616	0	0	0	0	0	31	0	4	0	0	0
Regional governments or local authorities	0	16	647	0	0	0	1	0	1	0	13	1	0	0
Public sector entities	8	50	135	1	0	0	0	0	0	0	63	1	0	0
Multilateral developments banks	304	0	0	0	0	0	0	0	0	0	0	0	0	0
International Organisations	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Institutions	16,224	0	0	0	0	0	0	0	0	0	0	0	50	0
Corporates	7,107	4,465	250	4,143	1,360	1,887	5,459	8,318	3,877	797	1,079	1,093	984	2,932
Retail	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Secured by mortgages on immovable property	1	231	0	46	10	9	22	92	67	0	28	47	7	17
Exposures in default	6	211	6	76	29	21	139	102	122	7	8	81	8	28
Items associated with particularly high risk	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Covered bonds	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Claims in the form of CIU	172	0	0	0	0	0	0	0	0	0	0	0	0	0
Equity exposures	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other items	1	0	31	2	2	2	8	6	2	0	2	0	0	3
TOTAL SA APPROACH	**23,827**	**4,974**	**5,684**	**4,268**	**1,402**	**1,919**	**5,629**	**8,518**	**4,099**	**804**	**1,196**	**1,222**	**1,048**	**2,980**
TOTAL	**99,559**	**36,133**	**182,804**	**17,386**	**7,358**	**8,854**	**22,304**	**32,894**	**20,070**	**6,725**	**1,795**	**6,196**	**10,452**	**17,434**

	31.12.2018												
(In EURm)	**Wood and paper industry**	**Metals, minerals**	**Media**	**Oil and Gas**	**Health, social services**	**Business services (including conglo-merates)**	**Collective services**	**Personal and domestic Services**	**Telecoms**	**Transport & logistics**	**Retail**	**Others**	**Total**
Central governments and central banks	0	0	0	0	1,917	0	0	1	0	13	0	1,187	166,267
Institutions	0	0	2	0	37	315	464	0	37	494	0	1,572	45,761
Corporates	881	10,955	3,671	25,244	1,926	33,661	21,428	194	10,164	18,903	0	137	323,571
Retail	0	0	0	0	0	0	0	0	0	0	155,770	0	155,770
Equity Exposures IRB	0	0	0	0	0	0	0	0	0	0	0	4,202	4,202
TOTAL IRB APPROACH	**881**	**10,955**	**3,673**	**25,244**	**3,881**	**33,977**	**21,891**	**195**	**10,201**	**19,410**	**155,770**	**7,098**	**695,571**
Central governments or central banks	0	0	0	0	30	0	1	0	0	0	0	5,316	9,998
Regional governments or local authorities	0	0	0	0	59	13	13	0	0	81	0	135	979
Public sector entities	0	0	0	0	70	224	9	0	0	5	0	0	567
Multilateral developments banks	0	0	0	0	0	0	0	0	0	0	0	0	304
International Organisations	0	0	0	0	0	0	0	0	0	0	0	0	0
Institutions	0	0	0	0	0	17	0	0	0	0	0	799	17,091
Corporates	639	3,633	640	1,209	1,970	4,795	3,538	198	1,082	3,513	0	675	65,642
Retail	0	0	0	0	0	0	0	0	0	0	41,119	0	41,119
Secured by mortgages immovable property	3	36	3	1	30	45	6	0	0	13	15,446	0	16,160
Exposures in default	11	74	9	1	7	66	42	4	5	53	0	1,998	3,113
Items associated with particularly high risk	0	0	0	0	0	0	0	0	0	0	0	0	0
Covered bonds	0	0	0	0	0	0	0	0	0	0	0	0	2
Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	0	0	0	0	0	0
Claims in the form of CIU	0	0	0	0	0	0	0	0	0	0	0	0	172
Equity exposures	0	0	0	0	0	0	0	0	0	0	0	1,578	1,578
Other items	0	2	2	0	2	25	0	0	0	13	0	27,045	27,150
TOTAL SA APPROACH	**653**	**3,746**	**654**	**1,211**	**2,168**	**5,186**	**3,609**	**202**	**1,087**	**3,678**	**56,565**	**37,545**	**183,873**
TOTAL	**1,534**	**14,701**	**4,326**	**26,455**	**6,049**	**39,163**	**25,500**	**397**	**11,289**	**23,088**	**212,335**	**44,644**	**879,444**

TABLE 56: MATURITY OF EXPOSURES (CRB-E)

The exposures are presented without retail portfolio.

As at 31 December 2019, 36% of the total net exposure to credit risk (excluding retail exposures) has a maturity that is lower than one year (compared with 36% in 2018) and 42% has a maturity comprised between one and five years (compared with 43% in 2018).

	31.12.2019				
	Net exposure value				
(In EURm)	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
Central governments and central banks	114,073	35,328	21,634	-	171,036
Institutions	20,003	15,782	13,612	-	49,397
Corporates	74,878	181,867	61,975	-	318,720
Equity Exposures IRB	-	-	-	5,520	5,520
TOTAL IRB APPROACH	**208,954**	**232,977**	**97,222**	**5,520**	**544,673**
Central governments or central banks	892	6,906	125	-	7,923
Regional governments or local authorities	132	322	266	-	720
Public sector entities	51	229	141	-	421
Multilateral developments banks	21	422	-	-	443
International Organisations	-	-	-	-	-
Institutions	1,549	10,323	27	-	11,899
Corporates	24,208	23,300	8,992	-	56,500
Exposures in default	569	2,479	226	-	3,274
Items associated with particularly high risk	149	240	62	-	450
Covered bonds	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-
Claims in the form of CIU	30	39	0	-	69
Equity exposures	-	-	-	1,636	1,636
Other items	-	-	-	29,664	29,664
TOTAL SA APPROACH	**27,601**	**44,261**	**9,838**	**31,300**	**113,000**
TOTAL	**236,554**	**277,238**	**107,060**	**36,821**	**657,672**

The table as at 31 December 2018 has been modified as follows:

	31.12.2018				
	Net exposure value				
(In EURm)	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
Central governments and central banks	114,862	29,530	21,875	-	166,267
Institutions	21,425	11,917	12,419	-	45,761
Corporates	78,054	188,237	57,280	-	323,571
Equity Exposures IRB	-	-	-	4,202	4,202
TOTAL IRB APPROACH	**214,341**	**229,684**	**91,574**	**4,202**	**539,801**
Central governments or central banks	865	8,572	561	-	9,998
Regional governments or local authorities	235	466	278	-	979
Public sector entities	219	196	151	-	567
Multilateral developments banks	20	263	21	-	304
International Organisations	-	-	-	-	-
Institutions	1,228	15,704	159	-	17,091
Corporates	24,105	31,776	9,761	-	65,642
Exposures in default	522	2,371	220	-	3,113
Items associated with particularly high risk	-	-	-	-	-
Covered bonds	2	-	-	-	2
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-
Claims in the form of CIU	75	94	3	-	172
Equity exposures	-	-	-	1,578	1,578
Other items	-	-	-	27,150	27,150
TOTAL SA APPROACH	**27,271**	**59,442**	**11,154**	**28,728**	**126,595**
TOTAL	**241,612**	**289,126**	**102,727**	**32,930**	**666,396**

TABLE 57: CREDIT RISK MITIGATION TECHNIQUES – OVERVIEW (CR3)

	31.12.2019			
(In EURm)	Exposures unsecured - Carrying amount	Exposures secured - Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees
Total loans	380,896	250,974	116,495	134,479
Total debt securities	66,963	152	-	152
TOTAL EXPOSURES	**447,859**	**251,126**	**116,495**	**134,631**

	31.12.2018			
(In EURm)	Exposures unsecured - Carrying amount	Exposures secured - Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees
Total loans	387,962	239,880	115,925	123,954
Total debt securities	63,044	147	0	147
TOTAL EXPOSURES	**451,006**	**240,027**	**115,925**	**124,101**

TABLE 58: IMPACT OF CREDIT RISK DERIVATIVES USED AS CRM TECHNIQUES ON RWA – IRB (CR7)

The following table excludes securitisation risk and features credit risk as well as counterparty credit risk without CVA charges and without exposures cleared through CCPs.

	31.12.2019	
(In EURm)	**Pre-credit derivatives**	**Actual RWAs**
Exposures under FIRB	**4,725**	**4,725**
Central governments and central banks	0	0
Institutions	1	1
Corporate - SME	2,067	2,067
Corporate - Specialised lending	-	-
Corporate - Other	2,656	2,656
Exposures under AIRB	**167,823**	**166,928**
Central governments and central banks	5,769	5,698
Institutions	7,235	7,195
Corporate - SME	19,992	19,992
Corporate - Specialised lending	13,898	13,897
Corporate - Other	65,598	64,817
Retail - Secured by real estate SME	1,146	1,146
Retail - Secured by real estate non-SME	15,069	15,069
Retail - Qualifying revolving	2,170	2,170
Retail - Other SME	6,110	6,110
Retail - Other non - SME	10,752	10,752
Equity exposures IRB	20,061	20,061
Other non credit-obligation assets	21	21
TOTAL	**172,548**	**171,653**

The table as at 31 December 2018 has been modified as follows:

	31.12.2018	
(In EURm)	**Pre-credit derivatives**	**Actual RWAs**
Exposures under FIRB	**4,588**	**4,588**
Central governments and central banks	0	0
Institutions	2	2
Corporate - SME	2,036	2,036
Corporate - Specialised lending	-	-
Corporate - Other	2,550	2,550
Exposures under AIRB	**168,154**	**168,154**
Central governments and central banks	6,483	6,480
Institutions	7,983	7,983
Corporate - SME	20,327	20,327
Corporate - Specialised lending	15,006	15,006
Corporate - Other	73,536	72,827
Retail - Secured by real estate SME	946	946
Retail - Secured by real estate non-SME	13,001	13,001
Retail - Qualifying revolving	2,031	2,031
Retail - Other SME	5,296	5,296
Retail - Other non - SME	9,058	9,058
Equity exposures IRB	15,178	15,178
Other non credit-obligation assets	22	22
TOTAL	**173,455**	**172,743**

TABLE 59: SPECIALISED LENDING AND EQUITIES – INTERNAL APPROACH (CR10)

(In EURm)	31.12.2019						
	Specialised lending						
Regulatory categories	**Remaining maturity**	**On-balance sheet amount**	**Off-balance sheet amount**	**Risk weight**	**Exposure amount**	**RWAs**	**Expected losses**
Category 1	Less than 2.5 years	292	1,615	50%	815	397	-
	Equal to or more than 2.5 years	34	104	70%	58	40	0
Category 2	Less than 2.5 years	280	361	70%	437	279	2
	Equal to or more than 2.5 years	18	40	90%	34	30	0
Category 3	Less than 2.5 years	35	72	115%	60	66	2
	Equal to or more than 2.5 years	1	1	115%	1	1	0
Category 4	Less than 2.5 years	6	2	250%	7	14	1
	Equal to or more than 2.5 years	-	0	250%	0	0	0
Category 5	Less than 2.5 years	18	1	0%	18	-	5
	Equal to or more than 2.5 years	-	1	0%	0	-	0
Total	**Less than 2.5 years**	**631**	**2,051**		**1,337**	**756**	**9**
	Equal to or more than 2.5 years	**53**	**146**		**92**	**71**	**1**
Equities under the simple risk-weighted approach							
Categories		**On-balance sheet amount**	**Off-balance sheet amount**	**Risk weight**	**Exposure amount**	**RWAs**	**Capital requirements**
Private equity exposures		185	-	190%	185	352	28
Exchange-traded equity exposures		38	-	290%	38	111	9
Other equity exposures		5,297	-	370%	5,297	19,599	1,568
TOTAL		**5,520**	**-**		**5,520**	**20,061**	**1,605**

(In EURm)	31.12.2018						
	Specialised lending						
Regulatory categories	**Remaining maturity**	**On-balance sheet amount**	**Off-balance sheet amount**	**Risk weight**	**Exposure amount**	**RWAs**	**Expected losses**
Category 1	Less than 2.5 years	238	1,480	50%	705	352	1
	Equal to or more than 2.5 years	24	45	70%	40	28	0
Category 2	Less than 2.5 years	217	331	70%	349	244	2
	Equal to or more than 2.5 years	12	7	90%	14	13	0
Category 3	Less than 2.5 years	33	53	115%	50	58	1
	Equal to or more than 2.5 years	1	0	115%	1	1	0
Category 4	Less than 2.5 years	6	21	250%	14	35	1
	Equal to or more than 2.5 years	0	0	250%	0	0	0
Category 5	Less than 2.5 years	19	1	0%	19	0	9
	Equal to or more than 2.5 years	0	2	0%	0	0	0
Total	**Less than 2.5 years**	**513**	**1,886**		**1,137**	**689**	**14**
	Equal to or more than 2.5 years	**37**	**55**		**55**	**42**	**0**
Equities under the simple risk-weighted approach							
Categories		**On-balance sheet amount**	**Off-balance sheet amount**	**Risk weight**	**Exposure amount**	**RWAs**	**Capital requirements**
Private equity exposures		197	0	190%	197	375	30
Exchange-traded equity exposures		18	0	290%	18	52	4
Other equity exposures		3,987	0	370%	3,987	14,751	1,180
TOTAL		**4,202**	**0**		**4,202**	**15,178**	**1,214**

TABLE 60: RWA AND CAPITAL REQUIREMENTS FLOW STATEMENTS OF CREDIT RISK EXPOSURES UNDER IRB APPROACH (CR8)

(In EURm)	RWA amounts	Capital requirements
RWA as at end of previous reporting period (31.12.2018)	**164,576**	**13,166**
Asset size	(765)	(61)
Asset quality	(2,585)	(207)
Model updates	22	2
Methodology and policy	(886)	(71)
Acquisitions and disposals	(429)	(34)
Foreign exchange movements	848	68
Other	725	58
RWA as at end of reporting period (31.12.2019)	**161,507**	**12,921**

BREAKDOWN OF CREDIT RISK – IMPAIRED EXPOSURES AND IMPAIRMENTS

TABLE 61: CHANGES IN CREDIT RISK ADJUSTMENTS (CR2-A)

	31.12.2019			
(In EURm)	Stage 1	Stage 2	Stage 3	Total
Opening balance	(1,037)	(1,202)	(9,888)	(12,127)
Increases due to origination and acquisition	(340)	(226)	(163)	(729)
Decreases due to derecognition	284	262	192	737
Changes due to change in credit risk (net)	106	(78)	(1,040)	(1,011)
Decrease in allowance account due to write-offs	-	-	1,856	1,856
Other adjustments	(11)	(4)	(120)	(135)
Closing balance	(999)	(1,248)	(9,163)	(11,409)
Recoveries of previously written-off amounts recorded directly to the statement of profit or loss	-	-	104	104
Amounts written-off directly to the statement of profit or loss	-	-	(278)	(278)

6.9 COUNTERPARTY RISK DETAIL

Amounts indicated in this section correspond solely to counterparty risk (*i.e.* without credit risk).

BREAKDOWN OF COUNTERPARTY RISK – OVERVIEW

TABLE 62: COUNTERPARTY CREDIT RISK EXPOSURE, EAD AND RWA BY APPROACH AND EXPOSURE CLASS

	31.12.2019								
(In EURm)	IRB			Standard			Total		
Exposure class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**
Sovereign	22,843	22,954	302	3	3	-	22,845	22,956	302
Institutions	20,006	20,005	2,901	29,209	29,209	1,035	49,215	49,215	3,936
Corporates	44,030	43,919	10,639	1,042	1,042	826	45,072	44,961	11,465
Retail	189	189	9	1	1	1	190	190	11
Other	9	9	-	189	189	189	199	199	189
TOTAL	**87,077**	**87,077**	**13,852**	**30,444**	**30,444**	**2,052**	**117,521**	**117,521**	**15,904**

	31.12.2018								
(In EURm)	IRB			Standard			Total		
Exposure class	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**	**Exposure**	**EAD**	**RWA**
Sovereign	17,455	17,532	662	1	1	1	17,456	17,533	662
Institutions	19,974	19,974	3 826	31,139	31,139	1,113	51,113	51,113	4,940
Corporates	47,873	47,796	12,526	2,283	2,283	2,189	50,156	50,079	14,715
Retail	388	388	61	287	1	1	675	389	62
Others	7	7	0	436	436	448	443	443	448
TOTAL	**85,696**	**85,696**	**17,074**	**34,146**	**33,861**	**3,752**	**119,843**	**119,557**	**20,827**

Both tables display amounts excluding CVA (Credit Valuation Adjustment). CVA amounted to EUR 2.6 billion at 31 December 2019 (vs. EUR 4.9 billion at 31 December 2018).

BREAKDOWN COUNTERPARTY RISK – DETAIL

TABLE 63: IRB COUNTERPARTY CREDIT RISK EXPOSURES BY EXPOSURE CLASS AND PD SCALE (CCR4)

The table below presents Group exposures subject to counterparty credit risk and for which an internal model is used with a view to calculating RWA. In accordance with the EBA's recommendations, CVA charges and exposures cleared through a CCP have been excluded.

	31.12.2019						
(In EURm)	PD scale	EAD post CRM	Average PD	Average LGD	Average maturity	RWA	RWA density
Central governments and central banks	0.00 to <0.15	22,651	0.00%	2.59%	1.21	109	0.48%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	18	0.26%	39.33%	1.31	6	35.91%
	0.50 to <0.75	30	0.50%	45.00%	3.95	27	91.72%
	0.75 to <2.50	201	1.10%	20.24%	0.89	73	36.35%
	2.50 to <10.00	55	4.61%	45.00%	1.21	87	157.63%
	10.00 to <100.00	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-
	Sub-total	**22,954**	**0.03%**	**2.91%**	**1.21**	**302**	**1.32%**
Institutions	0.00 to <0.15	17,019	0.04%	24.20%	1.53	1,517	8.91%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	1,203	0.26%	27.90%	1.66	375	31.17%
	0.50 to <0.75	455	0.50%	38.81%	1.78	293	64.28%
	0.75 to <2.50	615	1.75%	40.21%	1.56	450	73.20%
	2.50 to <10.00	163	4.06%	30.80%	1.36	168	102.86%
	10.00 to <100.00	38	12.80%	23.81%	1.06	71	185.34%
	100.00 (default)	4	100.00%	35.00%	2.88	19	437.50%
	Sub-total	**19,498**	**0.20%**	**25.86%**	**1.55**	**2,893**	**14.84%**
Corporate – SME	0.00 to <0.15	55	0.10%	30.79%	3.58	10	18.12%
	0.15 to <0.25	79	0.20%	11.72%	4.98	14	18.22%
	0.25 to <0.50	11	0.26%	30.28%	1.74	3	23.98%
	0.50 to <0.75	34	0.51%	34.16%	2.63	16	47.61%
	0.75 to <2.50	53	1.47%	34.82%	2.40	36	67.80%
	2.50 to <10.00	116	6.29%	31.12%	3.67	113	97.16%
	10.00 to <100.00	8	19.18%	35.09%	2.03	12	145.12%
	100.00 (default)	2	100.00%	38.47%	1.68	5	250.30%
	Sub-total	**358**	**3.30%**	**27.74%**	**3.55**	**208**	**58.13%**
Corporate – Specialised lending	0.00 to <0.15	203	0.07%	30.00%	3.75	57	28.15%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	27	0.26%	10.24%	4.13	4	16.06%
	0.50 to <0.75	50	0.50%	10.00%	4.22	11	21.13%
	0.75 to <2.50	483	1.86%	9.25%	2.37	113	23.37%
	2.50 to <10.00	451	3.90%	9.87%	1.71	135	29.85%
	10.00 to <100.00	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-
	Sub-total	**1,214**	**2.23%**	**13.00%**	**2.47**	**319**	**26.32%**
Corporate – Other	0.00 to <0.15	30,744	0.05%	33.36%	1.36	3,634	11.82%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	3,574	0.26%	29.54%	2.48	1,141	31.94%
	0.50 to <0.75	3,106	0.50%	25.64%	2.33	1,180	37.98%
	0.75 to <2.50	2,775	1.48%	28.50%	2.42	1,890	68.11%
	2.50 to <10.00	1,948	4.31%	31.89%	1.60	1,910	98.06%
	10.00 to <100.00	91	13.86%	32.68%	1.68	143	156.49%
	100.00 (default)	107	100.00%	29.43%	3.20	211	196.79%
	Sub-total	**42,345**	**0.67%**	**31.93%**	**1.61**	**10,110**	**23.87%**

	31.12.2019						
(In EURm)	PD scale	EAD post CRM	Average PD	Average LGD	Average maturity	RWA	RWA density
Retail – Other non – SME	0.00 to <0.15	11	0.03%	12.30%	5.00	0	1.29%
	0.15 to <0.25	177	0.20%	11.50%	5.00	9	4.94%
	0.25 to <0.50	1	0.34%	46.00%	5.00	0	27.90%
	0.50 to <0.75	0	0.53%	28.75%	5.00	0	22.64%
	0.75 to <2.50	-	-	-	-	-	-
	2.50 to <10.00	-	-	-	-	-	-
	10.00 to <100.00	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-
	Sub-total	**189**	**0.19%**	**11.79%**	**5.00**	**9**	**4.90%**
SECURITISATION POSITIONS	**Sub-total**	**9**			**-**	**-**	**0.00%**
TOTAL		**86,567**	**0.43%**	**21.15%**	**1.52**	**13,841**	**15.99%**

The table as at 31 December 2018 has been modified as follows to take into account the integration of default for each exposure class (probability of default equal to 100%):

	31.12.2018						
(In EURm)	PD scale	EAD post CRM	Average PD	Average LGD	Average maturity	RWA	RWA density
Central governments and central banks	0.00 to <0.15	16,916	0.02%	12.04%	1.29	285	1.68%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	174	0.26%	44.70%	1.00	65	37.12%
	0.50 to <0.75	62	0.50%	45.00%	2.45	46	73.25%
	0.75 to <2.50	293	1.10%	21.54%	0.98	115	39.18%
	2.50 to <10.00	86	7.54%	45.00%	1.89	152	176.36%
	10.00 to <100.00	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-
	Sub-total	**17,532**	**0.07%**	**12.80%**	**1.29**	**662**	**3.77%**
Institutions	0.00 to <0.15	16,708	0.04%	23.38%	1.72	1,600	9.58%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	1,646	0.26%	31.17%	1.89	630	38.29%
	0.50 to <0.75	426	0.50%	43.99%	1.89	292	68.71%
	0.75 to <2.50	875	1.34%	38.82%	1.47	802	91.65%
	2.50 to <10.00	152	4.31%	40.60%	1.25	199	131.01%
	10.00 to <100.00	167	15.83%	19.43%	1.30	302	181.44%
	100.00 (default)	-	-	-	-	-	-
	Sub-total	**19,974**	**0.29%**	**25.23%**	**1.72**	**3,826**	**19.16%**
Corporate – SME	0.00 to <0.15	34	0.10%	27.98%	3.08	7	19.82%
	0.15 to <0.25	94	0.16%	8.14%	5.00	11	11.60%
	0.25 to <0.50	24	0.26%	31.48%	1.44	6	22.92%
	0.50 to <0.75	39	0.50%	31.51%	2.37	15	38.76%
	0.75 to <2.50	60	1.55%	32.29%	2.07	37	61.04%
	2.50 to <10.00	132	3.71%	36.25%	1.35	109	82.96%
	10.00 to <100.00	10	15.75%	35.11%	1.85	14	141.66%
	100.00 (default)	4	100.00%	37.67%	2.17	13	296.72%
	Sub-total	**398**	**3.04%**	**27.52%**	**2.60**	**211**	**53.11%**

	31.12.2018						
(In EURm)	**PD scale**	**EAD post CRM**	**Average PD**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**
Corporate – Specialised lending	0.00 to <0.15	100	0.04%		3.56	16	16.03%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	30	0.26%	10.17%	4.21	5	16.11%
	0.50 to <0.75	146	0.50%	12.54%	1.00	23	15.43%
	0.75 to <2.50	504	1.63%	12.21%	2.67	167	33.09%
	2.50 to <10.00	403	3.82%	10.37%	1.12	105	26.00%
	10.00 to <100.00	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-
	Sub-total	**1,183**	**2.07%**	**11.51%**	**2.05**	**315**	**26.63%**
Corporate – Other	0.00 to <0.15	31,388	0.05%	32.93%	1.60	4,414	14.06%
	0.15 to <0.25	-	-	-	-	-	-
	0.25 to <0.50	3,935	0.26%	31.34%	2.13	1,197	30.42%
	0.50 to <0.75	4,765	0.50%	21.57%	1.89	1,438	30.17%
	0.75 to <2.50	3,493	1.40%	27.28%	2.18	2,122	60.74%
	2.50 to <10.00	2,322	4.31%	31.34%	1.70	2,278	98.10%
	10.00 to <100.00	182	14.60%	37.51%	1.80	323	177.90%
	100.00 (default)	123	100.00%	26.64%	3.69	221	179.80%
	Sub-total	**46,208**	**0.75%**	**30.90%**	**1.73**	**11,992**	**25.95%**
Retail – Other non – SME	0.00 to <0.15	7	0.03%	7.08%	4.97	0	0.74%
	0.15 to <0.25	161	0.16%	7.65%	5.00	5	2.82%
	0.25 to <0.50	100	0.34%	46.00%	1.07	28	27.90%
	0.50 to <0.75	-	-	-	-	-	-
	0.75 to <2.50	119	1.23%	19.55%	1.00	27	22.92%
	2.50 to <10.00	-	-	-	-	-	-
	10.00 to <100.00	2	24.71%	24.00%	5.00	1	61.40%
	100.00 (default)	-	-	-	-	-	-
	Sub-total	**388**	**0.63%**	**21.19%**	**2.77**	**61**	**15.60%**
SECURITISATION POSITIONS	**Sub-total**	**7**			**-**	**0**	**2.00%**
TOTAL		**85,690**	**0.53%**	**25.18%**	**1.65**	**17,067**	**19.92%**

TABLE 64: COUNTERPARTY CREDIT RISK IN STANDARDISED APPROACH – EAD DISTRIBUTED BY RISK WEIGHT (CCR3)

In accordance with the EBA's guidelines for revised Pillar 3 (EBA/GL/2016/11), amounts are presented without securitisation.

(In EURm)	31.12.2019															
	Risk weight															
Exposure Classes	**0%**	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1 250%**	**Others RW**	**Total**
Central governments or central banks	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Regional governments or local authorities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public sector entities	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	5
Multilateral Development Banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	8,020	18,501	38	-	2,439	-	16	-	-	159	-	-	-	-	31	29,204
Corporates	-	-	-	-	104	-	9	-	-	782	-	-	-	-	147	1,042
Retail	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-	-	-	189	-	-	-	-	-	189
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	**8,023**	**18,501**	**38**	**-**	**2,543**	**-**	**25**	**-**	**-**	**1,136**	**-**	**-**	**-**	**-**	**178**	**30,444**

(In EURm)	31.12.2018															
	Risk weight															
Exposure Classes	**0%**	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1 250%**	**Autres RW**	**Total**
Central governments or central banks	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Regional governments or local authorities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multilateral Development Banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	2,868	26,135	-	-	1,705	-	308	-	-	92	-	-	-	-	31	31,139
Corporates	-	-	-	-	28	-	1	-	-	2,163	-	-	-	-	91	2,283
Retail	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-	-	-	436	-	-	-	-	-	436
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	**2,868**	**26,135**	**-**	**-**	**1,733**	**-**	**309**	**-**	**-**	**2,693**	**-**	**-**	**-**	**-**	**122**	**33,861**

TABLE 65: COUNTERPARTY CREDIT RISK EAD BY GEOGRAPHIC REGION AND MAIN COUNTRIES

(In EURm)	31.12.2019	31.12.2018
Counterparty Risk	**EAD**	**EAD**
France	17,569	20,443
United Kingdom	11,319	14,699
Germany	8,589	9,324
Luxembourg	9,954	4,367
Other Western European countries	13,042	11,320
Czech Republic	8,908	9,563
Other Eastern European countries EU	1,025	851
Eastern Europe excluding EU	2,049	1,751
Africa and Middle East	1,222	1,478
United States	27,283	27,571
Other countries of North America	1,892	2,258
Latin America and Caribbean	1,969	1,535
Japan	3,610	4,349
Asia-Pacific	9,092	10,049
TOTAL	**117,521**	**119,557**

TABLE 66: ANALYSIS OF COUNTERPARTY CREDIT RISK EXPOSURE BY APPROACH (CCR1)

Subject to supervisor approval, the Internal Model Method (IMM) enables the use of an internal model to calculate the Effective Expected Positive Exposure (EEPE), multiplied by a regulatory factor called "alpha" as defined in Article 284-4 of Regulation (EU) 575/2013. For Societe Generale Group, it is 1.5. The aim of the internal model is to determine exposure profiles.

	31.12.2019						
(In EURm)	**Notional**	**Replacement cost / current market value**	**Potential future credit exposure**	**EEPE**	**Multiplier**	**EAD post CRM**	**RWAs**
Mark to market		5,831	19,340			23,618	3,479
Original exposure							
Standardised approach							
IMM (for derivatives and SFTs)				42,765	1.5	64,148	11,623
Of which securities financing transactions				19,356	1.5	29,033	1,440
Of which derivatives and long settlement transactions				23,410	1.5	35,114	10,184
Of which from contractual cross - product netting							
Financial collateral simple method (for SFTs)							
Financial collateral comprehensive method (for SFTs)						4,292	416
VaR for SFTs							
TOTAL							**15,519**

TABLE 67: EAD AND RWA TOWARDS CENTRAL COUNTERPARTIES (CCP) (CCR8)

	31.12.2019		31.12.2018	
(In EURm)	EAD	RWA	EAD	RWA
Exposures to QCCPs	32,252	1,454	40,233	1,702
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which:	16,225	326	20,325	413
■ OTC derivatives	1,108	23	2,493	50
■ Exchange-traded derivatives	13,551	271	16,362	334
■ Securities financing transactions	1,323	26	964	19
■ Netting sets where cross-product netting has been approved	243	6	505	10
Segregated initial margin	9,731	-	7,007	-
Non-segregated initial margin	2,525	51	9,273	185
Pre-funded default fund contributions	3,771	1,077	3,628	1,103
Alternative calculation of own funds requirements for exposures	-	-	-	13
Exposures to non-QCCPs	-	-	-	-
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which:	-	-	-	-
■ OTC derivatives	-	-	-	-
■ Exchange-traded derivatives	-	-	-	-
■ Securities financing transactions	-	-	-	-
■ Netting sets where cross-product netting has been approved	-	-	-	-
Segregated initial margin	-	-	-	-
Non-segregated initial margin	-	-	-	-
Pre-funded default fund contributions	-	-	-	-
Unfunded default fund contributions	-	-	-	-

TABLE 68: CREDIT DERIVATIVES EXPOSURES (CCR6)

	31.12.2019		
	Credit derivative hedges		Other credit derivatives
(In EURm)	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	-	-	147,689
Index credit default swaps	-	-	74,288
Total return swaps	-	-	802
Credit options	-	-	1,223
Other credit derivatives	2,466	-	17,030
TOTAL NOTIONALS	**2,466**	**-**	**241,033**
FAIR VALUES	-	-	-
Positive fair value (asset)	*1*	-	*5,027*
Negative fair value (liability)	*(17)*	-	*(3,908)*

The table as at 31 December 2018 has been modified as follows:

	31.12.2018		
	Credit derivative hedges		Other credit derivatives
(In EURm)	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	-	-	175,685
Index credit default swaps	-	-	93,023
Total return swaps	-	-	514
Credit options	-	-	6,459
Other credit derivatives	420	-	15,369
TOTAL NOTIONALS	**420**	**-**	**291,050**
FAIR VALUES			
Positive fair value (asset)	*3*	-	*4,641*
Negative fair value (liability)	*(0)*	-	*(4,445)*

TABLE 69: CREDIT DERIVATIVES EXPOSURES - PROTECTIONS BOUGHT

This table presents the notional value of credit derivative hedges by exposure class. Besides, the data as at 31 December 2018 presented below have undergone modifications.

(In EURm)	31.12.2019	31.12.2018
Sovereign	-	-
Institutions	2,466	420
Corporates	-	-
Retail	-	-
Others	-	-
TOTAL	**2,466**	**420**

TABLE 70: IMPACT OF NETTING AND COLLATERAL HELD ON EXPOSURE VALUES (CCR5-A)

	31.12.2019				
(In EURm)	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposire
Derivatives	249,486	217,764	48,677	19,600	26,041
SFTs	728,078	252,487	581,563	447,511	65,658
Cross-product netting	9,680	47,938	60,051	9,642	2,470
TOTAL	**987,244**	**518,189**	**690,291**	**476,753**	**94,170**

The concept of net credit exposure presented in this table differs from that of EAD, insofar as other parameters not included here may be involved in the calculation of regulatory exposure (regulatory haircuts, add-ons...).

TABLE 71: BREAKDOWN OF COLLATERAL FOR COUNTERPARTY CREDIT RISK EXPOSURES (CCR5-B)

	31.12.2019			
	Collateral used in derivative transactions		Collateral used in SFTs	
(In EURm)	Fair value of collateral received	Fair value of posted collateral	Fair value of collateral received	Fair value of posted collateral
Cash	24,186	22,125	14,418	22,569
Banks/Broker-dealers	27	576	58,188	64,052
Central Counterparties	-	8,238	8,262	5,620
Government-sponsored entities/ Government Agencies	-	-	-	-
Hedge funds	0	-	3	107
Insurance and Financial Guaranty Firms	4	10	864	2,647
Mutual funds	179	-	823	2,444
Nonfinancial corporations	464	1,437	25,488	60,671
Pension Plans	0	-	2	-
Sovereign national governments	4,391	2,393	230,186	241,977
SPVs, SPCs, and SPEs	-	-	-	186
Supranationals	-	-	1,561	1,557

TABLE 72: RWA AND CAPITAL REQUIREMENTS FLOW STATEMENTS OF COUNTERPARTY CREDIT RISK EXPOSURES UNDER IRB APPROACH (CCR7)

IMM is the internal model method applied to calculate exposures to counterparty credit risk. The banking models used are subject to approval of the supervisor.

Application of these internal models has an impact on the method used to calculate the EAD of market transactions but also on the Basel maturity calculation method.

(In EURm)	RWA amounts – IRB IMM	RWA amounts – IRB hors IMM	RWA amounts – Total IRB	Capital requirements – IRB IMM	Capital requirements – IRB hors IMM	Capital requirements – Total IRB
RWA as at end of previous reporting period (31.12.2018)	**12,449**	**4,625**	**17,074**	**996**	**370**	**1,366**
Asset size	(787)	(1,823)	(2,610)	(63)	(146)	(209)
Credit quality of counterparties	(221)	(21)	(242)	(18)	(2)	(19)
Model updates	-	-	-	-	-	-
Methodology and policy	-	(620)	(620)	-	(50)	(50)
Acquisitions and disposals	-	(3)	(3)	-	(0)	(0)
Foreign exchange movements	153	73	226	12	6	18
Other	78	(52)	27	6	(4)	2
RWA as at end of reporting period (31.12.2019)	**11,672**	**2,180**	**13,852**	**934**	**174**	**1,108**

The table above displays data without CVA (Credit Valuation Adjustment) which amounts to EUR 2.6 billion in advanced method.

TABLE 73: EXPOSURE AND RWA RELATING TO CREDIT VALUATION ADJUSTMENT (CVA) (CCR2)

	31.12.2019		31.12.2018	
(In EURm)	**Exposure value**	**RWA**	**Exposure value**	**RWA**
Total portfolios subject to the Advanced Method	33,457	2,276	35,461	4,074
(i) VaR component (including the 3×multiplier)	-	318	-	602
(ii) Stressed VaR component (including the 3×multiplier)	-	1,959	-	3,471
All portfolios subject to the Standardised Method	5,611	310	8,759	830
Based on Original Exposure Method	-	-	-	-
TOTAL SUBJECT TO THE CVA CAPITAL CHARGE	**39,068**	**2,586**	**44,220**	**4,904**

TABLE 74: BREAKDOWN OF TRADING DERIVATIVE INSTRUMENTS COMMITMENTS (NOTIONAL) - PRUDENTIAL SCOPE

(In EURm)	31.12.2019
Interest rate instruments	**12,012,907**
Firm instruments	9,968,666
of which: Swaps	*8,334,286*
of which: FRAs	*1,634,380*
Options	2,044,241
Foreign exchange instruments	**3,193,596**
Instruments fermes	2,476,213
Options	717,383
Equity and index instruments	**1,125,603**
Instruments fermes	186,691
Options	938,912
Commodity instruments	**96,900**
Instruments fermes	83,509
Options	13,391
Credit derivatives	**246,006**
Other forward financial instruments	38,428
TOTAL	**16,713,440**

7

SECURITISATION

IN BRIEF

This section provides information on Societe Generale's securitisation positions, which have already been incorporated into the relevant sections (credit risk and market risk).

They are subject to specific capital requirements according to European regulations (CRR/CRD4).

Regulatory capital requirements
for securitisations in the banking book at end 2019

317 **M EUR**

(Amount at end 2018: 181 M EUR)

Regulatory capital requirements
for securitisations in the trading book at end 2019

31 **M EUR**

(Amount at end 2018: 16 M EUR)

7.1 SECURITISATIONS AND REGULATORY FRAMEWORK

This section presents information on Societe Generale's securitisation activities, acquired or carried out for proprietary purposes or for its customers. It describes the risks associated with these activities and the management of those risks. Finally, it contains quantitative information to describe these activities during 2019, as well as the capital requirements for the Group's regulatory banking book and trading book within the scope defined by prudential regulations.

As defined in prudential regulations, the term securitisation refers to a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is divided into tranches, having the following characteristics:

- the transaction achieves significant risk transfer, in case of origination;
- payments in the transaction or scheme are contingent on the performance of the exposure or pool of exposures;
- subordination of some tranches determines the distribution of losses during the ongoing life of the transaction or risk transfer scheme.

As of 1 January 2019, securitisation positions initiated in 2019 are subject to the regulatory treatment defined in Regulation (EU) 2017/2401 amending Regulation (EU) No 575/2013 relating to the capital requirements applicable to credit institutions and to credit and investment firms in Regulation (EU) 2017/2402 creating a general framework for securitisation as well as a specific framework for simple, transparent and standardised securitisations (STS).

Regulation 2017/2401 presents a new hierarchy of methods for weighting securitisation positions (see § 7.6). The floor weighting rate has been raised from 7% to 15% (10% for STS securitisations).

Regulation 2017/2402 defines the criteria for the identification of "simple, transparent and standardised" (STS) securitisations to which specific and lower capital charges are applicable. The text also specifies the authorisation procedure for third-party organisations that will be involved in ensuring compliance with requirements relating to STS securitisations. Otherwise, the rules for retention of risk by the transferor have also been maintained at 5%. In addition, the creation of a data repository for securitisation transactions will increase transparency in the market.

Guidelines or Regulatory Technical Standards issued by the technical authorities, ESMA and the EBA, clarify some aspects of the new European regulations. Regarding securitisations initiated before 1 January 2019, banks continue to apply, until 31 December 2019, the rules in effect on 31 December 2018.

7.2 ACCOUNTING METHODS

The securitisation transactions that Societe Generale invests in (i.e. the Group invests directly in certain securitisation positions, is a liquidity provider or a counterparty of derivative exposures) are recognised in accordance with Group accounting principles, as set forth in the notes to the consolidated financial statements included in the 2020 Universal Registration Document.

In the financial statements, the classification of securitisation positions depends on their cash flow contractual characteristics and the way the entity manages those financial instruments.

When analyzing the contractual cash flow of financial assets issued by a securitisation vehicle, the entity must analyse the contractual terms, as well as the credit risk of each tranche and the exposure to credit risk in the underlying pool of financial instruments. To that end, the entity must apply a “look- through approach” to identify the underlying instruments that are creating the cash flows.

Contractual flows that represent solely payments of principal and interest on the principal amount outstanding are consistent with a basic lending arrangement (SPPI flows: Solely Payments of Principal and Interest).

In the financial statements, the basic securitisation positions (SPPI) are classified into 2 categories, depending on the business model used to managed them:

- when they are managed under a “Collect and Sell” business model, the positions are classified as “Financial assets at fair value through other comprehensive income”. Accrued or earned income on these positions is recorded in profit or loss based on the effective interest rate, under Interest and similar income. At the reporting date, these instruments are measured at fair value, and changes in fair value, excluding income, are recorded under Unrealised or deferred gains and losses. Furthermore, as these financial assets are subject to impairment for credit risk, changes in expected credit losses are recorded in profit or losses under Cost of risk with a corresponding entry to Unrealised or deferred gains and losses;
- when they are managed under a “Hold to Collect” business model, the positions are measured at amortised cost. Subsequent to initial recognition, these positions are measured at amortised cost using the effective interest method, and their accrued or earned income is recorded in the income statement under Interest and similar income. Furthermore, as these financial assets are subject to impairment for credit risk, changes in expected credit losses are recorded in profit or loss under Cost of risk with a corresponding impairment of amortised cost under balance sheet assets.

The securitisation positions that are not basic (non–SPPI) will be measured at fair value through profit or loss, regardless of the business model for managing them.

Fair value of these assets are recorded in the balance sheet under Financial assets at fair value through profit or loss and changes in the fair value of these instruments (excluding interest income) are recorded in the income statement under Net gains or losses on financial instruments at fair value through profit or loss.

Interest income and expense are recorded in the income statement under Interest and similar income and Interest and similar expense.

Securitisation positions classified among the financial assets at amortised cost or among the financial assets at fair value through other comprehensive income are systematically subject to impairment or a loss allowance for expected credit losses. These impairments and loss allowances are booked on initial recognition of the assets, without waiting for objective evidence of impairment to occur.

To determine the amount of impairment to be recorded at each reporting date, these assets are classified into one of three categories based on the increase in credit risk observed since initial recognition. Stage 1 exposures are impaired for the amount of credit losses that the Group expects to incur within 12 months; Stage 2 and 3 exposures are impaired for the amount of credit losses that the Group expects to incur over the life of the exposures.

For securitisation positions measured at fair value through profit or loss, their fair value includes already the expected credit loss, as assessed by the market participant, on the residual lifetime of the instrument.

Reclassification of securitisation positions is only required in the exceptional event that the Group changes the business model used to manage these assets.

Synthetic securitisations in the form of Credit Default Swaps follow accounting recognition rules specific to trading derivatives.

The securitisation transactions are derecognised when the contractual rights to the cash flows on the asset expire or when the Group has transferred the contractual rights to receive the cash flows and substantially all of the risks and rewards linked to the ownership of the asset. Where the Group has transferred the cash flows of a financial asset but has neither transferred nor retained substantially all the risks and rewards of its ownership and has effectively not retained control of the financial asset, the Group derecognises it and, where necessary, recognises a separate asset or liability to cover any rights and obligations created or retained as a result of transferring the asset. If the Group has retained control of the asset, it continues to recognise it in the balance sheet to the extent of its continuing involvement in that asset.

When a financial asset is derecognised in its entirety, a gain or loss on disposal is recorded in the income statement for an amount equal to the difference between the carrying value of the asset and the payment received for it, adjusted where necessary for any unrealised profit or loss previously recognised directly in equity.

7.3 STRUCTURED ENTITIES' SPECIFIC CASE

A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity.

When assessing the existence of a control over a structured entity, all facts and circumstances shall be considered among which:

- the purpose and design of the entity;
- the structuring of the entity (especially, the power to direct the relevant activities of the entity);
- risks to which the entity is exposed by way of its design and the Group's exposure to some or all of these risks;
- potential returns and benefits for the Group.

Unconsolidated structured entities are those that are not exclusively controlled by the Group.

In consolidating structured entities that are controlled by the Group, the shares of said entities not held by the Group are recognised under "Debt" in the balance sheet.

When customer loans are securitised and partially sold to external investors, the entities carrying the loans are consolidated if the Group retains control and remains exposed to the majority of the risks and benefits associated with these loans.

7.4 MANAGEMENT OF SECURITISATION RISKS

Securitisation risks are monitored according to the rules established by the Group, depending on whether the assets are recorded in the regulatory banking book (via credit risk and counterparty risk) or in the trading book (via market risk and counterparty risk).

STRUCTURAL RISKS AND LIQUIDITY RISK

Structural interest rate and foreign exchange risks associated with securitisation activities are monitored in the same way as for other Group assets. Oversight of structural interest rate risk is described in Chapter 10 of this document.

Liquidity risk linked to securitisation activities is subject to more specific monitoring, both at the level of the responsible business lines and centrally in the Finance Division, by measuring the impact of these activities on the Group's liquidity ratios, stress tests and liquidity gaps. The organisation and oversight of liquidity risk is described in Chapter 11 of this document.

OPERATIONAL RISK

Monitoring of securitisation operational risks is incorporated as part of operational risk management at Group level. Reports targeting zero tolerance for operational risk in the Group's originator and sponsor activities are established and checked on a monthly basis. Oversight of operational risk is described in Chapter 9 of this document.

CREDIT RISK

Securitisation exposures subject to credit risk are approved through the standard credit approval processes established at Societe Generale. New transactions are presented by the business line to the risk officers in RISQ. Risk officers provide their own opinion on the transactions. The credit files are then approved by both business line management and RISQ management. All credit files are subject to annual reviews by both the business line and the risk function.

Ongoing monitoring is performed independently from the business line and quarterly portfolio reviews are produced specifically on securitisation exposures belonging to the banking book. This monitoring process identifies changes in the performance of securitisation transactions.

Limits at the portfolio level for securitisation exposures are set by the Comité des Risques. Stress tests are also performed on the securitisation portfolio.

The credit risk analysis of securitisation transactions covers the key drivers of risk: performance of the underlying assets and seller/servicer risk. The risk drivers are mitigated through structural features for each exposure which include but are not limited to default triggers, excess spread, delinquencies, segregated accounts, back-up servicers. Other risks are also considered such as legal risk, operational risk, reputational risk.

Resecuritisation exposures would follow the same process and analysis.

MARKET RISK

Securitisation exposures subject to market risk are measured, monitored and controlled through the standard framework for market risks at Societe Generale with additional controls and monitoring tailored to securitisation. These exposures are subject to VaR and SVaR measurements.

The market risk analysis of securitisation exposures covers the key drivers of market risk: credit, spread, prepayment risk, liquidity risk, interest rate risk. Sub-limits are established to limit the exposure of Societe Generale to specific asset classes within the securitisation universe (CMBS, CLO, RMBS, ABS).

Interest rate risk can be hedged with standard liquid interest rate instruments (US Treasuries, Eurodollars futures, interest rate swaps).

Re-securitisation exposures would follow the same process and analysis.

7.5 SOCIETE GENERALE'S SECURITISATION ACTIVITIES

Securitisation activities allow the Group to raise liquidity or manage risk exposures, for proprietary purposes or on behalf of customers. Within the framework of these activities, the Group can act as originator, sponsor/arranger or investor:

- as an originator, the Group directly or indirectly participates in the initial agreement on assets which subsequently serve as underlying in securitisation transactions, primarily for refinancing purposes;
- as a sponsor, the Group establishes and manages a securitisation programme used to refinance customers' assets, mainly via the Antalis and Barton conduits and via certain other special purpose vehicles;
- as an investor, the Group invests directly in certain securitisation positions, is a liquidity provider or a counterparty of derivative exposures.

This information must be considered within the context of the specific structure of each transaction and vehicle, which cannot be described in this report. Taken separately, the level of payments past due or in default does not provide sufficient information on the types of exposures securitised by the Group, mainly because the default criteria may vary from one transaction to another. Furthermore, these data reflect the situation of the underlying assets.

In securitisation transactions, past-due exposures are generally managed via structural mechanisms that protect the most senior positions.

Impaired exposures belong mainly to CDOs of US subprime residential mortgages, dating to 2014.

As part of securitisation activities, the Group, does not provide any implicit support in accordance with Article 248 paragraph 1 of the CRR.

Since the protection purchased is financed, there is no counterparty risk on the vendor of the insurance. The Group does not intend to purchase unfunded protection at this stage.

SOCIETE GENERALE AS ORIGINATOR

As part of its refinancing activities, the Group undertakes securitisations of some of its portfolios of receivables originated with individuals or corporate customers. The securities created in these transactions can be either sold to external investors, thus providing funding to the Group, or retained by the Group to be used as collateral in repurchase transactions, notably with the European Central Bank.

In 2019, a EUR 1.0 billion securitisation of auto loans was carried out and publicly placed to provide external funding and reduce RWA consumption.

The vehicles holding the transferred receivables are consolidated by the Group and the Group remains exposed to the majority of the risks and rewards related to the receivables. Furthermore, the receivables cannot be used as collateral or sold outright as part of another transaction.

The total outstanding of the receivables securitised without significant risk transfer amounted to EUR 13 billion as at 31 December 2019, including EUR 6.5 billion of French home loans, EUR 1.7 billion of German auto loans, EUR 3.1 billion of French consumer loans and EUR 1.7 billion of auto lease receivables and related residual values.

Besides, the Group also detains several synthetic securitisation programs in which the risk transfer is made by using credit derivatives or financial guarantees and where the portfolio is kept in the balance sheet of the Group. The securitised stock of these transactions amounted to EUR 11.1 billion as at 31 December 2019, mainly composed of loans to corporates.

Societe Generale did not securitise revolving exposures subject to early amortisation treatment in which the level of credit risk to which the originator is exposed may increase following the operation of the early amortisation provision.

SOCIETE GENERALE AS SPONSOR

The Societe Generale group carries out transactions on behalf of its customers or investors. As at 31 December 2019, there were two consolidated multi-seller vehicles in operation (Barton and Antalis), structured by the Group on behalf of clients. This ABCP (Asset-Backed Commercial Paper) activity funds the working capital requirements of some of the Group's customers by backing short-term financing with traditional assets such as trade receivables or consumer loans. Total assets held by these vehicles and financed through the issuance of commercial paper amounted to EUR 14.2 billion as at 31 December 2019 (EUR 14.6 billion as at 31 December 2018).

As part of the implementation of the new IFRS 10 standard on 1 January 2014, Societe Generale has consolidated these two vehicles, Barton and Antalis, from this date onwards.

The default risk on the assets held by these vehicles is borne by the transferors of the underlying receivables or by external investors. Societe Generale bears part of the risk through the liquidity lines in the amount of EUR 20.2 billion as at 31 December 2019 (EUR 21.8 billion as at 31 December 2018).

ABCP activity remained solid in 2019, with newly securitised outstanding predominantly comprising trade receivables, leasing or consumer loans.

SOCIETE GENERALE AS INVESTOR

Societe Generale also acts as a market-maker for securitised assets, resulting in securitisation positions in the Group's trading book. As of 31 December 2011, CRD3 requires the same prudential treatment regardless of prudential classification.

The following tables show the securitisation exposures retained or purchased by the Group by type of underlying assets, by region, by type of tranche, separately for the banking book and trading book. These tables only present the exposures with an impact on the Group's regulatory capital.

TABLE 75: AMOUNTS OF SECURITISED EXPOSURES BY TYPE OF UNDERLYING ASSETS

	31.12.2019							
	Banking Book				Trading Book			
(In EURm)	Traditional transactions		Synthethic transactions		Traditional transactions		Synthethic transactions	
Underlying assets	**Originator**	**Sponsor**	**Originator**	**Sponsor**	**Originator**	**Sponsor**	**Originator**	**Sponsor**
Residential mortgages	-	236	-	-	-	-	-	-
Commercial mortgages	-	7	-	-	-	-	-	-
Credit card receivables	-	2,065	-	-	-	-	-	-
Leasing	-	1,417	-	-	-	-	-	-
Loans to corporates and SMEs	-	2,165	11,826	-	-	-	-	-
Consumer loans	-	7,268	-	-	-	-	-	-
Trade receivables	-	7,012	-	-	-	-	-	-
Other assets	-	1,082	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-	-
Other liabilites	-	-	-	-	-	-	-	-
TOTAL	**-**	**21,252**	**11,826**	**-**	**-**	**-**	**-**	**-**

(In EURm)	31.12.2018							
	Banking Book				Trading Book			
	Traditional transactions		Synthethic transactions		Traditional transactions		Synthethic transactions	
Underlying assets	**Originator**	**Sponsor**	**Originator**	**Sponsor**	**Originator**	**Sponsor**	**Originator**	**Sponsor**
Residential mortgages	-	271	-	-	-	-	-	-
Commercial mortgages	-	7	-	-	-	-	-	-
Credit card receivables	-	2,083	-	-	-	-	-	-
Leasing	-	2,417	-	-	-	-	-	-
Loans to corporates and SMEs	-	1,665	665	-	-	-	-	-
Consumer loans	-	8,096	-	-	-	-	-	-
Trade receivables	-	6,791	-	-	-	-	-	-
Other assets	-	1,295	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-	-
Other liabilites	-	-	-	-	-	-	-	-
TOTAL	**-**	**22,625**	**665**	**-**	**-**	**-**	**-**	**-**

TABLE 76: AMOUNTS OF SECURITISED EXPOSURES THAT ARE PAST DUE OR IMPAIRED BY TYPE OF UNDERLYING ASSETS

(In EURm)	31.12.2019				31.12.2018			
	Past due		Impaired		Past due		Impaired	
Underlying assets	**Originator**	**Sponsor**	**Originator**	**Sponsor**	**Originator**	**Sponsor**	**Originator**	**Sponsor**
Residential mortgages	-	-	-	-	-	-	-	-
Commercial mortgages	-	-	-	-	-	-	-	-
Credit card receivables	-	31	-	20	-	16	-	20
Leasing	-	16	-	19	-	20	-	12
Loans to corporates and SMEs	-	2	-	10	-	4	-	-
Consumer loans	-	40	-	16	-	97	-	13
Trade receivables	-	1,258	-	340	-	1,165	-	271
Other assets	-	3	-	2	-	3	-	2
Covered bonds	-	-	-	-	-	-	-	-
Other liabilites	-	-	-	-	-	-	-	-
TOTAL	**-**	**1,350**	**-**	**407**	**-**	**1,305**	**-**	**318**

TABLE 77: ASSETS AWAITING SECURITISATION BY TYPE OF UNDERLYING ASSETS

(In EURm)	31.12.2019	31.12.2018	31.12.2019	31.12.2018
Underlying assets	**Banking book**		**Trading book**	
Residential mortgages	-	-	-	-
Commercial mortgages	-	-	-	-
Credit card receivables	-	-	-	-
Leasing	1,500	-	-	-
Loans to corporates and SMEs	3,065	-	-	-
Consumer loans	-	-	-	-
Trade receivables	-	-	-	-
Other assets	-	-	-	-
Covered bonds	-	-	-	-
Other liabilites	-	-	-	-
TOTAL	**4,565**	**-**	**-**	**-**

TABLE 78: AMOUNTS OF SECURITISED EXPOSURES RETAINED OR PURCHASED BY TYPE OF UNDERLYING ASSETS IN THE BANKING BOOK

(In EURm)	31.12.2019			31.12.2018		
Underlying assets	**On-balance sheet**	**Off-balance sheet**	**Total**	**On-balance sheet**	**Off-balance sheet**	**Total**
Residential mortgages	-	236	236	-	271	271
Commercial mortgages	-	7	7	-	7	7
Credit card receivables	-	2,065	2,065	-	2,083	2,083
Leasing	-	1,418	1,418	-	2,419	2,419
Loans to corporates and SMEs	11,894	2,097	13,991	862	1,468	2,330
Consumer loans	-	7,276	7,276	47	8,054	8,101
Trade receivables	-	7,012	7,012	-	6,791	6,791
Other assets	-	1,082	1,082	-	1,295	1,295
Covered bonds	-	-	-	-	-	-
Other liabilites	-	-	-	-	-	-
TOTAL	**11,894**	**21,193**	**33,087**	**909**	**22,388**	**23,297**

At at 31 December 2019, securisation exposures in the banking book amounted to EUR 33,087 million, of which EUR 11,894 million recorded on the balance sheet, the remaining part consisting predominantly of liquidity lines linked to the Group's sponsor conduit activity.

The main underlying assets are securitisations, corporate loans, consumer loans and trade receivables.

In 2019, banking book exposures increased by EUR 10 billion, representing +42% year-on-year. The volume of assets of conduits managed by the Group slightly decreased.

TABLE 79: AMOUNTS OF SECURITISED EXPOSURES RETAINED OR PURCHASED BY TYPE OF UNDERLYING ASSETS IN THE TRADING BOOK

(In EURm)	31.12.2019		31.12.2018	
Underlying assets	**Net long positions**	**Net short positions**	**Net long positions**	**Net short positions**
Residential mortgages	86	-	46	-
Commercial mortgages	66	129	25	80
Credit card receivables	9	-	12	-
Leasing	7	-	4	-
Loans to corporates and SMEs	174	-	63	-
Consumer loans	-	-	-	-
Trade receivables	20	-	5	-
Other assets	-	-	-	-
Covered bonds	154	-	75	-
Other liabilites	-	-	-	-
TOTAL	**516**	**129**	**230**	**80**

TABLE 80: AMOUNTS OF SECURITISED EXPOSURES RETAINED OR PURCHASED BY REGION IN THE BANKING BOOK AND IN THE TRADING BOOK

(In EURm)	31.12.2019			31.12.2018		
		Trading book			Trading book	
Underlying assets	**Banking book**	**Long positions**	**Short positions**	**Banking book**	**Long positions**	**Short positions**
America	14,704	348	129	11,882	159	80
Asia	959	-	-	417	-	-
Europe	17,384	57	-	10,941	9	-
Others	41	111	-	58	62	-
TOTAL	**33,087**	**516**	**129**	**23,297**	**230**	**80**

The growth observed within the Banking book is mainly focused in Europe (+60%), North America (+24%) and Asia.

TABLE 81: QUALITY OF SECURITISATION POSITIONS RETAINED OR PURCHASED BY TYPE OF UNDERLYING ASSETS IN THE BANKING BOOK

(In EURm)	31.12.2019					
	Nominal			Exposure At Default (EAD)		
Underlying assets	**Highest-ranking tranche**	**Mezzanine tranche**	**Initial loss tranche**	**Highest-ranking tranche**	**Mezzanine tranche**	**Initial loss tranche**
Residential mortgages	214	23	-	214	23	-
Commercial mortgages	7	-	-	7	-	-
Credit card receivables	2,056	9	-	2,063	9	-
Leasing	1,418	-	-	1,418	-	-
Loans to corporates and SMEs	13,128	361	503	12,808	361	503
Consumer loans	7,276	-	-	7,276	-	-
Trade receivables	7,012	-	-	7,012	-	-
Other assets	1,082	-	-	1,086	-	-
Covered bonds	-	-	-	-	-	-
Other liabilites	-	-	-	-	-	-
TOTAL	**32,192**	**392**	**503**	**31,884**	**392**	**503**

(In EURm)	31.12.2018					
	Nominal			Exposure At Default (EAD)		
Underlying assets	**Highest-ranking tranche**	**Mezzanine tranche**	**Initial loss tranche**	**Highest-ranking tranche**	**Mezzanine tranche**	**Initial loss tranche**
Residential mortgages	248	23	-	497	46	-
Commercial mortgages	7	-	-	7	-	-
Credit card receivables	2,050	33	-	2,050	33	-
Leasing	2,399	20	-	2,399	20	-
Loans to corporates and SMEs	2,256	-	74	1,994	-	74
Consumer loans	8,031	70	-	8,031	63	-
Trade receivables	6,791	-	-	6,791	-	-
Other assets	1,295	-	-	1,295	-	-
Covered bonds	-	-	-	-	-	-
Other liabilites	-	-	-	-	-	-
TOTAL	**23,077**	**146**	**74**	**23,062**	**162**	**74**

In the banking book, senior tranches made up 97% of securitisation positions retained or purchased as at 31 December 2019, mainly composed of consumer loans and trade receivables.

TABLE 82: QUALITY OF SECURITISATION POSITIONS RETAINED OR PURCHASED BY TYPE OF UNDERLYING ASSETS IN THE TRADING BOOK

(In EURm)	31.12.2019					
	Net long positions			Net short positions		
Underlying assets	**Highest-ranking tranche**	**Mezzanine tranche**	**Initial loss tranche**	**Highest-ranking tranche**	**Tranche mezzanine**	**Initial loss tranche**
Residential mortgages	26	60	-	-	-	-
Commercial mortgages	23	43	-	108	21	-
Credit card receivables	-	9	-	-	-	-
Leasing	1	6	-	-	-	-
Loans to corporates and SMEs	51	123	-	-	-	-
Consumer loans	-	-	-	-	-	-
Trade receivables	-	20	-	-	-	-
Other assets	-	-	-	-	-	-
Covered bonds	64	90	-	-	-	-
Other liabilites	-	-	-	-	-	-
TOTAL	**165**	**351**	**-**	**108**	**21**	**-**

(In EURm)	31.12.2018					
	Net long positions			Net short positions		
Underlying assets	**Highest-ranking tranche**	**Mezzanine tranche**	**Initial loss tranche**	**Highest-ranking tranche**	**Tranche mezzanine**	**Initial loss tranche**
Residential mortgages	30	16	-	-	-	-
Commercial mortgages	9	16	-	6	74	-
Credit card receivables	7	6	-	-	-	-
Leasing	4	-	-	-	-	-
Loans to corporates and SMEs	30	32	-	-	-	-
Consumer loans	-	-	-	-	-	-
Trade receivables	5	-	-	-	-	-
Other assets	-	-	-	-	-	-
Covered bonds	53	22	-	-	-	-
Other liabilites	-	-	-	-	-	-
TOTAL	**138**	**92**	**-**	**6**	**74**	**-**

Positions in the securitisation trading book are exclusively high ranking and mezzanine tranches. This applies to long and short positions.

7.6 PRUDENTIAL TREATMENT OF SECURITISATION POSITIONS

APPROACH FOR CALCULATING RISK-WEIGHTED EXPOSURES

Whenever traditional or synthetic securitisations, for which sponsorship, origination, structuring or management of Societe Generale is involved, achieve a substantial and documented risk transfer compliant with the regulatory framework, the underlying assets are excluded from the bank's calculation of risk-weighted exposures for traditional credit risk.

For the securitisation positions that Societe Generale decides to hold either on- or off-balance sheet, capital requirements are determined based on the bank's exposure, irrespective of its underlying strategy or role.

Intitutions use one of the methods described in the hierarchy below to calculate the weighted exposure amounts:

- SEC-IRBA (approach based on internal ratings), when certain conditions are met;
- when the SEC-IRBA cannot be used, the intitution uses the SEC-SA (Standardised approach);
- when the SEC-SA cannot be used, the institution uses the SEC-ERBA (approach based on external ratings) for positions with an external credit rating or those for which it is possible to infer such a note.

The unrated liquidity lines arising from the off-balance sheet exposures of Asset-Backed Commercial Paper (ABCP) programmes are determined using the Internal Assessment Approach (IAA). For liquidity facilities issued by the Bank to the securitisation vehicles it sponsors, Societe Generale received approval in 2009 to use its internal ratings-based approach, in accordance with the CRR. Accordingly, Societe Generale has developed an Internal Assessment Approach (IAA), whereby an internal rating is assigned to the Group's securitisation exposures, with each rating automatically resulting in a capital weighting based on an equivalence table defined by the regulation. Like the Group's other internal models, the IAA meets the regulatory standards for the validation of internal models, as defined by the regulation. An annual review of the model is performed to ensure that the configuration is sufficiently conservative. Finally, the model is used to measure impacts in stress scenarios and as a transaction structuring tool.

In the other cases, the securitisation positions receive a risk weight of 1,250%.

EXTERNAL CREDIT ASSESSMENT INSTITUTIONS USED BY SOCIETE GENERALE

Assets securitised by Societe Generale are usually rated by one or more ECAIs (External Credit Assessment Institutions), the list of which is established by the French prudential supervisory authority ACPR (*Autorité de Contrôle Prudentiel et de Résolution*). The agencies used are DBRS, FitchRatings, Moody's Investors Service and Standard & Poor's. All four rating agencies have been registered with and supervised by the European Securities and Market Authority (ESMA) since 31 October 2011. The capital requirements for securitisation positions valued using the Standardised method are calculated based on the lowest external rating of the securitisation exposure.

An equivalence (table 23, p. 76) between external ratings and Societe Generale's internal rating scale is provided, presenting Societe Generale's internal rating scale and the corresponding scales of the main ECAIs, as well as the corresponding average estimated probabilities of default.

TABLE 83: CREDIT RATING AGENCIES USED IN SECURITISATIONS BY TYPE OF UNDERLYING ASSETS

Underlying assets	MOODY'S	FITCH	S&P	DBRS
Residential mortgages	✓	✓	✓	
Commercial mortgages	✓	✓	✓	
Credit card receivables	✓		✓	
Leasing	✓	✓	✓	
Loans to corporates and SMEs	✓		✓	✓
Consumer loans			✓	
Trade receivables	✓			
Other assets	✓			
Covered bonds	✓	✓	✓	
Other liabilites				

REGULATORY CAPITAL REQUIREMENTS

The following tables show the bank's securitisation exposures and corresponding regulatory capital requirements for the banking book at 31 December 2019 and at 31 December 2018.

The implementation of STS securitisation transactions has an impact on the prudential treatment of these transactions. Therefore the structure of the tables has been adapted to take into account this specificity in terms of approach but also in terms of weighting.

It is important to mention that, in 2019, the conditions of eligibility for this new STS classification applied only to new operations.

Starting from 2020, the entire securitisation stock will be subject to this classification and some operations could potentially be qualified as STS.

TABLE 84: AMOUNTS OF SECURITISED EXPOSURES RETAINED OR PURCHASED IN THE BANKING BOOK BY APPROACH AND BY RISK WEIGHT

		2019							
(In EURm)		Exposure at Defaut (EAD)				Capital Requirements			
		Securisation		Re-securisation		Securisation		Re-securisation	
	Risk wieght band	STS	Non STS	STS	Non STS	STS	Non STS	STS	Non STS
Exposures values by RW bands / deductions	≤ 20% RW	-	662	-	-	-	6	-	-
	> 20% à 50% RW	-	7	-	-	-	-	-	-
	> 50% à 100% RW	-	-	-	-	-	-	-	-
	> 100% à 1250% RW	-	-	-	-	-	-	-	-
	1250% deductions	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Exposures values by regulatory approach	SEC-IRBA	-	10,104	-	-	-	149	-	-
	SEC-ERBA (including IAA)	-	20,205	-	-	-	141	-	-
	SEC-SA	946	336	-	-	-	5	-	-
	1250% / deductions	**-**	**16**	**-**	**-**	**-**	**16**	**-**	**-**
TOTAL BANKING BOOK		**946**	**31,330**	**-**	**-**	**-**	**317**	**-**	**-**

As at 31 December 2019, 97% of banking book securitisation exposures were non-STS. 65% of exposures were weighted using the SEC-ERBA / IAA method, 32% using the SEC-IRBA.

		2018							
(In EURm)		Exposure at Defaut (EAD)				Capital Requirements			
		Securisation		Re-securisation		Securisation		Re-securisation	
	Risk weight band	STS	Non STS	STS	Non STS	STS	Non STS	STS	Non STS
Exposures values by RW bands / deductions	≤ 20% RW	-	951	-	-	-	8	-	-
	> 20% à 50% RW	-	7	-	-	-	-	-	-
	> 50% à 100% RW	-	-	-	-	-	-	-	-
	> 100% à 1250% RW	-	-	-	-	-	-	-	-
	1250% deductions	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Exposures values by regulatory approach	SEC-IRBA	-	337	-	-	-	6	-	-
	SEC-ERBA (including IAA)	-	21,885	-	-	-	147	-	-
	SEC-SA	-	40	-	-	-	15	-	-
	1250% / deductions	**-**	**5**	**-**	**-**	**-**	**5**	**-**	**-**
TOTAL BANKING BOOK		**-**	**23,224**	**-**	**-**	**-**	**181**	**-**	**-**

TABLE 85: AMOUNTS OF SECURITISED EXPOSURES RETAINED OR PURCHASED IN THE TRADING BOOK BY APPROACH AND BY RISK WEIGHT

		2019							
(In EURm)		Exposure at Defaut (EAD)				Capital Requirements			
		Securisation		Re-securisation		Securisation		Re-securisation	
	Risk wieght band	**STS**	**Non STS**	**STS**	**Non STS**	**STS**	**Non STS**	**STS**	**Non STS**
Exposures values by RW bands / deductions	≤ 20% RW	-	108	-	-	-	1	-	-
	> 20% à 50% RW	29	390	-	-	-	7	-	-
	> 50% à 100% RW		44	-	-	-	5	-	-
	> 100% à 1250% RW	-	62	-	-	-	7	-	-
	1250% deductions	**-**	**-**	**-**	**-**	**-**	**2**	**-**	**-**
Exposures values by regulatory approach	SEC-IRBA	-	-	-	-	-	-	-	-
	SEC-IAA	-	-	-	-	-	-	-	-
	SEC-SA	-	-	-	-	-	-	-	-
	1250% / deductions	**-**	**12**	**-**	**-**	**-**	**9**	**-**	**-**
TOTAL TRADING BOOK		**29**	**616**	**-**	**-**	**-**	**31**	**-**	**-**

		2018							
(In EURm)		Exposure at Defaut (EAD)				Capital Requirements			
		Securisation		Re-securisation		Securisation		Re-securisation	
	Risk wieght band	**STS**	**Non STS**	**STS**	**Non STS**	**STS**	**Non STS**	**STS**	**Non STS**
Exposures values by RW bands / deductions	≤ 20% RW	-	187	-	-	-	1	-	-
	> 20% à 50% RW	-	78	-	-	-	1	-	-
	> 50% à 100% RW	-	36	-	-	-	3	-	-
	> 100% à 1250% RW	-	-	-	-	-	-	-	-
	1250% deductions	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Exposures values by regulatory approach	SEC-IRBA	-	-	-	-	-	-	-	-
	SEC-ERBA (including IAA)	-	-	-	-	-	-	-	-
	SEC-SA	-	-	-	-	-	-	-	-
	1250% / deductions	**-**	**9**	**-**	**-**	**-**	**10**	**-**	**-**
TOTAL TRADING BOOK		**-**	**310**	**-**	**-**	**-**	**16**	**-**	**-**

TABLE 86: SECURITISATION EXPOSURES DEDUCTED FROM OWN FUNDS BY TYPE OF UNDERLYING ASSETS

(In EURm)	31.12.2019	31.12.2018	31.12.2019	31.12.2018
Underlying assets	**Banking Book**		**Trading Book**	
Residential mortgages	-	-	9	9
Commercial mortgages	-	-	-	-
Credit card receivables	-	-	-	-
Leasing		-	-	-
Loans to corporates and SMEs	7	-	-	-
Consumer loans	9	5	-	-
Trade receivables	-	-	-	-
Other assets	-	-	-	-
Covered bonds	-	-	-	1
Other liabilites	-	-	-	-
TOTAL	**16**	**5**	**9**	**10**

TABLE 87: REGULATORY CAPITAL REQUIREMENTS RELATING TO SECURITISATIONS RETAINED OR PURCHASED IN THE TRADING BOOK

	31.12.2019				31.12.2018			
(In EURm)	**Net long positions**	**Net short positions**	**Total risk-weighted positions**	**Capital requirements**	**Net long positions**	**Net short positions**	**Total risk-weighted positions**	**Capital requirements**
Securitisation	516	129	277	22	230	80	71	5.7
Re-securitisation	-	-	-	-	-	-	-	-
Positions deducted from capital	-	-	-	9	-	-	-	9.9
TOTAL	**516**	**129**	**277**	**31**	**230**	**80**	**71**	**15.5**

TABLE 88: RE-SECURITISATION POSITIONS RETAINED OR PURCHASED

	31.12.2019				31.12.2018			
	Banking Book		**Trading Book**		**Banking Book**		**Trading Book**	
(In EURm)	**Before hedging/ insurances**	**After hedging/ insurances**	**Before hedging/ insurances**	**After hedging/ insurances**	**Before hedging/ insurances**	**After hedging/ insurances**	**Before hedging/ insurances**	**After hedging/ insurances**
Re-securitisation	0	0	0	0	0	0	0	0

All re-securitisation positions have reached maturity. There were no financial guarantors on these exposures.

8

MARKET RISK

IN BRIEF

Market risk is the risk of loss of value on financial instruments arising from changes in market parameters, the volatility of these parameters and the correlations between them. These parameters include, but are not limited to, exchange rates, interest rates, the price of securities (equities or bonds), commodities, derivatives and other assets.

This section contains key information on the Group's market risk profile. It details both the internal indicators used to measure market risk and the corresponding regulatory information (RWA, VaR).

Market risk RWA at end 2019

14.5 bn EUR

(Amount at end 2018: 23.7 bn EUR)

Annual average VaR (1 day, 99%) - 2019

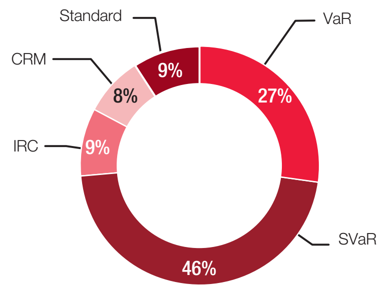
23 M EUR

(Annual average VaR 2018: 18 M EUR)

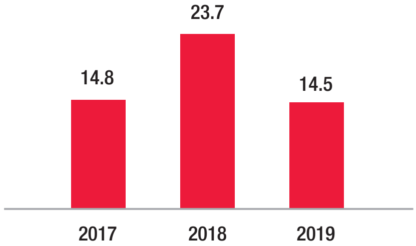
Share of RWA calculated *via* the internal model

90%

Distribution of market risk RWA by risk factor
Market risk RWA at end 2019: EUR 14.5bn
(EUR 23.7bn at end 2018)



Market risk
(RWA in EURbn)



Market risk is the risk of loss of value on financial instruments arising from changes in market parameters, the volatility of these parameters and the correlations between them. These parameters include, but are not limited to, exchange rates, interest rates, the price of securities (equities or bonds), commodities, derivatives and other assets.

8.1 ORGANISATION OF MARKET RISK MANAGEMENT

Although primary responsibility for managing risk exposure lies with the front office managers, the supervision system comes under the Market Risk Department of the Risk Division, which is independent from the businesses.

This department:

- checks the existence of an effective market risk monitoring framework based on suitable limits;
- assesses the limit requests submitted by the different businesses within the framework of the overall limits authorised by the Board of Directors and General Management, and based on the use of these limits;
- proposes appropriate market risk limits by Group activity to the Group Risk Committee;
- defines methods for assessing market risk;
- approves the valuation models used to calculate risk and results;
- defines methodologies for calculating provisions for market risk (reserves and adjustments to earnings) and additional valuation adjustments (AVA);
- calculates and certifies on a daily basis, market risk indicators and P&L resulting from market activities, based on formal and secure procedures, then reports and analyses these indicators;
- monitors on a daily basis the limits set for each activity;
- defines the methods for determining the parameters used for the calculation of risks and results, validates sources to be used for these parameters.

In order to perform its tasks, the department also defines the architecture and the functionalities of the information system used to produce the risk and P&L indicators for market transactions, and ensures it meets the needs of the different businesses and of the Market Risk Department.

In addition, this department also contributes to the detection of possible rogue trading operations through a monitoring mechanism based on alert levels (on gross nominal value of positions for example) applied to all instruments and desks.

In terms of governance, within the Market Risk Department, the main functional and transversal subjects are dealt with during Committees organised by value chains (market risk, P&L and valuation, etc.). These Committees are decision-making bodies, composed of senior representatives from each relevant Department teams and regions. Beyond the Department, market risks oversight is provided by various Committees at different levels of the Group:

- the market risk related to the Global Markets Division are reviewed during the Market Risk Committee (MRC) led by the Market Risk Department and co-chaired by the Risk Division and by the Global Markets Division. This committee provides information on risk levels for the main risk indicators as well as for some specific activities pointed out depending on market or business driven events. It also provides an opinion on the market risk framework changes falling under the remit of the Risk Division and Global Markets Division;
- the Risk Committee (CORISQ), chaired by the Chief Executive Officer of the Group, is regularly informed of Group-level market risk. Moreover, upon a proposal from the Market Risk Division, it validates the main choices with regard to market risk measurement, as well as the key developments on the architecture and implementation of the market risk framework at Group level;
- the Risk Committee of the Board of Directors is informed of the Group's major market risks; in addition, it issues a recommendation on the most substantial proposed changes in terms of market risk measurement and framework (after prior approval by the CORISQ); this recommendation is then referred to the Board of Directors for a decision;
- accounting valuation matters are addressed in two valuation committees, both chaired by the Finance Division and both attended by representatives of the Global Markets Division and the Market Risk department: the Global Valuation Committee which discusses and approves financial instrument valuation methodologies (model refinements, reserve methodologies, etc.) and the Global Valuation Review Committee, which reviews changes in reserves, valuation adjustment figures, and related accounting impacts;
- the topics related to Prudent Valuation are dealt with during methodological committees and validation committees, organised quarterly, and both chaired by the Finance Division and both attended by representatives of the Global Markets Division and the Market Risk department.

In addition to these Committees, detailed and summary market risk reports, produced on a daily, weekly, monthly or quarterly basis, either related to various Group levels or geographic areas, are sent to the relevant business line and risk function managers.

8.2 MARKET RISK MONITORING PROCESS

Methods for measuring market risk and defining limits

The Group's market risk assessment is based on several types of indicators, which are monitored through limits:

- the 99% Value at Risk (VaR) and stressed Value at Risk (sVaR): in accordance with the regulatory internal model, these global indicator are used for the day-to-day monitoring of the market risks incurred by the Group within the scope of its trading activities;
- stress test measurements, based on decennial shock-type indicators, which make it possible to restrict the Group's exposure to systemic risk and exceptional market shocks. These measurements can be global, multi-risk factor (based on historic or hypothetical scenarios), by activity or risk factor in order to take into account extreme risks on a specific market, or event-driven, to temporarily monitor a particular situation;
- sensitivity and nominal indicators used to manage the size of positions:
  - sensitivities are used to monitor the risk incurred locally on a given type of position (e.g. sensitivity of an option to changes in the underlying asset),
  - while nominal indicators are used for significant positions in terms of risk;
- additional metrics such as concentration risk or holding period, maximum maturity, etc.

The following indicators are also calculated: IRC (Incremental Risk Charge) and CRM (Comprehensive Risk Measure) on a weekly basis. The capital charges arising from these internal models complement those calculated due to the VaR / SVaR models by taking into account the rating migration risks and the default risks.

Allocation of market risk appetite within the Group

Risk appetite is defined as the level of risk that the Group is prepared to assume to achieve its strategic goals.

The business development strategy of the Group for market activities is primarily focused on meeting client needs[1], with a full range of products and solutions. The risk resulting from these market activities is strictly managed through a set of limits for several indicators (stress tests, VaR/sVaR, sensitivity and nominal indicators, etc.).

The Market Risk Department is responsible for the assessment and validation of the limit requests submitted by the different business lines. These limits ensure that the Group complies with the market risk appetite approved by the Board of Directors, further to a proposal from General Management[2].

The choice and calibration of these limits ensure the operational transposition of the Group's market risk appetite through its organisation:

- these limits are allocated at various levels of the Group's structure and/or by risk factor;
- their calibration is determined using a detailed analysis of the risks related to the portfolio managed. This analysis may include various elements such as market conditions, specifically liquidity, position maneuverability, income generated in view of risks taken, etc.;
- regular reviews make it possible to manage risks according to the prevailing market conditions;
- specific limits, or even bans, may be put in place to manage risks for which the Group has little or no risk appetite.

The desk mandates and Group policies stipulate that traders must have a sound and prudent management of positions and must respect the defined frameworks. The limits set for each activity are monitored daily by the Market Risk Department. This continuous monitoring of the market risk profile is the object of regular discussions between the risk and business teams, further to which various risk hedging or mitigation initiatives may be taken by the Front Office in order to remain within the defined limits. In the event of a breach of limit, the Front Office must immediately state the reasons, and take the necessary measures to return within the defined framework, or otherwise request a temporary or permanent increase of limit if the clients requests and if market conditions justify such a course of action.

In addition to the governance structure in place between the various departments of the Risk function, Finance Division and business lines, the monitoring of limits usage, due to the products/solutions provided to clients and the market-making activities, also contributes to ensuring that market risk to which the Group is exposed are properly managed and understood.

(1) Market transactions not related to client activities are confined in a dedicated subsidiary, Descartes Trading, and are subject to a specific and limited risk appetite. The Group decided that this type of activity would stop by the end of the first quarter of 2020.

(2) See "Risk Appetite" section for the detailed description of the governance and implementation of the risk appetite, as well as the role the Risk Division plays in defining it.

8.3 VALUATION OF FINANCIAL INSTRUMENTS

In terms of valuation, market products are marked to market, when such market prices exist; otherwise, they are valued using parameter-based models.

On the one hand, each model designed by the front office is subject to independent validation by the Market Risks Department as second line of defence that especially checks the theoretical aspects of the model (relevance of the hypotheses, analytical calculations, numerical methods), its performance (for instance in case of stressed conditions) and its implementation in systems. Following this review, the validation status of the model, its scope of use and the recommendations which will have to be dealt with are formalised in a report.

On the other hand, the parameters used in the valuation models – whether or not they come from observable data – are subject to controls by the Market Risks Department and the Finance Division (Independent Pricing Verification). If necessary, the valuations are supplemented by reserves or adjustments (for example, bid-ask spreads or liquidity) using calculation methods approved by the Market Risk Department.

Accounting valuation governance is enforced through two valuation committees, both attended by representatives of the Global Markets Division, the Market Risk department and the Finance Division:

- the Global Valuation Committee is convened whenever necessary, and at least every quarter, to discuss and approve financial instrument valuation methodologies (model refinements, reserve methodologies, etc.). This committee, chaired by the Finance Division and organised by its valuation expert team (Valuation Group) has worldwide accountability with respect to the approval of the valuation policies concerning financial instruments on market activities;
- on a quarterly basis, the Global Valuation Review Committee, chaired by the Finance Division, reviews changes in reserves, valuation adjustment figures, and related accounting impacts. This analytical review is performed by the Valuation Group.

Lastly, a Valuation Policy guide describes the valuation framework and its governance, specifying the breakdown of responsibilities between the stakeholders.

Furthermore, regarding the prudential component, Additional Valuation Adjustments (AVAs) are computed on fair value assets, in compliance with the Regulatory Technical Standards (RTS) published by the European Banking Authority (EBA), which lay out the requirements related to Prudent Valuation, in addition to the principles already specified in the CRD3 (Capital Requirements Directive). These Regulatory Technical Standards define the various uncertainties which have to be taken into account in the Prudent Valuation and set a target level of confidence to reach.

Within this framework, in order to take into account the various factors which could generate additional exit costs compared to the expected valuation (model risk, concentration risk, liquidation cost, uncertainty on market prices, etc.), Prudent Valuation Adjustments (PVAs) are computed for each exposure. The Additional Valuation Adjustments (AVAs) are defined as the difference between the Prudent Valuation obtained and the accounting fair value of the positions, in order to comply with the target level of confidence to reach (the confidence interval is equal to 90%). These amounts of AVA are deducted from the Common Equity Tier 1 capital.

In terms of governance, the topics related to Prudent Valuation are dealt with during methodological committees and validation committees, chaired by the Finance Division and organised quarterly, and both attended by representatives of the Global Markets Division and the Market Risk department.

8.4 MARKET RISK MAIN MEASURES

99% Value at Risk (VaR)

The Internal VaR Model was introduced at the end of 1996 and has been approved by the French regulator within the scope of the regulatory capital requirements.

The Value at Risk (VaR) assesses the potential losses on positions over a defined time horizon and for a given confidence interval (99% for Societe Generale). The method used is the "historical simulation" method, which implicitly takes into account the correlation between the various markets, as well as general and specific risk. It is based on the following principles:

- storage in a database of the risk factors that are representative of Societe Generale's positions (i.e. interest rates, share prices, exchange rates, commodity prices, volatility, credit spreads, etc.). Controls are regularly performed in order to check that all major risk factors for the trading portfolio of the Group are taken into account by the internal VaR model;

Main risk factors	Description
Interest rates	Risk resulting from changes in interest rates and their volatility on the value of a financial instrument sensitive to interest rates, such as bonds, interest rate swaps, etc.
Share prices	Risk resulting from variations in prices and volatility of shares and equity indices, in the level of dividends, etc.
Exchange rates	Risk resulting from the variation of exchange rates between currencies and of their volatility.
Commodity prices	Risk resulting from changes in prices and volatility of commodities and commodity indices.
Credit Spreads	Risk resulting from an improvement or a deterioration in the credit quality of an issuer on the value of a financial instrument sensitive to this risk factor such as bonds, credit derivatives (credit default swaps for example).

- definition of 260 scenarios corresponding to one-day variations in these market parameters over a rolling one-year period; these scenarios are updated daily with the inclusion of a new scenario and the removal of the oldest scenario. There are three coexisting methods for modelling scenarios (relative shocks, absolute shocks and hybrid shocks), the choice between these methods for a given risk factor is determined by its nature and its historical trend;
- the application of these 260 scenarios to the market parameters of the day;
- revaluation of daily positions, on the basis of the 260 sets of adjusted market parameters: in most cases this calculation involves a full re-pricing. Nonetheless, for certain risk factors, a sensitivity-based approach may be used.

Within the framework described above, the one-day 99% VaR, calculated according to the 260 scenarios, corresponds to the mean of the second and third largest losses computed, without applying any weighting to the scenarios.

The day-to-day follow-up of market risk is performed via the one-day VaR, which is calculated on a daily basis at various granularity levels. Regulatory capital requirements, however, oblige us to take into account a ten-day horizon, thus we also calculate a ten-day VaR, which is obtained by multiplying the one-day VaR aggregated at Groupe level by the square root of 10. This methodology complies with regulatory requirements and has been reviewed and validated by the supervisor.

The VaR assessment is based on a model and a certain number of conventional assumptions, the main limitations of which are as follows:

- by definition, the use of a 99% confidence interval does not take into account losses arising beyond this point; VaR is therefore an indicator of the risk of loss under normal market conditions and does not take into account exceptionally significant fluctuations;
- VaR is computed using closing prices, meaning that intra-day fluctuations are not taken into account;
- the use of a historical model is based on the assumption that past events are representative of future events and may not capture all potential events.

The Market Risk Department mitigates the limitations of the VaR model by performing stress tests and other additional measurements.

The same model is used for the VaR computation for almost all of Global Banking & Investor Solution's activities (including those related to the most complex products) and the main market activities of Retail Banking and Private Banking. The few activities not covered by the VaR method, either for technical reasons or because the stakes are too low, are monitored using stress tests, and capital charges are calculated using the standardised method or through alternative in-house methods. The main market risk not covered by an internal model is the exchange risk of the banking book, which is not subject to a daily revaluation by construction and therefore cannot be taken into account in a VaR calculation.

The relevance of the model is checked through continuous backtesting in order to verify whether the number of days for which the negative result exceeds the VaR complies with the 99% confidence interval. The results of the backtesting are audited by the Risk Department in charge of the validation of internal models, which, as second line of defense, also assesses the theoretical robustness (from a design and development standpoint), the correctness of the implementation and the adequacy of the model use. The independent review process ends with (i) review and approval committees and (ii) an audit report detailing the scope of the review, the tests performed and their outcomes, the recommendations and the conclusion of the review. The model control mechanism gives rise to reporting to the appropriate authorities.

In compliance with regulations, backtesting compares the VaR to the (i) actual and (ii) hypothetical change in the portfolio's value:

- in the first case (backtesting against "actual P&L"), the daily P&L[1] includes the change in book value, the impact of new transactions and of transactions modified during the day (including their sales margins), refinancing costs, the various related commissions

(1) "Actual P&L" by agreement hereinafter.

(brokerage fees, custody fees, etc.), as well as provisions and parameter adjustments made for market risk;

- in the second case (backtesting against "hypothetical P&L"), the daily P&L[1] includes only the change in book value related to changes in market parameters and excludes all other factors.

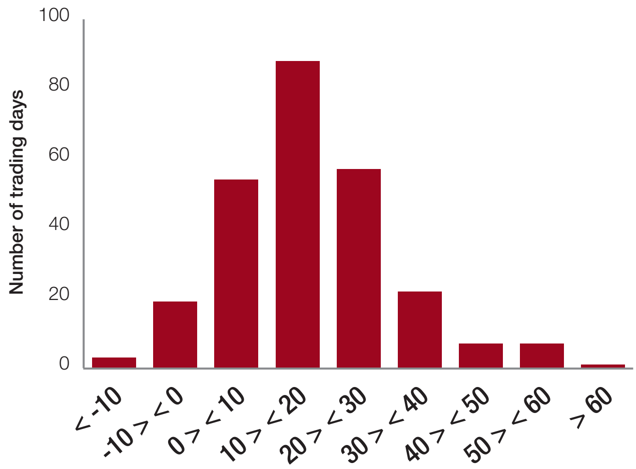
In 2019, daily losses on market activities were observed on 22 occasions[2], and one backtesting breach occurred, on 8 February, against hypothetical P&L, explained by losses on equity activities in Europe following a significant increase in the volatility of the Eurostoxx and on interest rate activities in Europe to a lesser extent.

TABLE 89: REGULATORY TEN-DAY 99% VAR AND ONE-DAY 99% VAR

	31.12.2019		31.12.2018	
(In EURm)	VaR (10 days, 99%)[1]	VaR (1 day, 99%)[1]	VaR (10 days, 99%)[1]	VaR (1 day, 99%)[1]
Period start	49	16	54	17
Maximum value	113	36	86	27
Average value	71	23	56	18
Minimum value	40	13	33	10
Period end	85	27	59	19

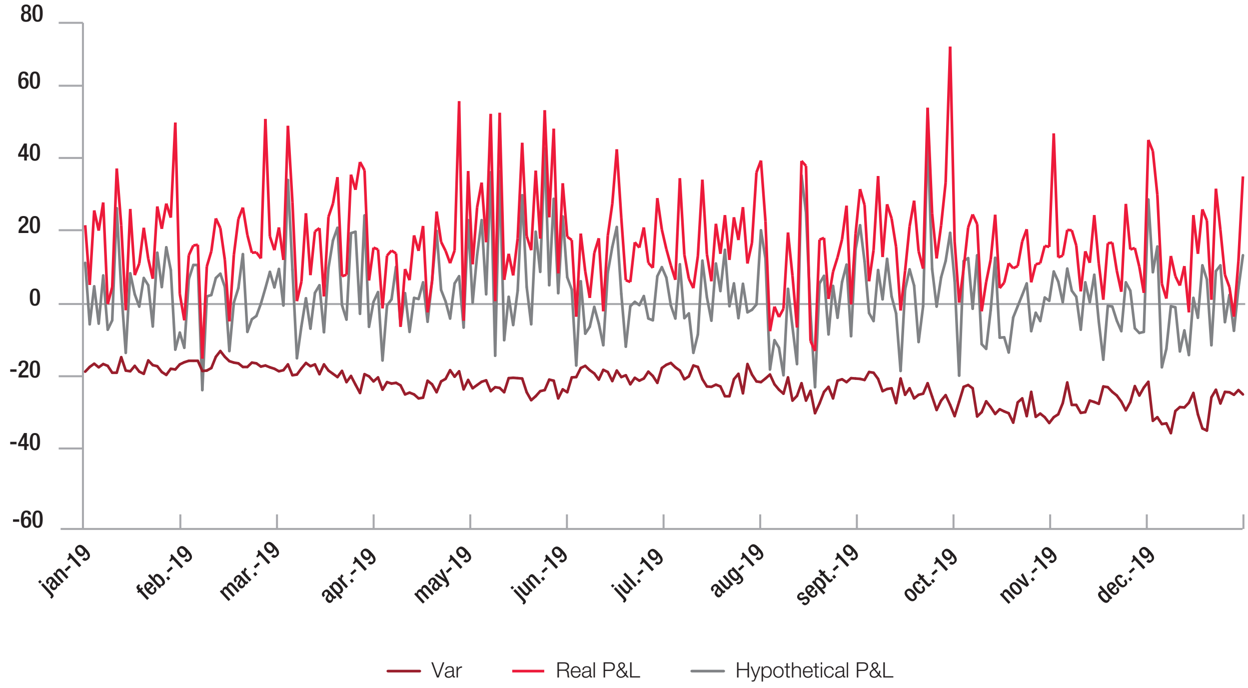
(1) Over the scope for which capital requirements are assessed by internal model.

BREAKDOWN OF THE DAILY P&L[3] OF MARKET ACTIVITIES (2019, IN EURM)

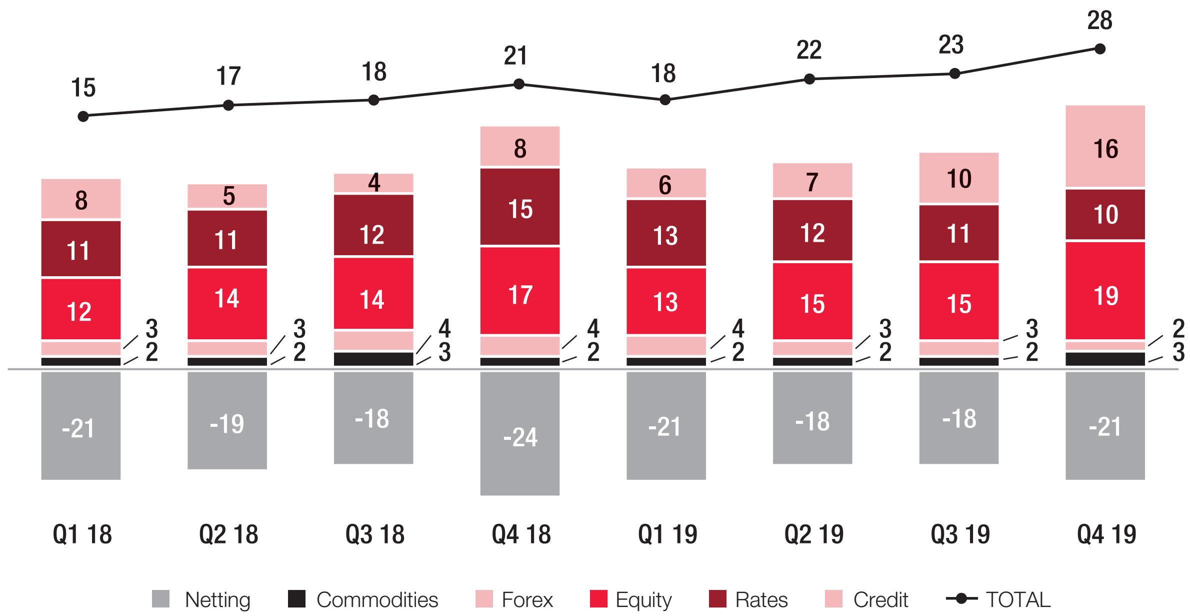


(1) "Hypothetical P&L" by agreement hereinafter.
(2) Based on actual P&L.
(3) Actual P&L.

TRADING VAR (ONE-DAY, 99%), DAILY ACTUAL P&L[1] AND DAILY HYPOTHETICAL P&L[2] OF THE TRADING PORTFOLIO (2019, IN EURM)



BREAKDOWN BY RISK FACTOR OF TRADING VAR (ONE-DAY, 99%) – CHANGES IN QUARTERLY AVERAGE OVER THE 2018-2019 PERIOD (IN EURM)



VaR was riskier in 2019 (EUR 23 million vs. EUR 18 million in 2018) with an upward trend over the whole year. This gradual increase comes from the natural renewal of the scenarios used in the VaR computation window, in particular those added during the summer, applying market rebound shocks (i.e. price increases and fall in volatility) and sharp rates hikes on long term maturities.

(1) Daily profit or loss used for the VaR backtesting against actual P&L, as defined in the "99% Value-at-Risk (VaR)"
(2) Daily profit or loss used for the VaR backtesting against hypothetical P&L, as defined in the "99% Value-at-Risk (VaR)"

Stressed VaR (SVaR)

At end 2011, Societe Generale was authorised by the French Prudential and Resolution Supervisory Authority (*Autorité de Contrôle Prudentiel et de Résolution* – ACPR) to supplement its internal models with the CRD3 requirements, in particular Stressed VaR, for the same scope as VaR.

The calculation method used for the 99% one-day SVaR is the same as as the one for the VaR. It consists in carrying out a historical simulation with one-day shocks and a 99% confidence interval. Contrary to VaR, which uses 260 scenarios for one-day fluctuations over a rolling one-year period, SVaR uses a fixed one-year historical window corresponding to a period of significant financial tension.

The method for determining the fixed historical stress window, which has been approved by the supervisor[1], is based on a review of the historic shocks on the risk factors representative of the Societe Generale portfolio (related to equity, fixed income, foreign exchange, credit and commodity risks): historical shocks are aggregated to determine the period of highest stress for the entire portfolio. Each risk factor is assigned a weighting to account for the weight of each risk factor within its asset class and the weight of the asset class in the Group's VaR. The historical window used is reviewed annually. In 2019, this window was "September 2008-September 2009".

The ten-day SVaR used for the computation of the regulatory capital is obtained, as for VaR, by multiplying the one-day SVaR by the square root of ten.

The continuous backtesting performed on VaR model cannot be replicated to the SVaR model as, by definition, it is not sensitive to the current market conditions. However, as the VaR and the SVaR models rely on the same approach, they have the same advantages and limitations.

The relevance of the SVaR is regularly monitored and reviewed by the Risk Department in charge of the validation of internal models, as second line of defense. The independent review process ends with (i) review and approval committees and (ii) an audit report detailing the scope of the review, the tests performed and their outcomes, the recommendations and the conclusion of the review. The model control mechanism gives rise to recurrent reporting to the appropriate authorities.

The SVaR remained stable on average in 2019 (EUR 38 million vs. EUR 40 million in 2018). The main contributing factors remain the same as in 2018, namely, the Fixed Income activities, the volatility being due to equity derivatives.

TABLE 90: REGULATORY TEN-DAY 99% SVAR AND ONE-DAY 99% SVAR

	31.12.2019		31.12.2018	
(In EURm)	Stressed VaR (10 days, 99%)[1]	Stressed VaR (1 day, 99%)[1]	Stressed VaR (10 days, 99%)[1]	Stressed VaR (1 day, 99%)[1]
Period start	108	34	65	21
Maximum value	213	67	395	125
Average value	119	38	128	40
Minimum value	49	15	50	16
Period end	112	35	156	49

(1) Over the scope for which capital requirements are assessed by internal model.

(1) A complementary method has been submitted to the supervisor for approval in Q2 2018: the purpose is to ensure the relevance of the period obtained following the method based on the weighting of historical shocks by computing an approached VaR on the same selection of risk factors representative of Societe Generale portfolio.

Stress test assessment

Alongside the internal VaR model, Societe Generale monitors its exposure using stress test simulations to take into account exceptional market disruptions.

A stress test estimates the loss resulting from an extreme change in market parameters over a period corresponding to the time required to unwind or hedge the positions affected.

Two major metrics are defined and used:

- the Global Stress Test on market activities, which covers all the trading risks that could arise simultaneously in the event of a severe but plausible systemic crisis. This stress test is modelled on five scenarios;
- the Market Stress Test, which uses the same scenarios as the Global Stress Test and additional scenarios corresponding to different market conditions, focusing solely on market risk.

The various scenarios for those stress tests are reviewed by the Risk Division on a regular basis. These reviews are presented during dedicated biannual committee meetings, chaired by Market Risk Department and attended by economists and representatives of Societe Generale's trading activities. These committee meetings cover the following topics: changes in scenarios (introduction, removal, shock review), appropriate coverage of the risk factors by the scenarios, review of the approximations made in terms of calculation, correct documentation of the whole process. The delegation level needed to validate the changes in stress test scenarios depends on the impact of the change in question.

Theses stress test risk assessments are applied throughout all the Bank's market activities. Stress test limits are established for Societe Generale's activity as a whole (and then for the Group's various business lines for the Market Stress Test). Together with the VaR model, these stress test risk assessments are one of the main pillars of the risk management framework.

THE GLOBAL STRESS TEST ON MARKET ACTIVITIES

The Global Stress Test on market activities has been the main risk indicator used on this scope since 2018. It covers all the trading risks that would occur simultaneously in case of a severe, but plausible, market crisis. The impact is measured over a short period of time with an expected occurrence of once per decade. The Global Stress Test uses five market scenarios and has three parts, each of which are considered in each of the five scenarios in order to ensure consistency within the same scenario:

- market risk;
- dislocation and carry risk on exotic activities related to concentration effects and crowded trades;
- market/counterparty cross-risk arising in structured products and collateralised financing transactions as well as in transactions with weak counterparties (hedge funds and proprietary trading groups).

The Global Stress Test corresponds to the least favourable results arising from the five scenarios and their respective components.

The market risk component

It corresponds to:

- the results of the Market Stress Test[1] restricted to scenarios that could cause dislocation effects on market positions and default by weak counterparties. These scenarios all simulate a sharp fall in the equity markets and a widening in credit spreads which could trigger dislocation effects. At present, these scenarios include four hypothetical scenarios (terrorist attack, generalised scenario (financial crisis scenario), euro zone crisis, a generalised fall in the value of risky assets) and one historical scenario focused on early October 2008, and;
- the impact of the stress test scenario on CVA (Credit Valuation Adjustment) and FVA (Funding Value Adjustment) reserves, as their variations affect trading results.

The dislocation and carry risk component

Additional market risks to those assessed in the Market Stress Test can occur in market situation in which one or more participants – generally structured products sellers – have concentrated or crowded trades. Dynamic risk hedging strategies can cause larger market dislocations than those calibrated in the Market Stress Test, and these dislocations can extend beyond the shock timeline used due to an imbalance between supply and demand.

Equity, credit, fixed income, currency and commodity trading activities are regularly reviewed to identify these areas of risk and to define a scenario that takes into account the specific features of each activity and position. Each scenario associated with an identified area of risk is added to the market risk component if – and only if – it is compatible with the market scenario in question.

Market/counterparty cross-risk component on weak counterparties

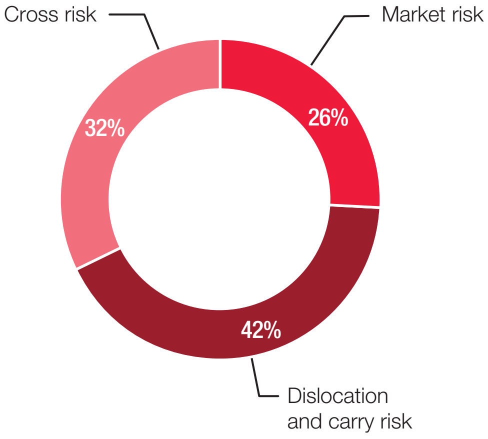
Some counterparties may be significantly affected by a major crisis on the financial markets and their probability of default may increase. The third component of the Global Stress Test therefore aims to take into account this increased risk on certain types of weak counterparties (hedge funds and proprietary trading groups).

Three measurements are used:

- **the collateralised financing stress test:** this stress test focuses on collateralised financing activities and more specifically on weak counterparties. It applies a dislocation shock to several asset classes with the assumption of extremely tight liquidity conditions. Collateral and counterparty default rates are stressed concomitantly, taking into account any consanguinity with the collateral posted;
- **the hedge fund financing stress test:** this indicator measures the expected loss generated by products incurring gap risk (leveraged certificates, credit facilities, etc.) with hedge funds as underlying assets in extreme scenarios (expected occurrence of once per decade);
- **the adverse stress test on hedge funds and proprietary trading groups (PTG):** this stress test applies two stress scenarios to all market transactions qualifying for replacement risk with this type of counterparties. A stressed probability of default – based on the counterparty's ratings – is taken into account.

(1) Measurement of the impact in the Net Banking Product in case of shocks on all risk factors (refer to below description).

AVERAGE CONTRIBUTION OF THE COMPONENTS IN 2019 GLOBAL STRESS TEST ON MARKET ACTIVITIES



THE MARKET STRESS TEST

This metric focuses on market risk and estimates the loss resulting from shocks on the set of risk factors. This stress test is based on 18 scenarios[1] (3 historical and 15 hypothetical). Main principles are as follows:

- the scenario considered in the market stress test is the worst of these 18 scenarios;
- the shocks applied are calibrated on time horizons specific to each risk factor (the time horizon can range from five days for the most liquid risk factors to three months for the least liquid);
- risks are calculated every day for each of the Bank's market activities (all products together), using each of the historical and hypothetical scenarios.

Historical scenarios

This method consists of an analysis of the major economic crises that have affected the financial markets: changes in the prices of financial assets (equities, interest rates, exchange rates, credit spreads, etc.) during each of these crises have been analyzed in order to define scenarios for potential variations in these main risk factors which, when applied to the Bank's trading positions, could generate significant losses. Accordingly, Societe Generale define three significant historical scenarios related to the period from October to December 2008. This scenario selection is subject to regular review.

Hypothetical scenarios

The hypothetical scenarios are defined with the Group's economists and are designed to identify possible sequences of events that could lead to a major crisis in the financial markets (e.g. a major terrorist attack, political instability in the main oil-producing countries, etc.). The Group's aim is to select extreme but plausible events which would have major repercussions on all international markets.

Accordingly, Societe Generale has adopted the 15 hypothetical scenarios.

(1) including the ones used in the global stress tests on market activities.

8.5 RISK-WEIGHTED ASSETS AND CAPITAL REQUIREMENTS

Allocation of exposures in the trading book

The on- and off-balance sheet items must be allocated to one of the two portfolios defined by prudential regulations: the banking book or the trading book.

The banking book is defined by elimination: all on- and off-balance sheet items not included in the trading book are included by default in the banking book.

The trading book consists of all positions in financial instruments and commodities held by an institution either for trading purposes or in order to hedge other positions in the trading book. The trading interest is documented as part of the traders' mandates.

The prudential classification of instruments and positions is governed as follows:

- the Finance Division's prudential regulation experts are responsible for translating the regulations into procedures, together with the Risk Division for procedures related to holding period and liquidity. They also analyse specific cases and exceptions. They disseminate these procedures to the business lines;
- the business lines comply with these procedures. In particular, they document the trading interest of the positions taken by traders;
- the Finance and Risk Departments are in charge of the control framework.

The following controls are implemented in order to ensure that activities are managed in accordance with their prudential classification:

- new product process: any new product or activity is subject to an approval process that covers its prudential classification and regulatory capital treatment for transactions subject to validation;
- holding period: the Market Risk Department has designed a control framework for the holding period for certain instruments;
- liquidity: on a case-by-case basis or on demand, the Market Risk Department performs liquidity controls based on certain criteria (negotiability/transferability, bid/ask size, market volumes, etc.);
- strict process for any change in prudential classification, involving the business line and the Finance and Risk Divisions;
- Internal Audit: through its various periodic assignments, Internal Audit verifies or questions the consistency of the prudential classification with policies/procedures as well as the suitability of the prudential treatment in light of existing regulations.

Regulatory measures

At end-2011, Societe Generale received approval from the French Prudential Supervisory and Resolution Authority (*Autorité de contrôle prudentiel et de résolution* – ACPR) to expand its internal market risk modelling system, in particular to include stressed VaR (VaR over a one-year historical window corresponding to a period of significant financial tensions), IRC (Incremental Risk Charge) and CRM (Comprehensive Risk Measure), for the same scope as for VaR.

VAR AND SVAR

These metrics are detailed in the previous section.

IRC AND CRM

They estimate the capital charge on debt instruments that is related to rating migration and issuer default risks. These capital charges are incremental, meaning they are added to the charges calculated based on VaR and SVaR.

In terms of scope, in compliance with regulatory requirements:

- IRC is applied to debt instruments, other than securitisations and the credit correlation portfolio. In particular, this includes bonds, CDS and related derivatives;
- CRM exclusively covers the correlation portfolio, i.e. CDO tranches and First-to-Default products (FtD), as well as their hedging using CDS and indices.

Societe Generale estimates these capital charges using internal models[1]. These models determine the loss that would be incurred following especially adverse scenarios in terms of rating changes or issuer defaults for the year that follows the calculation date, without ageing the positions. IRC and CRM are calculated with a confidence interval of 99.9%: they represent the highest risk of loss obtained after eliminating 0.1% of the most unfavorable scenarios simulated.

The internal IRC model simulates rating transitions (including default) for each issuer in the portfolio, over a one-year horizon[2]. Issuers are classified into five categories: US-based companies, European companies, companies from other regions, financial institutions and sovereigns. The behaviours of the issuers in each category are correlated with each other through a systemic factor specific to each category. In addition, a correlation between these five systemic factors is integrated to the model. These correlations, along with the rating transition probabilities, are calibrated from historical data observed over the course of a full economic cycle. In case of change in a issuer's rating, the decline or improvement in its financial health is modelled by a shock in its credit spread: negative if the rating improves and positive in the opposite case. The price variation associated with each IRC scenario is determined after revaluation of positions via a sensitivity approach, using the delta, the gamma as well as the level of loss in the event of default (Jump to Default), calculated with the market recovery rate for each position.

(1) The same internal model is used for all portfolios for which an IRC calculation is required. The same is true for the portfolios on which a CRM calculation is performed. Note that the scope covered with internal models (IRC and CRM) is included in the VaR scope : only entities authorised for a VaR calculation via an internal model can use an internal model for IRC and CRM calculation.

(2) The use of a constant one-year liquidity horizon means that shocks that are applied to the positions to calculate IRC and CRM, are instantaneous one-year shocks. This hypothesis appears to be the most prudent choice in terms of models and capital, rather than shorter liquidity horizons.

The CRM model simulates issuer's rating transitions in the same way as the internal IRC model. In addition, the dissemination of the following risk factors are taken into account by the model:

- credit spreads;
- basis correlations;
- recovery rate excluding default (uncertainty about the value of this rate if the issuer has not defaulted);
- recovery rate in the event of default (uncertainty about the value of this rate in case of issuer default);
- First-to-Default valuation correlation (correlation of the times of default used for the valuation of the First-to-Default basket).

These dissemination models are calibrated from historical data, over a maximum period of ten years. The price variation associated with each CRM scenario is determined thanks to a full repricing of the positions. In addition, the capital charge computed with the CRM model cannot be less than a minimum of 8% of the capital charge determined with the standardised method for securitisation positions.

The internal IRC and CRM models are subject to similar governance to that of other internal models meeting the Pillar 1 regulatory requirements. More specifically:

- an ongoing monitoring allows to follow the adequacy of IRC and CRM models and of their calibration. This monitoring is based at least on a yearly review of the modelling hypotheses. As these metrics are estimated via a 99.9% quantile over a one-year horizon, the low frequency of breaches means that a backtesting as the one performed on VaR model is not possible. In particular, this review includes:
  - a check of the adequacy of the structure of the rating transition matrices used for IRC and CRM models,
  - a backtesting of the probabilities of default used for these two models,
  - a check of the adequacy of the recovery rate dissemination model in the event of default used in the calculation of CRM;
- Regarding the checks on the accuracy of these metrics:
  - the IRC calculation being based on the sensitivities of each instrument - delta, gamma - as well as on the level of loss in the event of default (Jump to Default) calculated with the market recovery rate, the accuracy of this approach is checked against a full repricing every six months,
  - such a check on CRM is not necessary as its computation is performed following a full repricing;
- these metrics are compared to normative stress tests defined by the regulator. In particular, the EBA stress test and the risk appetite exercise are performed regularly on the IRC metric. These stress tests consist of applying unfavorable rating migrations to issuers, shocking credit spreads and shocking rating transition matrices. Other stress tests are also carried out on an ad hoc basis to justify the correlation hypotheses between issuers and those made on the rating transition matrix;
- a weekly analysis of these metrics is carried out by the production and certification team for market risk metrics;
- the methodology and its implementation have been initially validated by the French Prudential and resolution Supervisory (Autorité de Contrôle Prudentiel et de Résolution - ACPR). Thereafter, a review of the IRC and the CRM is regularly carried out by the Risk Department in charge of the validation of internal models as second line of defense. This independent review process ends with (i) review and approval committees and (ii) an audit report detailing the scope of the review, the tests performed and their outcomes, the recommendations and the conclusion of the review. The model control mechanism gives rise to recurrent reporting to the appropriate authorities.

Moreover, regular operational checks are performed on the completeness of the scope's coverage as well as the quality of the data describing the positions.

TABLE 91: IRC (99.9%) AND CRM (99.9%)

(In EURm)	31.12.2019	31.12.2018
Incremental Risk Charge (99.9%)		
Period start	317	263
Maximum value	352	316
Average value	192	211
Minimum value	58	116
Period end	83	266
Comprehensive Risk Measure (99.9%)		
Period start	164	213
Maximum value	211	310
Average value	144	237
Minimum value	73	165
Period end	95	221

Quantitative information

TABLE 92: MARKET RISK CAPITAL REQUIREMENTS AND RWA BY RISK FACTOR

	Risk-weighted assets			Capital requirement		
(In EURm)	31.12.2019	31.12.2018	*Change*	31.12.2019	31.12.2018	*Change*
VaR	3,881	3,365	516	310	269	41
Stressed VaR	6,678	11,771	(5,093)	534	942	(408)
Incremental Risk Charge (IRC)	1,361	3,322	(1,961)	109	266	(157)
Correlation portfolio (CRM)	1,220	2,799	(1,579)	98	224	(126)
Total market risk assessed by internal model	**13,140**	**21,257**	**(8,117)**	**1,051**	**1,701**	**(650)**
Specific risk related to securitisation positions in the trading portfolio	277	71	206	22	6	16
Risk assessed for currency positions	865	1,790	(925)	69	143	(74)
Risks assessed for interest rates (excl. securitisation)	231	413	(182)	18	33	(15)
Risk assessed for ownership positions	-	136	(136)	-	11	(11)
Risk assessed for commodities	0	34	(34)	0	3	(3)
Total market risk assessed by Standardised approach	**1,373**	**2,444**	**(1,071)**	**110**	**196**	**(86)**
TOTAL	**14,513**	**23,701**	**(9,188)**	**1,161**	**1,897**	**(736)**

Ninety-one per cent of Societe Generale's capital requirements related to market risk are determined using an internal model approach. The Standardised approach is mainly used for the positions presenting a foreign exchange risk, which are not part of the trading book, as well as for the Group's subsidiaries that do not have access to the core IT tools developed internally, and for subsidiaries for which the Group is awaiting approval from the supervisor to use the internal models. The main entities concerned are Societe Generale International Limited, and some International Retail Banking and Financial Services entities such as Rosbank, SG Maroc, Crédit du Nord, BRD, SG Brésil, etc. The decrease in capital requirements related to market risk is mainly due to:

- a fall in SVaR mainly due to a higher levels of compensation between equity and fixed income positions compared to end 2018;
- a drop un RWA for IRC resulting from less exposure on the scope covered by IRC;
- a reduction in RWA for CRM as a consequence of methodological improvements made in the last quarter.

TABLE 93: CAPITAL REQUIREMENTS AND RWA BY TYPE OF MARKET RISK

	Risk-weighted assets		Capital requirement	
(In EURm)	31.12.2019	31.12.2018	31.12.2019	31.12.2018
Risk assessed for currency positions	1,173	2,820	94	226
Risk assessed for credit (excl. deductions)	4,768	8,373	381	670
Risk assessed for commodities	792	272	63	22
Risk assessed for ownership positions	3,904	5,454	312	436
Risk assessed for interest rates	3,876	6,782	310	543
TOTAL	**14,513**	**23,701**	**1,161**	**1,897**

8.6 MARKET RISK RWA AND CAPITAL REQUIREMENTS – ADDITIONAL QUANTITATIVE INFORMATION

TABLE 94: MARKET RISK UNDER STANDARDISED APPROACH (MR1)

(In EURm)	31.12.2019 Risk-weighted assets	31.12.2018 Risk-weighted assets	31.12.2019 Capital requirement	31.12.2018 Capital requirement
Products	**1,096**	**2,373**	**88**	**190**
Interest rate risk (general and specific)	231	413	18	33
Equity risk (general and specific)	-	136	-	11
Foreign exchange risk	865	1,790	69	143
Commodity risk	-	34	-	3
Options	**277**	**71**	**22**	**6**
Simplified approach	-	-	-	-
Delta-plus method	-	-	-	-
Scenario approach	-	-	-	-
Securitisation (specific risk)	277	71	22	6
TOTAL	**1,373**	**2,444**	**110**	**196**

Outright products refer to positions in products that are not optional.

TABLE 95: MARKET RISK UNDER INTERNAL MODEL APPROACH (MR2-A)

	(In EURm)	31.12.2019 Risk-weighted assets	31.12.2018 Risk-weighted assets	31.12.2019 Capital requirement	31.12.2018 Capital requirement
1	**VaR (higher of values a and b)**	**3,881**	**3,365**	**310**	**269**
(a)	Previous day's VaR (Article 365(1) (VaRt-1))	1,058	732	85	59
(b)	Average of the daily VaR (Article 365(1)) on each of the preceding sixty business days (VaRavg) x multiplication factor ((mc) in accordance with Article 366)	3,881	3,365	310	269
2	**SVaR (higher of values a and b)**	**6,678**	**11,771**	**534**	**942**
(a)	Latest SVaR (Article 365(2) (sVaRt-1))	2,864	3,693	229	295
(b)	Average of the SVaR (Article 365(2) during the preceding sixty business days (sVaRavg) x multiplication factor (ms) (Article 366)	6,678	11,771	534	942
3	**Incremental risk charge - IRC (higher of values a and b)**	**1,361**	**3,322**	**109**	**266**
(a)	Most recent IRC value (incremental default and migration risks section 3 calculated in accordance with Section 3 articles 370/371)	1,039	3,322	83	266
(b)	Average of the IRC number over the preceding 12 weeks	1,361	2,230	109	178
4	**Comprehensive Risk Measure – CRM (higher of values a, b and c)**	**1,220**	**2,799**	**98**	**224**
(a)	Most recent risk number for the correlation trading portfolio (article 377)	1,191	1,852	95	148
(b)	Average of the risk number for the correlation trading portfolio over the preceding 12-weeks	1,220	2,799	98	224
(c)	8% of the own funds requirement in SA on most recent risk number for the correlation trading portfolio (Article 338(4))	993	2,761	79	221
5	**TOTAL**	**13,140**	**21,257**	**1,051**	**1,701**

TABLE 96: INTERNAL MODEL VALUES IN TRADING PORTFOLIOS (MR3)

(In EURm)	31.12.2019	31.12.2018
VaR (10 days, 99%)[1]		
Period start	49	54
Maximum value	113	86
Average value	71	56
Minimum value	40	33
Period end	85	59
Stressed VaR (10 days, 99%)[1]		
Period start	108	65
Maximum value	213	395
Average value	119	128
Minimum value	49	50
Period end	112	156
Incremental Risk Charge (99.9%)		
Period start	317	263
Maximum value	352	316
Average value	192	211
Minimum value	58	116
Period end	83	266
Comprehensive Risk capital charge (99.9%)		
Period start	164	213
Maximum value	211	310
Average value	144	237
Minimum value	73	165
Period end	95	221
Floor (standardised measurement method)	79	221

(1) On the perimeter for which the capital requirements are assessed by internal model.

TABLE 97: ANNUAL RWA FLOW STATEMENTS OF MARKET RISK EXPOSURES UNDER IMA (INTERNAL MODEL APPROACH) (MR2-B)

(In EURm	VaR	SVaR	IRC	CRM	Other	Total RWA	Total capital requirements
RWA at end of previous reporting period (31.12.2018)	**3,365**	**11,771**	**3,322**	**2,799**	**-**	**21,257**	**1,701**
Regulatory adjustment	*2,633*	*8,078*	*-*	*947*	*-*	*11,658*	*933*
RWA at end of day previous quarter	*732*	*3,693*	*3,322*	*1,852*	*-*	*9,599*	*768*
Movement in risk levels	518	(5,089)	(1,961)	(1,579)	-	(8,112)	(649)
Model updates/changes	-	-	-	-	-	-	-
Methodology and policy	-	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-	-
Foreign exchange movements	(2)	(3)	-	-	-	(4)	(0)
Other	-	-	-	-	-	-	-
RWA at end of day quarter	*1,058*	*1,400*	*1,039*	*1,191*	*-*	*4,688*	*375*
Regulatory adjustment	*2,823*	*5,278*	*322*	*29*	*-*	*8,452*	*676*
RWA at end of reporting period (31.12.2019)	**3,881**	**6,678**	**1,361**	**1,220**	**-**	**13,140**	**1,051**

Effects are defined as follows:

- Regulatory adjustment: difference between RWA used for the purpose of regulatory RWA calculation on the one hand and RWA of the last day or of the last week of the period on the other hand;
- Movement in risk levels: changes due to position changes;
- Model updates/changes: significant updates to the model to reflect recent experience (*e.g.* recalibration), as well as significant changes in model scope;
- Methodology and policy: methodology changes to the calculations driven by regulatory policy changes;
- Acquisitions and disposals: modifications due to acquisition or disposal of business/product lines or entities;
- Foreign exchange movements: changes arising from foreign currency translation movements.

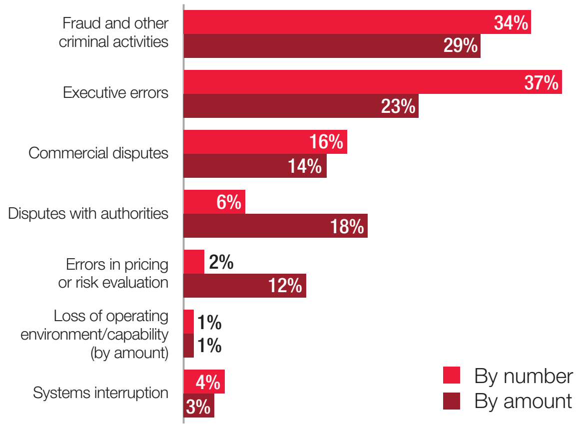
TABLE 98: QUARTERLY RWA FLOW STATEMENTS OF MARKET RISK EXPOSURES UNDER IMA (INTERNAL MODEL APPROACH) (MR2-B)

(In EURm)	VaR	SVaR	IRC	CRM	Autre	Total RWA	Exigences en fonds propres
RWA at end of previous reporting period (30.09.2019)	**3,166**	**6,087**	**2,807**	**2,002**	**-**	**14,063**	**1,125**
Regulatory adjustment	*1,942*	*3,481*	*704*	*733*	*-*	*6,861*	*549*
RWA at end of day previous quarter	*1,224*	*2,606*	*2,103*	*1,269*	*-*	*7,202*	*576*
Movement in risk levels	716	594	(1,447)	(782)	-	(918)	(73)
Model updates/changes	-	-	-	-	-	-	-
Methodology and policy	-	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-	-
Foreign exchange movements	(2)	(3)	-	-	-	(4)	(0)
Other	-	-	-	-	-	-	-
RWA at end of day quarter	*1,058*	*1,400*	*1,039*	*1,191*		*4,688*	*375*
Regulatory adjustment	*2,823*	*5,278*	*322*	*29*		*8,452*	*676*
RWA at end of reporting period (31.12.2019)	**3,881**	**6,678**	**1,361**	**1,220**	**-**	**13,140**	**1,051**

9

OPERATIONAL RISK

Distribution of operational risk losses by amount and by number



IN BRIEF

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

Operational risk RWA at end 2019

48.0 bn EUR

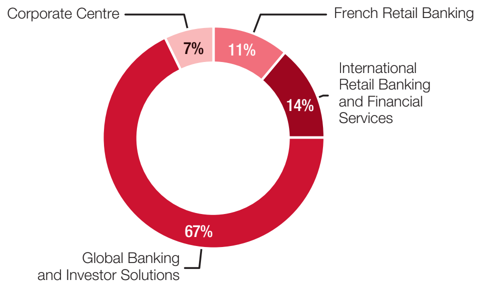
(Amount at end 2018: 49.6 bn EUR)

Share of RWA calculated *via* the internal model at end 2019

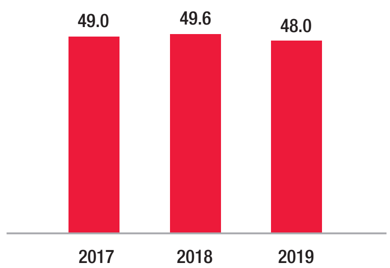
95%

(94% in 2018)

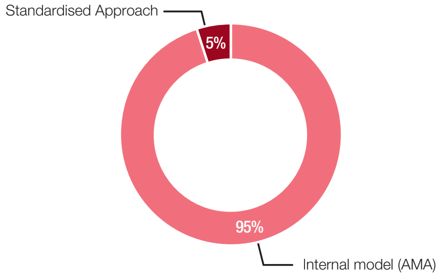
Distribution of operational risk RWA by core business



RWA (in EURbn)



Distribution of operational risk (RWA) by method at end 2019 (in EURbn)



Operational risk is the risk of losses resulting from inadequacies or failures in processes, personnel or information systems, or from external events.

Included in the eight risk categories outlined in section 9.2, operational risk encompasses the following risks:

- IT and Information Systems Security risks (cybercrime, IT systems failures, etc.);
- Risks related to outsourcing of services and business continuity;
- non-compliance risk (including legal and tax risks): risk of court-ordered, administrative or disciplinary sanctions, or of material financial loss, due to failure to comply with the provisions governing the Group's activities;
- reputational risk: risk arising from a negative perception on the part of customers, counterparties, shareholders, investors or regulators that could negatively impact the Group's ability to maintain or engage in business relationships and to sustain access to sources of financing;
- misconduct risk: risk resulting from actions (or inactions) or behaviour of the Bank or its employees inconsistent with the Group's Code of Conduct, which may lead to adverse consequences for our stakeholders, or place the Bank's sustainability or reputation at risk.

The framework relating to the risks of non-compliance, reputation and inappropriate conduct is detailed in Chapter 12 "Compliance and reputational risk, litigation".

9.1 ORGANISATION OF OPERATIONAL RISK MANAGEMENT

The Group operational risk management framework, other than non-compliance risks detailed in Chapter 12 "Compliance and reputational risk, litigation", is structured around a two-level system with the following participants:

- a first line of defence in each core business/activity, responsible for applying the framework and putting in place controls that ensure risks are identified, analysed, measured, monitored, managed, reported and contained with the limits set by the Group-defined risk appetite;
- a second line of defence: the Operational Risk Department within the Group's Risk Division.

In particular, the Operational Risk Department:

- conducts a critical examination of the BU/SUs management of operational risks (including fraud risk, risks related to information systems and information security, and risks related to business continuity and crisis management);
- sets regulations and procedures for operational risk systems and production of cross Group analyses;
- produces risk and oversight indicators for operational risk frameworks.

To cover the whole Group, the Operational Risk Department has a central team supported by regional hubs. The regional hubs report back to central, providing all information necessary for a consolidated overview of the Bank's risk profile that is holistic, prospective and valid for both internal oversight purposes and regulatory reporting.

The regional hubs are responsible for implementing the Operational Risk Division's briefs in accordance with the demands of their local regulators.

The Operational Risk Department communicates with the first line of defence through a network of operational risk correspondents in each core business/activity of the BU/SUs.

Concerning risks specifically linked to business continuity, crisis management and information security, the Operational Risk Department carries out the critical review of the management of these risks in connection with the Group Security Division. Specifically, regarding IT risks, the Operational Risk Department carries out the critical review of the management of these risks in connection with the Resources and Digital Transformation Department.

Second-level control

The second line of defence against operational risk consist in the verification of the definition and efficient conduct of first-level controls, particularly examining the results of first-level controls in terms of quantitative and qualitative aspects, notably as regards the rates of realisation, level of anomaly, etc. This review also makes it possible to check the effectiveness and relevance of control implementation based on key controls and risk type, remedial action plans.

In accordance with the internal control framework, the level 2 risk permanent control teams exercise second-level control for operational risk, encompassing the risks specific to each business (including the operational risk associated with credit and market risks) as well as those related to sourcing, communications, property, human resources and IT systems.

Risk related to security of property and people

The Group Security Division (SEGL/DSG) is in charge of establishing a forward-looking overview of security, allowing to assess threats and identify weak signals, forewarning and protecting persons, Group's physical and intangible assets. Also coordinate the planning of actions to maintain the Bank's critical activities under all circumstances, and assist crisis management if necessary. SEGL/DSG acts as first line of defence (LoD1 expertise) on issues of security.

To this end, the Division's main roles are as follows:

- defining a Group-level overview of security issues;

- dentifying existing and future security threats and risks for the Group as well as its weaknesses to confront them;
- developing and disseminating Group mechanisms and policies to better protect its activities and ensure it is capable of withstanding security crises;
- implementing the Group's security oversight mechanism;
- organising the Group's crisis management system;
- coordinating relations with national, European and international security agencies in respect of security issues;
- developing and coordinating economic intelligence;
- assisting in combating fraud;
- strengthening the security culture within the Group (training, communication campaigns, etc.).

The management of all these risks is based on operational risk systems and the second line of defence is provided by the Risk Department.

Risks related to information security

Information is a strategic asset for Societe Generale. Whether on paper, digital or exchanged orally, the use and access to information must be in compliance with regulations and laws.

To this end, the Group Security Department, housed at the level of the General Secretariat, published in April 2019 a new Group Information Security Policy (PGSIN). The PGSIN provides a holistic view of the subject by strengthening the consideration of human aspects (e.g. vigilance inside and outside our premises, and in social networks) and by capitalising on IT security policies (e.g. information encryption). The PGSIN also recalls the importance of spreading the security culture in the Group.

Following the publication of the PGSIN in the SG Code, the Group Security Department, in co-construction with the Teams of the Resources and Digital Transformation Division, has launched or supported initiatives to strengthen materialisation of this policy (e.g. the construction of information security awareness modules for Group employees and also external providers; information protection). These actions are linked to the IT security master plan described below.

With regard to IT systems, the Head of IT Security and IT Operational Risk is housed at the Corporate Resources and Digital Transformation Division. Under the functional authority of the Director of Group Security, he proposes the strategy to protect digital information and animates the community of IT security. The IT security framework is aligned with the market standards (NIST, ISO 27002), and implemented in each BU/SU.

At the operational level, the Group relies on a CERT (Computer Emergency Response Team) unit in charge of incident management, security watch and the fight against cybercrime. This team uses multiple sources of information and monitoring, both internal and external. Since 2018, this unit has also been strengthened by the establishment of an internal Red Team whose main tasks are to assess the effectiveness of the security systems deployed and to test the detection and reaction capabilities of the defence teams (Blue Teams) during an exercise simulating a real attack. The services of the Red Team enable the Group to gain a better understanding of the weaknesses in the security of the Societe Generale information system, to help in the implementation of global improvement strategies, and also to train cybersecurity defence teams.

Given the increasing number and sophistication of digital attacks, the risk of cybercrime is becoming increasingly significant for players in the banking industry. The Societe Generale focuses strongly on data and information systems to protect its customers. It is addressed in a cooperative way by the IT security and operational risks teams and is monitored by the General Management within the framework of an IT security master plan. A budget of EUR 650 million was allotted over three years to address cybercrime risk.

Consequently, to support the “Transform to Grow” Group strategic plan, the IT security master plan has been structured around five major pillars to steer actions out to 2020 that addresses:

- security for the Bank's customers: enhancing the secure digital experience and strengthening our customers' cyber security culture;
- protection of key assets: continue security actions closer to the data and securing the most sensitive applications;
- continued reinforcement of the Group's detection and reaction capabilities;
- developing the agility and trust zones of our IT systems and processes to facilitate internal and partner exchanges;
- developing the expertise of the IT security sector by creating a Cyber Institute, raising awareness and assisting employees.

A central team at the Resources and Digital Transformation Department is responsible for managing and monitoring IT operational risks. The main missions of the team are:

- identifying and evaluating the major IT risks for the Group, including extreme risk scenarios (eg. cyber-attack, failure of a provider), to enable the Bank to improve its knowledge of its risks, be better prepared for extreme risk scenarios and better align their investments with their IT risks;
- providing elements enabling the Bank's management to steer risks, in particular via Key Risk Indicators (KRIs). These are communicated to Societe Generale's Risk Committee and to the Risk Committee of the Board of Directors. They are reviewed regularly to stay aligned with the IT and security strategy and their objectives;
- more generally, ensuring the quality and reliability of all devices addressing IT operational risks. Particular attention is paid to the permanent control system for its IT risks, which is based on the definition of normative IT and security controls and the support of the Group in the deployment of managerial supervision on this subject. In 2019, as part of the “PCT” permanent control transformation program, a new version of the IT risk/IT security normative controls was developed and must be deployed across the Group by Q3 2020.

The management of all these risks is based on operational risk systems and the second line of defence is provided by the Risk Department.

9.2 OPERATIONAL RISK MONITORING PROCESS

The Group's main frameworks for controlling operational risks are as follows:

- collection of internal losses and significant incidents and analysis of external losses;
- self-assessment of risks and controls;
- oversight of risk indicators;
- development of scenario analyses;
- framing new products;
- management of outsourced services;
- crisis management and business continuity;
- information systems security management;

Societe Generale's classification of operational risks in eight event categories and 58 risk categories forms the cornerstone of its risk modelling, ensuring consistency throughout the system and enabling cross-business analyses throughout the Group.

The eight event categories are as follows:

- commercial litigation;
- disputes with authorities;
- errors in pricing or risk evaluation including model risk;
- execution errors;
- fraud and other criminal activities;
- rogue trading;
- loss of operating resources;
- IT system interruptions.

Collection of internal loss and significant incident data

Internal losses have been compiled throughout the Group since 2003, in addition to significant incident data since 2019. The process:

- defines and implements the appropriate corrective actions;
- achieves a deeper understanding of risk areas;
- enhances awareness and vigilance with respect to operational risks in the Group.

Losses (or gains or near-misses) are reported from a minimum threshold of EUR 10,000 throughout the Group, except for global market activities, where the threshold is EUR 20,000.

Incidents without financial impact are also reported when they are deemed significant according to their impact, in particular on contractual commitments, reputation, day-to-day operations, risk appetite or the level of regulatory compliance of the Group.

Analysis of external losses

External losses correspond to the data on operational losses suffered by the banking and financial sector, provided by databases managed by external providers, as well as the data shared by the banking industry as part of consortiums.

These data are used to enhance the identification and assessment of the Group's exposure to operational risks.

Risk and control self-assessment

Under the Risk and Control Self-Assessment (RCSA), each manager assesses the exposure to operational risks to which each entity within the relevant scope is exposed through the activities in order to improve their management.

The method defined by the Group consists of taking a homogeneous approach to identifying and evaluating operational risks and frameworks to control these risks, in order to guarantee consistency of results at Group level. It is based notably on a repository of activities.

The objectives are as follows:

- identifying and assessing the major operational risks (in average amount and frequency of potential loss) to which each activity is exposed (the intrinsic risks, i.e. those inherent in the nature of an activity, while disregarding prevention and control systems). Where necessary, risk mapping established by the functions (e.g. Compliance, Information Systems Security, etc.) contributes to this assessment of intrinsic risks;
- assessing the quality of major risk prevention and mitigation measures;
- assessing the risk exposure of each activity that remains once the risk prevention and mitigation measures are taken into account (the "residual risk"), while disregarding insurance coverage;
- remedying any shortcomings in the prevention and control systems, by implementing corrective action plans and defining key risk indicators; if necessary, in the absence of an action plan, risk acceptance will be formally validated by the appropriate hierarchical level;
- adapting the risk insurance strategy, if necessary.

Key risk indicators

Key risk indicators (KRIs) supplement the overall operational risk management system by providing a dynamic view (warning system) of changes in business risk profiles.

Their follow-up provides managers of entities with a regular measure of improvements or deteriorations in the risk and the environment of prevention and control.

A cross analysis of Group-level KRIs and losses is presented to the Group's Executive Committee on a quarterly basis via a specific dashboard.

Analyses of scenarios

The analyses of scenarios serve two purposes: informing the Group of potential significant areas of risk and contributing to the calculation of the capital required to cover operational risks.

These analyses make it possible to build an expert opinion on a distribution of losses for each risk category and thus to measure the exposure to potential losses in scenarios of very severe severity, which can be included in the calculation of the prudential capital requirements.

In practice, various scenarios are reviewed by experts who gauge the severity and frequency of the potential impacts for the Group by factoring in internal and external loss data as well as the internal framework (controls and prevention systems) and the external environment (regulatory, business, etc.).

Governance is established in particular, to:

- allow the approval of the annual scenarios update programme by the Risk Committee (CORISQ);
- allow the approval of the scenarios by the senior management of the Business and Corporate Divisions, through the Internal Control Coordination Committees of the departments involved or through ad hoc meetings;
- conduct an overall review of the Group's risk hierarchy and of the suitability of the scenarios through CORISQ.

New product committees

Each division submits their new product proposals to a New Product Committee (commercial products only).

The committee, jointly coordinated by the Risk Division and the relevant businesses, is a decision-making body which decides the production and marketing conditions of new products to customers.

The committee aims to ensure that, before any product launch, all types of induced risks (credit, market, liquidity and refinancing, country, operational, legal, accounting, tax, financial, information systems risks as well as the risks of compliance, reputation, protection of personal data and corporate social responsibility risks, etc.) have been identified, assessed and, if necessary, subjected to mitigation measures allowing the acceptance of residual risks.

The definition of "new product" extends from the creation of a new product or service to the development of an existing product or service as soon as this development is likely to generate different or higher risks. The development may be linked to matters such as a new regulatory environment, to marketing on a new scope or to a new type of clientele.

Outsourcing of services

Some banking services are outsourced outside the Group or within the Group (e.g. in our shared service centres). These two subcontracting channels are supervised in a manner adapted to the risks.

A framework with standards and a tool helps ensure that the operational risk linked to outsourcing is controlled, and that the conditions set by the Group's approval are respected.

It helps to map the Group's outsourcing with an identification of the activities and BU/SU concerned, and to put outsourcing under control with knowledge of risks and with suitable supervision.

During the study phase, the businesses decide on the outsourcing of services within the framework of standards set by the Group. Outsourcing projects are led by a project manager and validated by the sponsor who accepts the residual risk level after a risk analysis based on expert opinions. This ensures the consistency of the assessments and the consistency of decisions across the Group.

The analysis includes, at a minimum, operational risks (including fraud, execution risk, etc.), legal, tax, non-compliance, reputation, supplier, human resources, social and environmental responsibility, business continuity risks, risks related to data quality, and risks related to information security and data protection.

Legal experts use the same definition of essential outsourcing of services as that defined in the Decree of 3 November 2014.

All outsourced services are then monitored at a frequency defined by their level of risk.

Services at Group level are subject to reinforced monitoring through very regular contractual monitoring. These services are identified using criteria such as the concept of "core business activity", financial impact and reputation risk. These services are validated by a dedicated committee, chaired by the Operational Risk Department.

A closing phase is used to manage the outflow of services.

Crisis management and business continuity

The crisis management and business continuity systems aim to mitigate as far as possible the impacts of potential incidents on customers, staff, activities and infrastructure, thus protecting the Group's reputation, the image of its brands, and its financial resilience. These systems also satisfy regulatory requirements.

The approach used to implement and track the business continuity systems of each Group entity is based on a methodology that meets international standards.

2018-2020 IT security master plan

With investments amounting to EUR 650 million in the last three years, the IT security master plan places cybersecurity at the centre of the trusted digital relationship between Societe Generale and its customers.

The assessment of cyber risks and measures to strengthen our IT security are managed using a dashboard shared quarterly with the Group's management. Structured around a set of key risk indicators (KRI) covering the eight standard categories of IT security risks recommended by the regulatory authorities and standards bodies (ACPR, EBA, NIST, etc.), the dashboard is a means of verifying compliance with the Group's risk appetite and the effectiveness of action plans.

A cyber risk insurance policy has been taken out amid an environment not specific to the banking sector which is seeing a rapid development of new forms of crime mainly involving data theft or the compromise or destruction of computer systems.

In terms of awareness, a multi-language e-learning module on information security is mandatory for all internal Group staff and for all service providers who use or access our information system. At the end of 2019, 97% of Societe Generale Group employees had validated the training.

A specific e-learning module for the executive assistants of the Group Executive Committee was introduced at the end of 2019. Owing to their close working relationship with members of the Group's Executive Committee, executive assistants can represent a target of choice for fraudsters and other cyber pirates. The purpose of the e-learning module is to develop their awareness of the risks of social engineering and attempts at fraud.

Societe Generale also offers traineeships to more than 2,500 trainees every year. A letter of confidentiality is now systematically sent to them to be signed before they take up their post. The Group organises dedicated onboarding sessions for them, in particular to remind them of the information protection rules in force in the Group; for example, they are required to have the content of their traineeship report validated by their manager before it is circulated externally.

In addition, specific awareness-raising actions, not only for employees but also for customers, are carried out throughout the year (conferences, demonstrations, workshops, etc.). For example, fake phishing emails are sent to all employees, at least twice a year, to teach them to detect a suspicious email and send them the right reflexes. Since the first campaigns in 2015, the number of link clicks or attachment openings has halved, and the rate of reporting suspicious messages to security teams has almost tripled.

9.3 OPERATIONAL RISK MEASUREMENT

Since 2004, Societe Generale has used the Advanced Measurement Approach (AMA) allowed by the Capital Requirements Directive to measure operational risk. This approach, implemented across the main Group entities, notably makes it possible to:

- identify the businesses that have the greatest risk exposures;
- identify the types of risk that have the greatest impact on the Group's risk profile and overall capital requirements;
- enhance the Group's management of operational risks.

Operational risk modelling

The statistical method used by the Group for operational risk modelling is based on the Loss Distribution Approach (LDA) for AMA internal model.

Under this approach, operational risks are modelled using segments, each segment representing a type of risk and a Group core business. The frequency and severity of operational risks, based on past internal losses, external losses, the internal and external environment, and scenario analyses, are estimated and the distribution of annual losses is calculated for each segment. This approach is supplemented by cross-business scenario analyses that measure cross-business risks for core businesses, such as cybercriminality and the flooding of the river Seine.

Aside from the individual risks associated with each segment or cross-business scenario analysis, the model takes into account the diversification between the various types of risk and the core businesses, as well as the effect of insurance policies taken out by the Group.

The Group's regulatory capital requirements for operational risks within the scope covered by the (AMA) internal model are then defined as the 99.9% quantile of the Group's annual loss distribution.

For some Group entities, notably in retail banking activities abroad, the standardised method is applied: the calculation of capital requirements is defined as the average over the last three years of a financial aggregate based on the Product Net Banking multiplied by factors defined by the regulator and corresponding to each category of activity. To make the calculation, all of the Group's business lines are broken down into the eight regulatory activities.

Societe Generale's total capital requirements for operational risks were EUR 3.8 billion at the end of 2019, representing EUR 47.9 billion in risk-weighted assets. This assessment includes the capital requirement of AMA and Standard perimeters.

Insurance cover in risk modelling

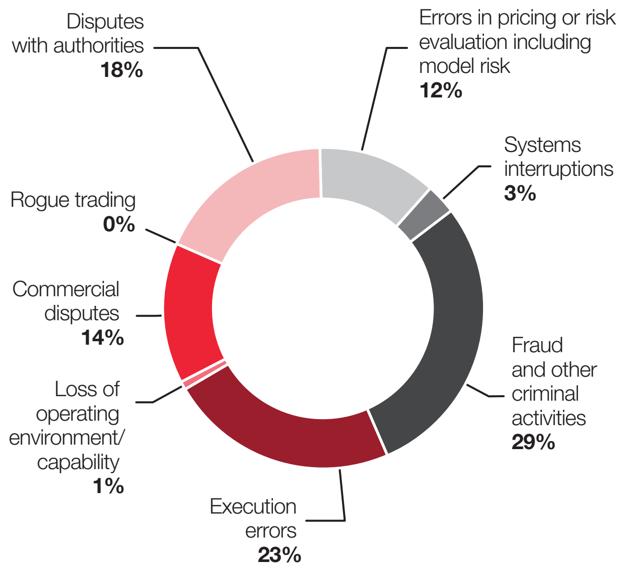
In accordance with regulations, Societe Generale incorporates risk cover provided by insurance policies when calculating regulatory capital requirements for operational risks, within the limit of 20% of said requirements. These insurance policies cover part of the Group's major risks, i.e. civil liability, fraud, fire and theft, as well as systems interruptions.

Risk reduction through insurance policies resulted in a 5.9% decrease in total capital requirements for operational risks.

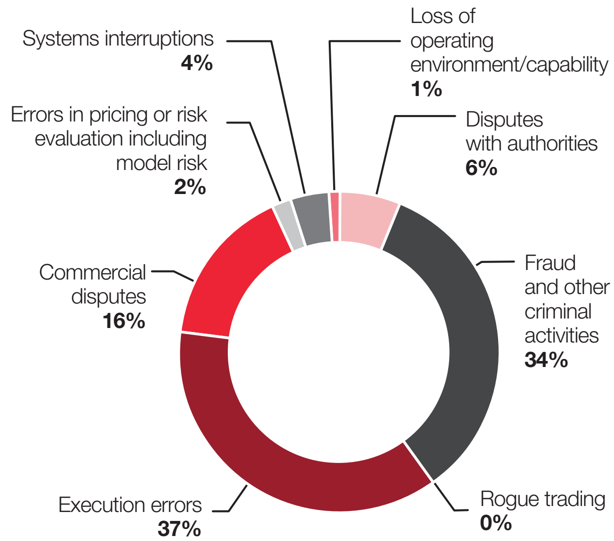
Quantitative data

The following charts break down operating losses by risk category for the 2015-2019 period.

OPERATIONAL RISK LOSSES: BREAKDOWN BY SOCIETE GENERALE RISK EVENT TYPE - AMOUNTS



OPERATIONAL RISK LOSSES: BREAKDOWN BY SOCIETE GENERALE RISK EVENT TYPE - NUMBER OF EVENTS



Over the past five years, Societe Generale's operational risks were concentrated on average on four types, accounting for 96% of the Group's total operating losses:

- fraud and other criminal activities represented 29% of the amount of operating losses over the period. They are mainly composed of external frauds on financing files (falsified financial statements by the client, theft or misappropriation of collateral/guarantees, etc.), fraud on manual means of payment (cash, transfer and cheque) and supplier fraud on financed equipment;
- execution errors represented 23% of total operational losses, thereby constituting the second leading cause of loss for the Group. The amount of losses on this category is stable over the period;
- disputes with authorities, the third largest category, represented 18% of the Group's operational losses over the period. The amount of losses in this category fell significantly in 2019 following the settlement of the Group's main disputes in 2018;
- commercial disputes represented 14% of total Group operating losses. The trend is down for this category over the period considered;
- pricing or risk assessment errors, including model risk, represent 12% of the total amount of losses. The main cases concern the pricing and ALM models.

The other categories of Group operational risk (activities not authorised on the markets, system interruptions, loss of operating environment/capability) were still relatively insignificant, representing barely 4% of the Group's losses on average over the 2015 to 2019 period.

9.4 RISK-WEIGHTED ASSETS AND CAPITAL REQUIREMENTS

Societe Generale's capital requirements for operational risk are mainly calculated using the Advanced Measurement Approach (AMA) via its internal model (95% in 2019 and 94% in 2018. The amount of risk-weighted assets on the AMA scope has decreased slightly (EUR -1,258 million, i.e. -2.7%) reflecting the change in the group's operational risk profile. The decrease on risk-weighted assets using the Standardised approach was chiefly driven by a slowdown in activity and the various disposals of Eastern European entities during 2019

The following table breaks down the Group's risk-weighted assets and the corresponding capital requirements at 31 December 2019.

TABLE 99: RWA AND CAPITAL REQUIREMENTS RELATING TO OPERATIONAL RISK

	31.12.2019				31.12.2018			
(In EURm)	RWA under Standardised approach	RWA under Advanced Measurement Approach (AMA)	Total RWA	Capital requirements	RWA under Standardised approach	RWA under Advanced Measurement Approach (AMA)	Total RWA	Capital requirements
Global Banking and Investor Solutions	189	32,007	32,196	2,576	289	32,804	33,093	2,647
Corporate Centre	364	3,141	3,505	280	275	3,138	3,413	273
International Retail Banking and Financial Services	1,884	5,029	6,913	553	2,284	5,376	7,659	613
French Retail Banking	33	5,313	5,346	428	23	5,432	5,455	436
TOTAL	**2,470**	**45,491**	**47,961**	**3,837**	**2,872**	**46,749**	**49,621**	**3,970**

9.5 OPERATIONAL RISK INSURANCE

Some banking services are outsourced outside the Group or within the Group (e.g. in our shared service centres). These two subcontracting channels are supervised in a manner adapted to the risks.

Policies of the insurance subscription

GENERAL POLICY

Since 1993, Societe Generale has implemented a global policy of hedging Group operational risks through insurance.

This consists in searching the market for the most extensive cover available for the risks incurred and enabling all entities to benefit from such cover wherever possible. Policies are taken out with leading insurers. Where required by local legislation, local policies are taken out, which are then reinsured by insurers that are part of the global programme.

In addition, special insurance policies may be taken out by entities that perform specific activities.

A Group internal reinsurance company intervenes in several policies in order to pool high-frequency, low-level risks between entities. This approach contributes to the improvement of the Group's knowledge and management of its risks.

Description of main coverage

GENERAL RISKS

Buildings and their contents, including IT equipment, are insured at their replacement value. The guarantee covering acts of terrorism abroad has been renewed.

Liability other than professional liability (*i.e.* relating to operations, Chief Executive Officers and Directors, vehicles, etc.) is covered by insurance policies on a worldwide basis. The amounts insured vary from country to country, according to operating requirements.

RISKS ARISING FROM OPERATIONS

Insurance is only one of the measures used to offset the consequences of the risks inherent in the Group's activity. It complements the Group's risk management policy.

THEFT/FRAUD

These risks are included in the "Banker's Blanket Bond" policy that insures all the Group's financial activities around the world.

Internal fraud (committed by an employee or by a third party acting with the aid of an employee) and external fraud (committed by a third party acting alone), with the intent to obtain illicit personal gain or to harm the Group, are covered.

PROFESSIONAL LIABILITY

The consequences of any legal on staff or managers in the Group's professional activities are insured under a global policy.

CYBER ATTACKS

A cyber risk insurance policy has been taken out amid an environment not specific to the banking sector which is seeing a rapid development of new forms of crime mainly involving data theft or the compromise or destruction of computer systems.

10

STRUCTURAL INTEREST RATE AND EXCHANGE RATE RISKS

IN BRIEF

Structural interest and exchange rate risks correspond to the risk of losses of interest margin or value of the fixed rate structural position arising from variations in interest or exchange rates. Structural interest and exchange rate risks arise from commercial activities and from transactions entered into by the Corporate Centre. This section describes the monitoring of structural risks and provides information on structural interest rate and exchange rate risks (operations impacting shareholders' equity, investments and bond issues).

Overall sensitivity of the Group's value to structural interest rate risk in the event of a parallel shift in the yield curves of +10 bp at end 2019

(in % of regulatory capital)

< 0.1%

Group net interest margin sensitivity over three years, in the event of a parallel shift in the yield curves of +10 bp in 2019

(in % of the net banking income)

0.7%

Maximum sensitivity of the Group's Common Equity Tier 1 ratio per currency to a 10% change by currency

(in basis points)

< 0.4 bp

Overall sensitivity all currencies combined

(in basis points)

+3.4 bp

Structural exposure to interest rate and exchange rate risks results from commercial transactions, their associated hedging transactions and Corporate Centre transactions.

The interest rate and exchange rate risks linked to trading book activities are excluded from the structural risk measurement scope as they belong to the category of market risks. Structural and market exposures constitute the Group's total interest rate and exchange rate exposure.

The general principle is to reduce structural interest rate and exchange rate risks to the greatest possible extent within the consolidated entities. Within the entities, commercial and corporate center operations must therefore be matched in terms of interest rates and exchange rates as much as possible. At consolidated level, a structural foreign exchange position is maintained in order to minimise the sensitivity of the Group's Common Equity Tier 1 (CET1) ratio to exchange fluctuations.

10.1 ORGANISATION OF THE MANAGEMENT OF STRUCTURAL INTEREST RATE AND EXCHANGE RATE RISKS

The principles and standards for managing these risks are defined at the Group level. The entities are first and foremost responsible for managing these risks. The ALM (Asset and Liability Management) Department within the Group's Finance Division supplements the control framework.

The Group Finance Committee, a General Management Body

The purpose of the Group Finance Committee is to:

- validate and ensure the adequacy of the system for monitoring, managing and supervising structural risks;
- review changes in the Group's structural risks through consolidated reporting;
- review and validate the measures proposed by the Group's Finance Department.

The ALM Department, within the Group's Finance Department

The ALM (Asset and Liability Management) Department is responsible for:

- defining the structural risk policies for the Group and formalising risk appetite to structural risks;
- defining the steering indicators and overall stress test scenarios of the different types of structural risks and setting the main limits for the business divisions and the entities and Business Units (BU) et Service Units (SU);
- analysing the Group's structural risk exposure and defining hedging strategies;
- monitoring the regulatory environment concerning structural risk;
- defining the ALM principles for the Group;
- defining the normative environment of the structural risk metrics, modelling and framing methods;
- defining the models used by the Group's entities regarding structural risks;
- identifying, consolidating and reporting on Group structural risks;
- monitoring compliance with structural risk limits.

The ALM Risk Control Department within the Risk division

The second-level supervision of the ALM models used within the Group and of associated frameworks is provided by a dedicated service within the Risk Department. Accordingly, the department:

- validates the methodological principles, feeding parameters and back tests of ALM models;
- requests and analyses proposals from the Group Finance Division regarding the risk indicators definition, stress test scenarios and structural risk frameworks;
- ensures at the second level that the entities' frameworks and BU/SU and Group frameworks are respected, and conducts a regular review in coordination with the first-level control teams.

The Risk Department also organises and chairs the Group Model Validation Committee and the Group ALM Standards Validation Committee.

The entities and BU/SUs are responsible for ALM risk management

Each entity and each BU/SU carries out first-level controls on structural risks and is responsible for regularly assessing risks incurred. It drafts the risk report and develops and implements hedging options.

Each entity and each BU/SU is required to comply with the Group's standards and to adhere to the limits assigned to it.

As such, the entities and the BUs/SUs apply the standards defined at Group level and develop the models, with the support of the Finance Department's central modeling teams.

An ALM manager reporting to the Finance Department in each entity is responsible for monitoring these risks (level 1 control). He is responsible for reporting ALM risks to the Group Finance Department. All entities have an ALM Committee which is tasked with implementing validated models, managing exposure to interest rate and exchange rate risks and implementing hedging programmes in accordance with the principles set out by the Group and the limits validated by the Finance Committee and the BU/SU ALM Committees.

10.2 STRUCTURAL INTEREST RATE RISK

Structural interest rate risk is generated by commercial transactions and their hedging, as well as the management operations specific to each of the consolidated entities.

This interest rate risk arises mainly from residual fixed-rate positions with future maturities.

The Group’s objective

The objective of managing structural interest rate risk is to reduce the degree of exposure of each Group entity as much as possible.

To this end, the Board of Directors, the Finance Committee and the ALM Committees set sensitivity limits (in terms of value and income) for the Group, the BU/SUs and the entities, respectively.

Measuring and monitoring structural interest rate risk

Societe Generale uses several indicators to measure the Group's overall interest rate risk. The three most important indicators are:

- the sensitivity of the net present value (NPV) to the risk of interest rate mismatch. It is measured as the sensitivity of the net present value of the static balance sheet to a change in interest rates. This measure is calculated for all currencies to which the Group is exposed;
- the sensitivity of the interest margin to changes in interest rates in various interest rate scenarios. It takes into account the sensitivity generated by future commercial production over a three-year period and is calculated on a dynamic basis;
- the sensitivity of NPV to basis risk (risk associated with decorrelation between different variable rate indices).

Limits on these indicators apply to the Group, the BUs/SUs and the various entities.

Assets and liabilities are analysed without prior allocation of resources to uses. Maturities of outstanding are determined by taking into account the contractual characteristics of the transactions, adjusted for the results of customer behaviour modeling (in particular for demand deposits, savings and early loan repayments), as well as a certain number of disposal agreements, in particular on equity items.

Where possible, hedging transactions are documented from an accounting view point: this can be carried out either as micro-hedging (individual hedging of commercial transactions) or as macro-hedging under the IAS 39 carve-out arrangement (global backing of portfolios of similar commercial transactions within a treasury department; macro-hedging concerns essentially French retail network entities).

Macro-hedging derivatives are essentially Interest Rate Swaps in order to maintain networks net asset value and result sensitivity within limit frameworks considering hypothesis applied. For macro-hedging documentation, the hedged item is an identified portion of a portfolio of commercial client or interbank operations. Conditions to respect in order to document hedging relationships are reminded in Note 3.2 of Chapter 6 of the 2020 Universal Registration Document.

Macro-hedging derivatives are allocated to separate portfolios according to whether they are used to hedge fixed-rate assets or liabilities in the accounting books. The hedging instrument portfolios allocated to liability elements are net fixed-rate receiver/variable-rate payer whereas the hedging instrument portfolios allocated to asset elements are net fixed-rate payer/variable-rate receiver.

The non-over hedging tests and hedged items non-disappearing tests make the link between the balance sheet available assets or liabilities outstanding and the amount of assets and liabilities outstanding designated as hedged. The prospective non-over hedging test is satisfied when the net outstanding amount of the swaps is lower for each maturity band and on each measurement date than the determinated outstanding amount of items eligibles to fair value hedge. The estimated outstanding may be defined as the outstanding amount resulting from ALM projections. The non-over hedging a posteriori test is performed in two stages. The first stage is the same as the a priori test but on the outstanding amount eligible for a fair value hedge on closing date, new production excluded. The second stage is called the non-disappearance of the hedged item test and consists of verifying that the hedgeable position is always at least as significant as the maximum position that had initially been hedged.

The effectiveness of the hedge is then determined using the dollar off-set method. The sources of ineffectiveness result from the last fixing of the variable leg of the hedging swaps, the bi-curve valorisation of the collateralised hedging instruments, possible mismatches in the cash flows payment dates and counterparty risk on hedging instruments valorisation.

The Group's sensitivity to changes in interest rates at 31 December 2019 stood at EUR -54 million (for an instantaneous and parallel increase in interest rates of 0.1%).

TABLE 100: SENSITIVITY OF THE GROUP'S VALUE TO A +10 BP INTEREST RATE VARIATION

(In EURm)	Total
Amount of sensitivity (31.12.2019)	**(54)**
Amount of sensitivity (31.12.2018)	29

The Group analyses the sensitivity of the net interest margin to changes in market interest rates through stress tests on the Group's net interest margin under constant balance sheet and under forward balance sheet assumptions.

The measurement of the sensitivity of the net interest margin to a three-year horizon in different configurations of the yield curve is used by the Group to monitor the interest rate risk on a perimeter of significant entities.

The balance sheet in a dynamic approach evolves according to the amortisation of the stock and the renewals of operations on the basis of the outstanding amounts booked at the closing date .

The sensitivity of the Group's net interest margin over the next three following full years is low. In the event of a parallel rise in the yield curve of +10 bp, it is positive and represents less than 1% of net banking income.

The sensitivity of the net interest margin is mainly due to the impact on:

- customer deposits: generally low or non-interest-bearing, with customer rates only partially impacted by interest rate changes, their margin is mainly the result of the replacement rate;
- new credit loan production.

The sensitivity of the margin on the stock of customer transactions results from the renewal of matured tranches of deposit replacements and the residual sensitivity of the balance sheet to interest rate changes.

French Retail Banking's activities in France and abroad are favorably exposed by a rise in interest rates over the first three years enabling them to replace their deposits at higher rates, with the margin on loans in stock remaining stable. However, this increase in margin is partially offset by higher refinancing costs.

Retail Banking activities are unfavourably exposed to the decrease in rates as their deposits are then replaced at lower rates and the margin on loans in stock decreases due to early repayments. This decline in margin was partially offset by higher production margins on new loans (the decline in customer lending rates is not as rapid as the decrease in interest rate curves) and by lower refinancing costs.

Calculations are based on the aggregate estimates as at 31 December of consolidated entities of the Group.

TABLE 101: SENSITIVITY OF THE GROUP’S INTEREST MARGIN

(In EURm)	31.12.2019	31.03.2019
Parallel increase in interest rates of 10 bp		
Year 1	9	60
Year 2	48	60
Year 3	115	64
Parallel decrease in interest rates of 10 bp		
Year 1	(15)	(21)
Year 2	(56)	(104)
Year 3	(122)	(132)

10.3 STRUCTURAL EXCHANGE RATE RISK

This structural exchange rate risk results mainly from:

- exposures related to net investments abroad, i.e. in subsidiaries and branches;
- exposures related to other banking book transactions.

The Group's policy is to make the CET1 ratio insensitive to fluctuations in exchange rates against the euro.

As such, Group entities are only allowed to maintain residual positions against their local reference currency.

At central Finance Department level, Societe Generale maintains a target exposure in each RWA currency equivalent to the level of the target Group CET1 ratio.

For each currency, the difference between actual and target exposure is governed by limits validated by the Finance Committee and the Board of Directors.

TABLE 102: SENSITIVITY OF THE GROUP'S COMMON EQUITY TIER 1 RATIO TO A 10% CHANGE IN THE CURRENCY (IN BASIS POINTS)

	Impact of a 10% currency depreciation on the Common Equity Tier 1 ratio		Impact of a 10% currency appreciation on the Common Equity Tier 1 ratio	
Currency	31.12.2019	31.12.2018	31.12.2019	31.12.2018
DZD	-	-	-	-
USD	-	(1)	-	1
JPY	-	-	-	-
CZK	-	-	-	-
GBP	-	-	-	-
CNY	-	-	-	-
DKK	-	-		-
MAD	-	-	-	-
XAF	-	-	-	-
Other	-	(2)	-	2

11

LIQUIDITY RISK

IN BRIEF

Liquidity risk is defined as the risk of not being able to meet cash flow or collateral requirements when they fall due and at a reasonable price.

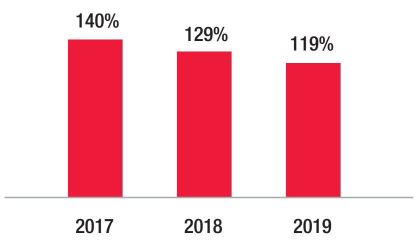
This section details the monitoring of liquidity and the management of this risk.

Liquidity reserve at end 2019

190 bn EUR

(Amount at end 2018: 172 bn EUR)

LCR ratio



Liquidity risk is defined as the risk of not being able to meet cash flow or collateral requirements when they fall due and at a reasonable price.

11.1 GOVERNANCE AND ORGANISATION

The principles and standards that are applicable to the management of liquidity risk are defined by the Group's governing bodies, whose duties in the area of liquidity are listed below:

- the Board of Directors:
  - establishes the level of liquidity risk tolerance as part of the Group's Risk Appetite exercise, including the time period during which the Group can operate under conditions of stress ("survival horizon"),
  - meets regularly (at least quarterly) to examine the Group's liquidity risk situation;
- the Group Executive Committee:
  - sets budget targets in terms of liquidity based on proposals from the Group Finance Division,
  - allocates liquidity to the businesses and Group Treasury based on proposals from the Group Finance Division;
- the Finance Committee is responsible for monitoring structural risks and managing scarce resources. As such, it:
  - meets every six weeks, under the chairmanship of the Chief Executive Officer or of a Deputy Chief Executive Officer, with the representatives of the Risk Division, Finance Division and of the businesses,
  - oversees and validates the limits set for structural liquidity risk,
  - regularly monitors compliance with the budget and liquidity trajectory,
  - takes decisions, if necessary, on the implementation of corrective measures,
  - takes decisions, if necessary, on methodology issues regarding liquidity risk management,
  - examines regulatory changes and their impacts.

The businesses are responsible for managing liquidity risk within their scope and are directly supervised by the Group Finance Division. They must ensure compliance with the regulatory requirements applicable to the entities falling within their scope of supervision.

The Group Finance Division manages and monitors liquidity risk through three separate departments, in compliance with the principle of separation between risk steering, execution and control functions:

- the Strategic and Financial Steering Department, responsible for:
  - establishing the Group's financial trajectory, in line with its strategic targets, regulatory requirements and market expectations,
  - proposing and monitoring the businesses' budget trajectories,
  - monitoring the regulatory environment and developing liquidity steering standards for the businesses;
- the Balance Sheet and Global Treasury Management Department, responsible for:
  - implementing the Group's short-term and long-term funding plans (including the management of intraday liquidity risk),
  - supervising and coordinating the Group's Treasury functions,
  - monitoring the market and bringing its operational expertise when it comes to establishing Group liquidity steering objectives and allocating liquidity to businesses,
  - managing the collateral used in refinancing operations (central banks, covered bonds, securitisation, secured funding), and monitoring the liquidity reserve,
  - managing the Group's central funding department (management of liquidity and equity within the Group), including the internal liquidity charts,
  - developing and implementing the Contingency Funding Plan in the event of Group liquidity shortage;
- the ALM Department (Asset and Liability Management) is in particular charged with:
  - supervising and controlling structural risks (interest rate, exchange rate and liquidity) to which the Group is exposed,
  - controlling the structural risk models and their compliance with the Group's rules and methodologies, as well as monitoring compliance with risk limits and management practices within the Group's Business Units and entities.

Second-level supervision of the ALM models used within the Group and of the associated risk framework is conducted by a dedicated team within the Market Risk Department of the Risk Division. Accordingly, this team validates the methodological principles, parameters and backtests of liquidity models. It analyses proposals from the Finance Division and from the Business Units regarding risk indicators, stress test scenarios as well as liquidity and funding risk frameworks. It also conducts second-level controls of compliance with the risk limits defined under such a framework.

11.2 THE GROUP'S PRINCIPLES AND APPROACH TO LIQUIDITY RISK MANAGEMENT

The Group's primary objective is to ensure the funding of its activities in the most cost-effective way by managing liquidity risk and adhering to regulatory constraints. The liquidity steering system provides a balance sheet framework based on an assets and liabilities target structure that is consistent with the risk appetite defined by the Board of Directors:

- the assets structure should allow the businesses to develop their activities in a way that is liquidity-efficient and compatible with the targeted liabilities structure. This development must comply with the liquidity gaps defined at Group level (under static and stress scenarios) as well as regulatory requirements;
- the liabilities structure is based on the ability of the businesses to collect financial resources from customers and the ability of the Group to raise sustainably financial resources on the markets, in accordance with its risk appetite.

This steering system is based on measurement and supervision of the businesses' liquidity gaps under reference and stress scenarios, their Group funding needs, the funds raised by the Group on the market, the assets that are eligible to liquidity buffers and the businesses' contributions to regulatory ratios. Accordingly, the principles of liquidity management are as follows:

1. The businesses must maintain low to nil static liquidity gaps within the operating limits of their activities by using the Group's Central Treasury, which can, if necessary, run an (anti-)transformation position and manage it within the framework of the established risk limits.
2. Internal liquidity stress tests, established on the basis of a scenario combining a market and a specific stress, are steered and controlled at Group level. They are used to ensure compliance with the survival horizon established by the Board of Directors and to calibrate liquidity reserves. They are accompanied by a Contingency Funding Plan that sets out measures to be taken in the event of a liquidity crisis.
3. The set of businesses' funding needs (short-term and long-term) are determined on the basis of the development objectives for the franchises and in line with the Group's fund-raising targets and capabilities.
4. A plan for long-term funding, which complements the resources raised by the businesses, is designed to cover upcoming repayments and finance the growth of the businesses. It takes into account the Group's investment capabilities and aims to optimise the cost of fund-raising while complying with limits in terms of market concentration. Diversification in terms of issuers and investor pools is also sought and managed.
5. The Group's short-term resources are adapted to the financing of the businesses' short-term needs over periods that are appropriate to their management and in line with market concentration limits. As outlined above, they are adjusted in light of the liquidity reserve on the asset side, based on the established stress survival horizon as well as on the Group's LCR target (Liquidity Coverage Ratio).
6. The Group's liquidity steering ensures compliance with the target regulatory ratios (LCR, NSFR, leverages), the BU contributions to these ratios being subject to supervision.

Lastly, liquidity cost is passed on to businesses via the Group's internal transfer pricing scheme. Funding allocated to the businesses is charged to the latter on the basis of scales that must reflect the liquidity cost for the Group. This system is designed to optimise the use of external financing sources by businesses and is used to monitor the equilibrium of balance sheet funding. The management of intra-group liquidity relies on a principle of centralisation of liquidity flows. The corporate central treasury is responsible for raising funding externally and providing liquidity to businesses on short term and long term maturities. There are only marginal flows between subsidiaries. In parallel, local excess cash is upstreamed to the central treasury, unless it triggers a breach of local constraints. Excess liquidity that cannot be transferred to the Group is subject to Group investment guidelines.

Societe Generale has undertaken a specific review of its liquidity risks and believes that it is able to meet its upcoming maturities.

11.3 REFINANCING STRATEGY

The Group's financing strategy is based on the following principles:

- The Group's stable funding resources (including shareholders' equity, the stable part of customer deposits and medium/long-term market resources) finance the long-term needs of the businesses (including tangible and intangible assets, customer loans and the securities portfolio excluding trading activities). Besides, stable resources are used to maintain a portfolio of high-quality liquid assets to cover outflows in situations of stress;
- Short-term market resources finance the Group's short-term assets, which are predominantly carried by Global Banking and Investor Solutions' market activities.

MARKET FINANCING

The Group's market resources (including short-term and long-term resources) totalled EUR 244 billion as at 31 December 2019. Of this total, EUR 106 billion have a remaining maturity of less than one year, of which EUR 48 billion correspond to debt securities issued with an initial medium/long-term maturity (more than one year) and EUR 58 billion to short-term market resources.

Group short-term market resources consist on the one hand of unsecured notes issued under the Group's short-term programmes, mainly by the Group central treasury, through Certificates of Deposits, promissory notes and commercial papers, and on the other hand of deposits. These resources are raised from banks and financial customers. while adhering to diversification thresholds on funding sources by counterparty and by currency. Asset-Backed Commercial Paper vehicles have contributed to the Group short-term market resources since 1 January 2014, following their inclusion in the consolidation scope as per the application of IFRS 10.

The amount of Group short-term market resources totalled EUR 58 billion as at 31 December 2019, as compared to EUR 58 billion as at 31 December 2018, thus stable over the year, according to the Group's strategy to limit the share of these resources in the funding structure of the balance sheet.

Medium/long-term market resources (including the portion of securities originally issued with a maturity of more than one year and maturing within the year) totalled EUR 186 billion as at 31 December 2019, against EUR 170 billion as at 31 December 2018. These consist of long-term interbank liabilities (long-term credit lines granted by central banks, commercial banks and international financial institutions, etc.) and medium/long term debt securities, the breakdown of which reflects the Group's policy on the diversification of funding sources. The Group has access to large and complementary investor pools via:

- senior vanilla issuances in the form of public issuances or private placements;
- Senior Non-Preferred (SNP) debt;
- covered bonds issued by SG SFH and SG SCF vehicles as well as by the *Caisse du Refinancement et de l'Habitat*;
- senior structured issuances distributed to institutional investors and, to a large extent, to individual customers (via retail and private banking networks belonging to the Group or to its partners);
- Additional Tier 1 and Tier 2 subordinated debt issued by Société Générale SA, booked as equity.

Furthermore, access to diversified investor pools is ensured by a wide array of Group issuers: Societe Generale SA, SGIS, Crédit du Nord and the main International Retail Banking and Financial Services subsidiaries issuing mainly secured (securitisations, covered bonds) and unsecured notes. International Retail Banking and Financial Services issuances, along with its deposit inflows and bilateral borrowings, are specifically aimed at increasing the funding autonomy of the belonging subsidiaries.

11.4 DISCLOSURE ON ASSET ENCUMBRANCE

An asset shall be treated as encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralize or credit enhance any transaction from which it cannot be freely withdrawn.

Analysis of the balance sheet structure

Total Group encumbrance amounts to 32% over 2019, measured according to EBA definition[1]. Securities encumbrance is 70%, while loan encumbrance is 12%.

The majority of the Group encumbered assets (around 83%) is in the form of securities as the result of the relative size of capital market activities, mainly through repos, reverse repos and collateral swaps.

Securities encumbrance is concentrated in SGPM and its branches, where Group market activities are located.

The main sources of encumbrance are repo operations and debt securities issued. Encumbrance on assets in USD stems mainly from debt securities and equities.

The level of encumbered loans varies among Group entities mainly due to their respective business models, funding strategies and the type of underlying loans, as well as to the law governing them. A few points are noteworthy:

- At SGPM level, the loan encumbrance rate amounts to close to 30%[2] of the total, stemming mainly from housing loans. Historically, the encumbered loans are in priority affected as collateral for long-term refinancing mechanisms which are broadly used by banks, for covered bonds, (SG SFH, SG SCF and CRH), securitisations or specific mechanisms. ECB's TLTRO operations continue to encumber loans at SGPM level;
- At subsidiary level, the loan encumbrance rate is limited to less than 10%[2] overall, with discrepancies between entities due to different funding strategies. The highest levels of secured funding correspond to entities which have implemented external funding programmes through securitisations such as BDK and ALD, or other forms of secured funding. Besides, some subsidiaries (Crédit du Nord) have participated directly in TLTRO operations, which in turn impacted their loan encumbrance rate.

As far as the loan encumbrance is concerned, there is a pooling scheme in which Crédit du Nord, Boursorama and to a lesser extent BFCOI (Réunion) bring a share of their housing loans portfolio to the Group. This level of intra-group encumbrance represents around 7% of the total amount of the Group’s encumbered loan collateral.

Regarding major long-term secured funding mechanisms, over-collateralisation on covered bonds vehicles was 143% on SG SCF and 114% on SG SFH as at 31 December 2019.

As far as SG SFH is concerned, underlying assets are mortgage loans guaranteed by Crédit Logement. Regarding SG SCF, assets consist of exposures on counterparties from the public sector.

Among the “Other assets” category (excluding loans), some assets cannot be encumbered in the normal course of business by nature. These assets include goodwill, fixed assets, deferred tax, adjustment accounts, sundry debtors and other assets.

The unencumbered “Other assets”(excluding loans) include all derivatives and options products (interest rate swaps, cross currency swaps, currency options, warrants, futures, forward contracts…) for around EUR 200 billion.

(1) Median values on quarterly data
(2) According to a methodology consisting of encumbering the least liquid eligible assets (encumbered loans/total loans) first

TABLE 103: ENCUMBERED AND UNENCUMBERED ASSETS (AE-ASS)

	31.12.2019[1]							
	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
(In EURm)		of which: EHQLA & HQLA		of which: EHQLA & HQLA		of which: EHQLA & HQLA		of which: EHQLA & HQLA
Assets of the reporting institution	**161,565**	**53,243**			**1,070,510**	**145,175**		
Equity instruments	31,143	21,221			39,712	8,143		
Debt securities	35,215	31,182	35,590	31,240	65,451	44,911	64,093	44,911
of which: covered bonds	*86*	*36*	*50*	*17*	*419*	*255*	*385*	*255*
of which: asset-backed securities	*927*	*151*	*905*	*146*	*2,147*	*54*	*2,185*	*54*
of which: issued by general governments	*30,935*	*29,885*	*31,149*	*30,065*	*38,564*	*38,564*	*38,570*	*38,570*
of which: issued by financial corporations	*2,712*	*422*	*2,814*	*422*	*15,183*	*4,693*	*14,575*	*4,693*
of which: issued by non-financial corporations	*1,569*	*714*	*1,627*	*753*	*5,759*	*465*	*5,759*	*465*
Other asset	93,953	-			965,133	91,853		
of which: Loans on demand	*4,885*	-	-	-	*113,326*	*88,584*	-	-
of which: Loans and advances other than loans on demand	*87,223*	-	-	-	*575,941*	*1,209*	-	-
of which: Other	*1,719*	-	-	-	*276,635*	*2,390*	-	-

(1) Table's figures are calculated as medians of the four quarters across 2019.

TABLE 104: COLLATERAL RECEIVED (AE-COL)

(In EURm)	31.12.2019[1]			
	Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
		of which: EHQLA & HQLA[1]		of which: EHQLA & HQLA[1]
Collateral received by the reporting institution	**373,559**	**334,109**	**80,323**	**59,683**
Loans on demand	-	-	-	-
Equity instruments	60,284	44,671	11,664	6,722
Debt securities	311,609	288,399	69,152	53,374
of which: covered bonds	*1,796*	*960*	*7,902*	*7,269*
of which: asset-backed securities	*10,942*	*6,523*	*8,402*	*1,248*
of which: issued by general governments	*284,250*	*279,545*	*48,305*	*44,652*
of which: issued by financial corporations	*15,996*	*2,138*	*18,305*	*8,459*
of which: issued by non-financial corporations	*11,680*	*7,595*	*4,473*	*1,661*
Loans and advances other than loans on demand	-	-	-	-
Other collateral received	-	-	-	-
Own debt securities issued other than own covered bonds or asset-backed securities	**0**	**-**	**39**	**-**
Own covered bonds and asset-backed securities issued and not yet pledged			**19,551**	**-**
TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED	**536,576**	**386,364**		

[1] Table's figures are calculated as medians of the four quarters across 2019.

TABLE 105: SOURCES OF ENCUMBRANCE (AE-SOU)

(In EURm)	31.12.2019[1]	
	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	**345,559**	**370,888**

[1] Table's figures are calculated as medians of the four quarters across 2019.

11.5 LIQUIDITY RESERVE

The Group's liquidity reserve encompasses cash at central banks and assets that can be used to cover liquidity outflows under a stress scenario. The reserve assets are available, i.e. not used in guarantee or as collateral on any transaction. They are included in the reserve after applying a haircut to reflect their expected valuation under stress. The Group's liquidity reserve contains assets that can be freely transferred within the Group or used to cover subsidiaries' liquidity outflows in the event of a crisis: non-transferable excess cash (according to the regulatory ratio definition) in subsidiaries is therefore not included in the Group's liquidity reserve.

The liquidity reserve includes:

- central bank deposits, excluding mandatory reserves;
- High-Quality Liquid Assets (HQLAs), which are securities that can be quickly monetised on the market via sale or repurchase transactions; these include government bonds, corporate bonds and equities listed on major indices (after haircuts). These HQLAs meet the eligibility criteria for the LCR, according to the most recent standards known and published by regulators. The haircuts applied to HQLA securities are in line with those indicated in the most recent known texts on determining the numerator of the LCR;
- non-HQLA Group assets that are central bank-eligible, including receivables as well as covered bonds and securitisations of Group receivables held by the Group.

The composition of the liquidity reserve is reviewed regularly by a special committee comprising the Finance Division, the Risk Division and the Management of the Global Markets Business Unit, and is adjusted by authorisation of the Finance Committee.

TABLE 106: LIQUIDITY RESERVE

(In EURbn)	31.12.2019	31.12.2018
Central bank deposits (excluding mandatory reserves)	88	82
HQLA securities available and transferable on the market (after haircut)	81	73
Other available central bank-eligible assets (after haircut)	21	17
TOTAL	**190**	**172**

11.6 REGULATORY RATIOS

The Basel Committee recommends the international implementation of two standard ratios with harmonised parameters to regulate bank liquidity risk profiles:

- the Liquidity Coverage Ratio (LCR) aims to ensure that banks hold sufficient liquid assets or cash to survive a significant stress scenario combining a market crisis and a specific crisis and lasting for one month;
- the Net Stable Funding Ratio (NSFR) is a transformation ratio which compares funding needs with stable resources over a one-year period.

The transposition of Basel 3 into European Union law under CRD4 and CRR1 was published on 27 June 2013. The French transposition was published in the French Official Journal (*Journal officiel*) on 5 November 2014.

The LCR definition was finalised, on the basis of technical standards issued by the EBA, through a Delegated Act of the European Commission on 10 October 2014. The LCR entered into force at European level on 1 October 2015. The text has been updated by a Delegated Act which will enter into force on 30 April 2020. The corresponding minimum requirement was set at 100% from 1 January 2018.

The NSFR requierement is included in the CRR2 as publisehd in June 2019. It will enter into force in June 2021. The required level will stand at 100%.

Societe Generale is actively continuing its work on transposing the European prudential legislation (or the Basel text when the European transposition has not yet been finalised) and on translating it into management standards within the Group.

The Group manages its liquidity risk through the LCR and liquidity gaps, under stress and under normal conditions of activity, accumulated (all currencies combined) and by currencies. And this, by making sure at any time that the liquidity is transferable among the main currencies.

Since the implementation of the European regulatory LCR requirement in October 2015, Societe Generale's LCR has consistently stood at over 100%. The LCR was 119% at end 2019 (vs. 129% at end 2018).

The LCR regulatory requirement must be respected by the Group in all currencies but it is also reported in the major currency in USD. The LCR in USD of the Group was lower than 100% in average over 2019.

TABLE 107: LIQUIDITY COVERAGE RATIO (EU-LIQ1)

The liquidity coverage ratio is calculated as the simple averages of month-end observations over the twelve months preceding the end of each quarter.

Prudential Group *(In EURm)*	**Total unweighted value (in average)**				**Total weighted value (in average)**			
Quarter ending on	**31.03.2019**	**30.06.2019**	**30.09.2019**	**31.12.2019**	**31.03.2019**	**30.06.2019**	**30.09.2019**	**31.12.2019**
High-quality liquid assets								
Total high-quality liquid assets (HQLA)					148,744	153,728	156,563	160,082
Cash-outflows								
Retail deposits and deposits from small business customers, of which:	193,947	196,042	198,054	198,999	14,926	15,119	15,313	15,455
Stable deposits	*120,794*	*121,875*	*122,776*	*122,704*	*6,040*	*6,094*	*6,139*	*6,135*
Less stable deposits	*73,134*	*74,149*	*75,261*	*76,278*	*8,867*	*9,007*	*9,157*	*9,303*
Unsecured wholesale funding	222,510	226,462	229,657	231,132	107,139	109,442	111,849	113,796
Operational deposits (all counterparties) and deposits in networks of cooperative banks	*65,061*	*64,879*	*63,727*	*61,853*	*15,727*	*15,688*	*15,417*	*14,970*
Non-operational deposits (all counterparties)	*149,173*	*152,649*	*155,243*	*157,216*	*83,136*	*84,820*	*85,745*	*86,762*
Unsecured debt	*8,275*	*8,934*	*10,686*	*12,064*	*8,275*	*8,934*	*10,686*	*12,064*
Secured wholesale funding	-	-	-	-	85,753	83,916	83,025	81,946
Additional requirements	170,886	172,710	175,618	177,660	65,161	66,245	67,870	68,528
Outflows related to derivative exposures and other collateral requirements	*42,480*	*42,879*	*44,065*	*44,580*	*40,493*	*41,209*	*42,395*	*42,598*
Material outflows due to deterioration of own credit quality	*5,737*	*6,012*	*6,232*	*6,375*	*5,737*	*6,012*	*6,232*	*6,375*
Credit and liquidity facilities	*122,669*	*123,820*	*125,320*	*126,704*	*18,931*	*19,024*	*19,242*	*19,555*
Other contractual funding obligations	80,578	74,059	73,567	69,969	80,578	74,059	73,567	69,969
Other contingent funding obligations	44,292	44,468	45,510	44,518	546	586	528	493
TOTAL CASH OUTFLOWS					**354,102**	**349,368**	**352,152**	**350,188**
Cash-inflows								
Secured lending (eg reverse repos)	285,963	287,391	294,469	291,878	96,759	95,678	96,593	94,588
Inflows from fully performing exposures	40,409	39,174	38,712	38,505	32,591	31,511	31,061	30,890
Other cash inflows	110,922	107,322	108,836	106,705	109,092	105,558	107,113	105,041
(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					-	-	-	-
(Excess inflows from a related specialised credit institution)	-	-	-	-	-	-	-	-
TOTAL CASH INFLOWS	**437,294**	**433,887**	**442,018**	**437,088**	**238,441**	**232,748**	**234,767**	**230,519**
Inflows Subject to 75% Cap	***353,589***	***353,526***	***364,297***	***361,908***	***238,379***	***232,685***	***234,767***	***230,519***
LIQUIDITY BUFFER					**148,744**	**153,728**	**156,563**	**160,082**
TOTAL NET CASH OUTFLOWS					**115,661**	**116,620**	**117,385**	**119,669**
LIQUIDITY COVERAGE RATIO (%)					**129%**	**132%**	**134%**	**134%**

11.7 BALANCE SHEET SCHEDULE

The main lines of the Group's financial liabilities and assets under accounting scope are presented in Note 3.13 to the consolidated financial statements included in the 2020 Universal Registration Document.

TABLE 108: BALANCE SHEET SCHEDULE

FINANCIAL LIABILITIES

	31.12.2019					
(In EURm)	**Note to the consolidated financial statements**	**0-3 m**	**3 m-1 yr**	**1-5 yrs**	**> 5 yrs**	**Total**
Due to central banks		4,097	-	-	-	4,097
Financial liabilities at fair value through profit or loss, excluding derivatives	Notes 3.1 and 3.4	155,032	17,815	23,584	29,578	226,009
Due to banks	Note 3.6	69,155	20,306	17,268	1,200	107,929
Customer deposits	Note 3.6	372,574	20,385	16,318	9,335	418,612
Securitised debt payables	Note 3.6	28,143	24,947	56,099	15,979	125,168
Subordinated debt	Note 3.9	5	2	2,746	11,712	14,465

NB: The scheduling assumptions for these liabilities are presented in Note 3.13 to the consolidated financial statements. In particular, the data are shown without provisional interest and excluding derivatives.

The table as at 31 December 2018 has been modified as follows:

	31.12.2018					
(In EURm)	**Note to the consolidated financial statements**	**0-3 m**	**3 m-1 yr**	**1-5 yrs**	**> 5 yrs**	**Total**
Due to central banks		5,721	-	-	-	5,721
Financial liabilities at fair value through profit or loss, excluding derivatives	Note 3.1 and 3.4	186,075	11,231	16,891	21,940	236,137
Due to banksknow	Note 3.6	60,020	7,788	25,283	1,615	94,706
Customer deposits	Note 3.6	366,934	18,246	20,691	10,947	416,818
Securitised debt payables	Note 3.6	29,579	23,703	48,660	14,397	116,339
Subordinated debt	Note 3.9	301	255	1,581	11,177	13,314

NB: The scheduling assumptions for these liabilities are presented in Note 3.13 to the consolidated financial statements. In particular, the data are shown without provisional interest and excluding derivatives.

FINANCIAL ASSETS

(In EURm)	Note to the consolidated financial statements	31.12.2019 0-3 m	3 m-1 yr	1-5 yrs	> 5 yrs	Total
Cash, due from central banks		98,967	735	1,609	1,000	102,311
Financial assets at fair value through profit or loss, excluding derivatives	Note 3.4	242,879	7,011	-	-	249,890
Financial assets at fair value through other comprehensive income	Note 3.4	51,730	1,282	-	244	53,256
Securities at amortised cost	Note 3.5	11,012	200	973	304	12,489
Due from banks at amortised cost	Note 3.5	47,260	1,957	6,257	892	56,366
Customer loans at amortised cost	Note 3.5	87,877	58,318	162,795	111,234	420,224
Lease financing agreements (*)	Note 3.5	2,487	6,050	16,727	4,756	30,020

(*) Amounts are featured net of impairments

The table as at 31 December 2018 has been modified as follows:

(In EURm)	Note to the consolidated financial statements	31.12.2018 0-3 m	3 m-1 yr	1-5 yrs	> 5 yrs	Total
Cash, due from central banks		93,309	733	1,597	946	96,585
Financial assets at fair value through profit or loss, excluding derivatives	Note 3.4	240,543	2,024	-	-	242,567
Financial assets at fair value through other comprehensive income	Note 3.4	48,738	998	-	290	50,026
Securities at amortised cost	Note 3.5	6,360	1,717	3,566	383	12,026
Due from banks at amortised cost	Note 3.5	48,248	2,618	4,614	5,108	60,588
Customer loans at amortised cost	Note 3.5	98,379	63,874	178,414	74,983	415,650
Lease financing agreements (*)	Note 3.5	2,605	6,355	17,760	4,859	31,579

(*) Amounts are featured net of impairments

Due to the nature of its activities, Societe Generale holds derivative products and securities whose residual contractual maturities are not representative of its activities or risks.

By convention, the following residual maturities were used for the classification of financial assets:

1. Assets measured at fair value through profit or loss, excluding derivatives (customer-related trading assets):
   - Positions measured using prices quoted on active markets (L1 accounting classification): maturity of less than 3 months,
   - Positions measured using observable data other than quoted prices (L2 accounting classification): maturity of less than 3 months,
   - Positions measured mainly using unobservable market data (L3): maturity of 3 months to 1 year;
2. Financial assets at fair value through other comprehensive income:
   - Available-for-sale assets measured using prices quoted on active markets: maturity of less than 3 months,
   - Bonds measured using observable data other than quoted prices (L2): maturity of 3 months to 1 year,
   - Finally, other securities (shares held long-term in particular): maturity of more than 5 years.

As regards the other lines of the balance sheet, other assets and liabilities and their associated conventions can be broken down as follows:

OTHER LIABILITIES

	31.12.2019						
(In EURm)	Note to the consolidated financial statements	Not scheduled	0-3 m	3 m-1 yr	1-5 yrs	> 5 yrs	Total
Tax liabilities	Note 6.3	-	-	939	-	470	1,409
Revaluation difference on portfolios hedged against interest rate risk		6,671	-	-	-	-	6,671
Other liabilities	Note 4.4	-	85,062	-	-	-	85,062
Non-current liabilities held for sale	Note 2.5	-	-	1,333	-	-	1,333
Insurance contracts related liabilities	Note 4.3	-	19,392	9,291	37,018	78,558	144,259
Provisions	Note 8.3	4,387	-	-	-	-	4,387
Shareholders' equity		68,570	-	-	-	-	68,570

	31.12.2018						
(In EURm)	Note to the consolidated financial statements	Not scheduled	0-3 m	3 m-1 yr	1-5 yrs	> 5 yrs	Total
Tax liabilities	Note 6.3	-	-	771	-	386	1,157
Revaluation difference on portfolios hedged against interest rate risk		5,257	-	-	-	-	5,257
Other liabilities	Note 4.4	-	76,629	-	-	-	76,629
Non-current liabilities held for sale	Note 2.5	-	-	10,454	-	-	10,454
Insurance contracts related liabilities	Note 4.3	-	12,317	8,891	35,102	73,233	129,543
Provisions	Note 8.3	4,605	-	-	-	-	4,605
Shareholders' equity		65,809	-	-	-	-	65,809

OTHER ASSETS

		31.12.2019					
(In EURm)	Note to the consolidated financial statements	Not scheduled	0-3 m	3 m-1 yr	1-5 yrs	> 5 yrs	Total
Revaluation differences on portfolios hedged against interest rate risk		401	-	-	-	-	401
Other assets	Note 4.4	-	68,045	-	-	-	68,045
Tax assets	Note 6	5,779	-	-	-	-	5,779
Investments accounted for using the equity method		-	-	-	-	112	112
Tangible and intangible fixed assets	Note 8.4	-	-	-	-	30,652	30,652
Goodwill	Note 2.2	-	-	-	-	4,627	4,627
Non-current assets held for sale	Note 2.5	-	6	4,501	-	-	4,507
Investments of insurance companies	Note 4.3	-	39,514	8,289	33,193	83,942	164,938

		31.12.2018					
(In EURm)	Note to the consolidated financial statements	Not scheduled	0-3 m	3 m-1 yr	1-5 yrs	> 5 yrs	Total
Revaluation differences on portfolios hedged against interest rate risk		338	-	-	-	-	338
Other assets	Note 4.4	-	67,446	-	-	-	67,446
Tax assets	Note 6	5,819	-	-	-	-	5,819
Investments accounted for using the equity method		-	-	-	-	249	249
Tangible and intangible fixed assets	Note 8.4	-	-	-	-	26,751	26,751
Goodwill	Note 2.2	-	-	-	-	4,652	4,652
Non-current assets held for sale	Note 2.5	-	1	13,496	2	3	13,502
Investments of insurance companies	Note 4.3	-	29,743	6,569	31,189	79,267	146,768

1. Revaluation differences on portfolios hedged against interest rate risk are not scheduled, as they comprise transactions backed by the considered portfolios. Similarly, the schedule of tax assets whose schedule would result in the early disclosure of income flows is not made public.
2. Other assets and other liabilities (guarantee deposits and settlement accounts, miscellaneous receivables) are considered as current assets and liabilities.
3. The notional maturities of commitments in derivative instruments are presented in Note 3.13 to the consolidated financial statements.
4. Investments in subsidiaries and affiliates accounted for by the equity method and Tangible and intangible fixed assets have a maturity of more than 5 years.
5. Provisions and shareholders' equity are not scheduled.

12

COMPLIANCE RISK, LITIGATION

IN BRIEF

Compliance means acting in accordance with the obligations applicable to the Group's activities, ranging from laws and regulations to professional, ethical and internal standards and principles. By ensuring that these provisions are observed, the Group works to protect its employees, customers and all stakeholders.

Compliance with rules is the responsibility of all Group employees, who must demonstrate compliance and integrity in their daily tasks.

The Group relies on a recently restructured, clear organisation to ensure the compliance system is both respected and consistent.

Acting in compliance means understanding and observing the external and internal rules that govern our activities. These rules aim to ensure a transparent and balanced relationship between the Bank and all of its stakeholders. Compliance is the foundation stone for trust between the Bank, its customers, its supervisors and its staff.

Compliance with rules is the responsibility of all Group employees, who must demonstrate compliance and integrity on a daily basis. The rules must be clearly expressed, and staff must be informed and/or trained to understand them properly.

The compliance risk prevention system is based on shared responsibility between the operational entities and the Group Compliance Division:

- the operational entities (BU/SUs) must incorporate into their daily activities compliance with laws and regulations, the rules of professional best practice and the Group's internal rules;
- the Compliance Division manages the Group's compliance risk prevention system. It ensures the system's consistency and efficiency, while also developing appropriate relationships with bank supervisors and regulators. This independent division reports directly to General Management.

To support the businesses and supervise the system, the Compliance Division is organised into:

- dedicated teams in each business line, liaising with the businesses on all their compliance issues and responsible for most of the deal flow, except for the most sensitive transactions;
- central teams dedicated to oversight, the definition of standards and controls, and key cross-business activities such as training and digital transformation.

The Compliance Division is organised into eight main compliance risks grouped into two major categories:

- financial security, which includes Know Your Customer (KYC) processes, the observance of international sanctions and embargoes rules, and anti-money laundering and counter-terrorism financing rules;
- regulatory risks that cover customer protection, market integrity, anti-bribery & corruption, ethics & conduct, compliance with international tax regulations and personal data protection.

Financial security			Regulatory risks				
KYC	**AML**	**Sanctions & Embargoes**	**Customer protection**	**Market integrity**	**Tax transparency**	**Anti- corruption, Conduct and Ethics**	**Data**
Know Your Customer	Anti-money laundering and counter-terrorism financing		MiFID II/ MIFIR PRIIPs etc.	EMIR/DFA, Volcker, FBL, MAD/MAR, benchmarks, etc.	FATCA, CRS, QI, DAC6, etc.	ABC, Sapin II, etc.	GDPR, Archiving, etc.

12.1 COMPLIANCE

Financial security

KNOW YOUR CUSTOMER (KYC)

In 2018, the Group launched a programme to revamp its KYC functions in order to boost their operational efficiency (via the simplification of standards, greater pooling of resources, optimisation of tools and processes) and to improve the customer experience. This four-year programme, placed under the responsibility of the Compliance Division, is closely and regularly monitored at the highest Bank level.

ANTI-MONEY LAUNDERING AND COUNTER-TERRORISM FINANCING (AML/CTF)

The Group has implemented new measures linked to the Fourth Directive on anti-money laundering and counter-terrorism financing as well as European Regulation 2015/847 on the quality of payment information. Several internal initiatives were also launched or continued to consistently strengthen its system. In particular, these initiatives cover alert detection tools used in the Bank's different businesses, with use of new technologies and the optimisation of scenarios used.

FINANCIAL EMBARGOES AND SANCTIONS

In 2019, the international environment was again impacted by the reinforcement of US sanctions on Russia and Iran, with greater complexity in terms of implementation that may generate substantial operational risks for financial institutions. In this context, Societe Generale Group has confirmed its position to abstain from any trading activity with Iran and to maintain transactions with Russia within a strict framework.

The Group continued to strengthen its Embargoes/Sanctions system under the established remedial programme following agreements with the French and US authorities (see p. 246 of the 2020 Universal Registration Document): Progress has been made on the payment platform centralisation projects and Compliance function employees have received further skills development training, notably through certified training courses.

Regulatory risk

CUSTOMER PROTECTION

Customer protection is a major challenge for the Societe Generale Group, which is committed to respecting and protecting the interests of its customers by striving to meet the highest standards of security and quality of service. Customer satisfaction is covered in Chapter 5 of the 2020 Universal Registration Document, on p. 270.

The European consumer protection regulation (MiFID II), which entered into force on 3 January 2018, and the Insurance Directive (DDA), which entered into force on 1 October 2018, have reinforced the existing system that Societe Generale revised and completed in 2019. In particular, the Group has made strong efforts to protect financially vulnerable customers, with fee capping systems in place since early 2019.

In this context, significant measures have been taken to improve the Group's system by:

- strengthening internal rules relating to customer claims, product governance requirements, prior information, the appropriateness of advisory, compensation structures and the prevention of conflicts of interest;
- specific training and increased staff awareness; the importance the Group places on this issue is largely addressed in the Group's Code of Conduct and its Culture and Conduct programme;
- adapting as a matter of necessity existing tools to new regulatory requirements.

CLAIMS AND MEDIATION

The processing of a claim is a commercial act that influences customer satisfaction. Accordingly, this point was largely addessed in the Code of Conduct.

The Group's Customer Claims Processing procedure was revised in 2019 to incorporate European Banking Authority (EBA) recommendations and new regulatory requirements, in particular DSP2.

Each Bank business possesses an ad hoc governance, organisation, human resources and applications, formalised procedures, and quantitative and qualitative monitoring indicators. Mediation services also form part of the internal procedure.

Customers are made aware of the availability of mediation services through various means; in particular, a statement to this effect appears permanently on the back of account statements. Every entity involved is obliged to comply with the independent mediator's decision.

CONFLICTS OF INTEREST

The Group has a clear normative framework in place to prevent and manage conflicts of interest which specifies the principles and mechanisms that have been implemented. The Group's procedure was updated in 2019 to include new regulatory requirements and changes. It covers two categories of potential conflicts of interest, i.e. those that may arise between the Group and its customers and those occurring between the Group and its employees, particularly in relation to activities involving an employee's personal interest and/or their professional obligations. It sets out the rules for identifying potential conflicts of interest that should be clearly defined and identified using a mapping tool and also listed in a conflicts of interest register.

PRODUCT GOVERNANCE

Product governance obligations have been broadened to include compliance with marketing and customer information regulations. As it is obliged to identify the target market from the product design stage and to verify that the criteria match customer profiles, the Societe Generale Group performs both systematic product reviews upstream of the marketing stage and communication between product originators and distributors to track the products during their life cycle.

Vulnerable customers

Societe Generale has established practices and usages to comply with legislation vis-à-vis vulnerable customers by providing them with a specific offer involving limited account management fees. To contribute to the national effort to boost the purchasing power of French citizens in challenging financial circumstances, the Group has added to its practices by introducing additional measures in February 2019, notably:

- freezing bank fees in 2019;
- capping bank intervention fees at EUR 25 for vulnerable clients;
- organising follow-up and support suited to the situation of customers experiencing difficulties in the wake of recent events.

MARKET INTEGRITY

Market integrity covers a number of regulatory topics, namely legislation on the separation of banking activities (Volcker Rule and French Banking Act), regulations on over-the-counter (OTC) derivatives (Dodd-Frank Act supervised by the Commodity Futures Trading Commission (CFTC) and Securities and Exchange Commission Rules, the European Market Infrastructure Regulation (EMIR), market abuse and manipulation regulations, and laws governing market transparency and staff transactions, in particular, the MAD/MAR and MiFID II European Directives.

Measures are in place to ensure compliance with the rules on the separation of banking activities and on derivatives swaps in order to meet systemic risk reduction and risk mitigation objectives.

MARKET ABUSE

The Group's Market Abuse procedure was revised in 2019. The procedure related to the management of listed issuer privileged information was rounded out with a staff transaction procedure.

The procedures specfically set out the measures to be implemented to prevent or detect market abuse practices that may threaten the integrity of financial markets, i.e.:

- insider trading (transmission and use of privileged information);
- market manipulation (price manipulation and the spreading of false information).

Specific ongoing focus is placed on the modernisation of automated detection and analysis tools, in addition to the training of Compliance staff in charge of these controls.

In 2019, these systems were reinforced with procedures and controls on the administration, contribution and use of benchmarks.

TAX COMPLIANCE

Societe Generale implements control measures to ensure its transactions comply with local laws and regulations, and with its Tax Code of Conduct. These controls are performed by the Tax Division and the Compliance Division. Accordingly, all new products require approval with respect to these texts; this also applies to complex transactions either within the Group or with customers.

Societe Generale complies with tax transparency standards. It applies the Common Reporting Standard (CRS) to all its entities. This standard enables tax authorities to be systematically informed of income received abroad by their tax residents, including where the accounts are held in asset management structures. In 2019, this reporting concerned 58 countries in which Societe Generale operates.

Moreover, Societe Generale complies with the requirements of the United States FATCA (Foreign Account Tax Compliance Act), which aims to combat tax evasion schemes involving foreign accounts or entities held by US taxpayers. Non-US financial intermediaries are thus responsible for identifying US taxpayers in their customer base in order to declare the income received by said taxpayers, directly or indirectly, to the US tax administration, thereby enabling an automatic reconciliation with their individual tax returns. The tax transparency objectives have been achieved by generating a tax report filed at national level and sharing tax information between partner countries on the basis of existing bilateral tax treaties and inter-governmental agreements (IGAs).

Societe Generale Group's principles on combatting tax evasion are governed by the Tax Code of Conduct. The Code was updated in March 2017 and approved by the Board of Directors after review by the Executive Committee. It is a public document can be consulted on the Bank's institutional investor portal: *https://www.societegenerale.com-/sites/default/files/documents/Code%20de%20conduite/tax_code_of_-conduct_of_societe_generale_group_uk.pdf.*

The five main principles of the Code of Conduct are as follows:

- Societe Generale ensures that the tax rules applicable to its business in accordance with internationalconventions and national laws are respected in all countries where the Group operates.
- In its relations with its clients, Societe Generale ensures that they are informed of their tax obligations relating to transactions carried out with the Group and the Group complies with the reporting obligations, which are applicable as bookkeeper or in any other way.
- In its relations with Tax Authorities, Societe Generale is committed to strictly respecting tax procedures and ensures that it maintains open and transparent relations to maintain its reputation.
- Societe Generale does not encourage or promote tax evasion for itself or its subsidiaries or for its clients.
- Societe Generale has a tax policy in line with its strategy of sustainable profitability and refrains from any operation, whether for its own account or for its clients, whose main purpose or effect is tax motivated, unless this is consistent with the intention of the legislation.

The Board of Directors annually reviews the application of the Code and the procedures and systems in place within the Group to ensure that new products and new establishments comply with the Group's tax principles.

Relationships with legislators and tax law policy makers are governed by the Charter for Responsible Advocacy with respect to Public Authorities and Representative Institutions *(https://www.societe-generale.com/csr-report/files/Charter_responsible_advocacy_SG.PDF)-responsable%20SG.PDF).*

The Group is committed to a strict policy with regard to tax havens. No establishment of the Group is authorised in a state or territory on the official French list of ETNCs[1] ("États et Territoires Non Coopératifs" in French) and internal rules have been in place since 2003 to monitor a larger list of countries or territories.

The Group follows OECD transfer pricing standards. However, local constraints may require deviations from OECD methodologies, in which case the local constraints must be documented.

The Group publishes annual information on establishments and activities on a country-by-country basis (for more information, see Chapter 2.11 "Information about geographic locations and activities at 31 December 2019", p. 65 of the 2020 Universal Registration Document) and confirms that its presence in a certain number of countries is based exclusively on commercial reasons and not motivated by the transaction's tax set-up. The Group also complies with the tax transparency rules of the countries concerned. (CbCR - Declaration country by country).

It is currently implementing the new European directive on administrative cooperation in the field of taxation (referred to as DAC 6) which will impose reporting of cross-border tax arrangements as of mid-2020.

Importantly, the account-keeping entities of the Private Banking Business Unit are established exclusively in countries with the strictest tax transparency rules imposed by G20 member countries and the OECD. These countries ratified the Convention on Mutual Administrative Assistance in Tax Matters, introduced the automatic exchange of information in financial accounts (CRS) and obtained the "largely compliant" and "compliant" rating as part of the peer review process conducted under the aegis of the OECD.

Assets deposited in Private Banking books are subject to enhanced scrutiny using comprehensive due diligence procedures to ensure they are tax compliant.

In accordance with regulatory requirements, Societe Generale also includes tax fraud in its anti-money laundering procedures.

(1) including the European Union blacklist

ANTI-CORRUPTION MEASURES

Societe Generale is fully committed to fighting corruption and has given clear undertakings in this respect by participating in the Wolfsberg Group and the Global Compact.

The Group applies strict principles that are included in its Code of Conduct and its "Anti-Corruption and Influence Peddling Code".

Societe Generale's anti-corruption programme is built around the following themes:

- code of Conduct;
- annual risk mapping;
- appropriate training at all levels (senior management, exposed persons, all employees);
- control systems;
- accounting procedures;
- evaluation of third parties;
- disciplinary system;
- right to whistleblow.

The normative framework was first updated in 2018 ("Fight Against Corruption in Societe Generale Group", "Gifts, Hospitality and Entertainment" instructions) and new instructions supplemented the framework in 2019 ("Whistleblowing mechanism", "Know Your Supplier Obligations, Managing the Corruption and Influence Peddling Risk of Financial Service Suppliers", "Patronage and Sponsorship Principles", "Human Resources Principles (recruitment, appraisals and disciplinary sanctions)", "External Growth Procedures").

Societe Generale revised its whistleblowing mechanism by rolling out a secure Internet platform across the entire Group to enable all employees (whether internal, external or temporary) to exercise their right to whistleblow. In January 2019, a new instruction was published to present this new mechanism. It protects whistleblowers in particular by guaranteeing strict confidentiality and personal data protection.

In 2019, the Group also rolled out a tool to report, approve and monitor gifts, business meals and external events.

Anti-corruption accounting and operational controls have also been strengthened.

In addition, a comprehensive training programme has been rolled out across the Group to increase employee vigilance. Online training was rolled out in mid-2018 for all employees, with a 97% completion rate at the end of December 2019. In 2019, classroom training was also provided to 6,155 employees and senior managers (99.5% completion rate) in roles particularly exposed to the risk of corruption.

DATA PROTECTION

As a trusted partner of its customers, Societe Generale is especially sensitive to personal data protection.

The entry into force, in May 2018, of the new European General Data Protection Regulation (GDPR), which increases the Company's obligations and the level of sanctions in case of non-compliance with these obligations (up to 4% of revenue) has offered an opportunity for the Group and its subsidiaries to further reinforce their compliance system.

Across all Group entities, internal instructions and associated procedures in line with local and European regulations define the rules to apply and the measures to take to guarantee the protection and security of customer and staff data. Measures to inform data subjects

and process their demands are in place so that such persons can exercise their rights, notably *via* dedicated digital platforms. A personal data security policy has been defined, which fits in with the Group's overall security strategy, especially as regards cybersecurity. Moreover, as part of GDPR deployment, there has been a specific effort to increase staff awareness *via* dedicated training. An e-learning module has been introduced for the employees of every entity concerned. At end-2019, 97.3% of employees had undertaken the training.

Lastly, Societe Generale Group has appointed a Data Protection Officer (DPO). Reporting to the Head of Group Compliance, and the main contact for the Personal Data Protection Authority (the CNIL in France), he or she is responsible for ensuring sound Group compliance in terms of personal data protection. He or she has a network of local DPOs and Correspondents throughout the Group entities, and must support them on security issues and personal data usage. As part of his or her duties, the DPO regularly reviews a number of indicators, notably the number and nature of right exercise requests, the internal training completion rate, and the local DPO certification programme launched at the end of 2018.

RISK AND REMUNERATION POLICY

Since the end of 2010, in accordance with the regulatory framework defined by European Directive CRD3, Societe Generale has implemented a specific governance to determine variable remuneration. Beyond financial market professionals, the rules introduced by this directive apply to all persons whose activity is likely to have a substantial impact on the risk profile of the institutions which employ them, including those exercising control functions.

The regulatory framework defined by the European Directive CRD4 has applied since 1 January 2014. The framework does not modify the rules determining the variable remuneration of persons whose activity is likely to have an impact on the risk profile of the Group and on the employees who exercise control functions. The above-mentioned principles and governance remain in place within the Group.

According to the principles approved by the Board of Directors as proposed by the Compensation Committee, the remuneration mechanisms and processes for the identified population not only factor in the financial results of the transactions undertaken, but also how these results are generated: control and management of all risks and adherence to compliance rules. For their part, control function employees are remunerated independently of the results of the transactions that they control and according to criteria specific to their activity.

Variable remuneration includes a non-deferred portion and a deferred portion. The acquisition of the deferred portion of the variable remuneration is subject to three conditions, i.e. a minimum length of service, a minimum level of financial performance of the Company and/or the activity, and appropriate management of risks and compliance (malus and clawback clauses). All deferred variables of the regulated population are subject to a non-payment clause to sanction any excessive risk-taking or behaviour deemed unacceptable. A clawback clause enables Societe Generale, subject to applicable regulations, to request the return of deferred variables, in part or in full, after the holding period and for a five-year period after their allocation was included in the Group's plan for deferred variable remuneration allocated for 2019.

At least 50% of this remuneration is paid in shares or equivalent securities. The purpose of thesepayment methods is to align the remuneration with the Company's performance and risk horizon.

The Risk Division and Compliance Division help define and implement this policy. In particular, every year they independently assess the main activities of Wholesale Banking, and French and International Retail Banking, and the principal risk takers, together with the desk managers subject to the Separation and Regulation of Banking Activities Act and the Volcker Rule in relation to their risk management and compliance. These assessments are reviewed by General Management and taken into account when determining the amounts of variable remuneration.

The regulatory framework defined in European Directive CRD4 has applied since 1 January 2014 and does not amend the rules on determining the variable remuneration of persons whose activity is likely to have an impact on the Group's risk profile and control function employees. Accordingly, the principles and governance mentioned above continue to apply within the Group.

Societe Generale has also implemented a specific system and governance aimed at the holders of trading mandates to ensure that the remuneration policy genuinely factors in the requirements of the Separation and Regulation of Banking Activities Act of 26 July 2013 and the Volcker Rule.

In keeping with our historical approach and in accordance with the recommendations of the Committee of European Banking Supervisors, several regulatory principles - the portion of deferred remuneration, the acquisition of which is subject to conditions of presence, the minimum performance of the Group and the activity, and appropriate risk and compliance management - apply to a wider population than the regulated population depending on the level of variable remuneration, notably across the scope of Wholesale Banking.

In addition, the Group's annual employee appraisal tool has included a Conduct and Compliance section since 2018 enabling managers to factor in cases of employees' non-compliant behaviour when managing risks, providing quality of service and respecting customers' interests. Where an employee has failed to observe conduct and compliance rules, the manager must draft and implement a dedicated action plan to assist him or her. The results of this specific appraisal measure are crucial in determining the employee's career path and remuneration.

The consideration given to risks in the remuneration policy is presented every year to the Risks Committee and a Director sitting on the Risks Committee also sits on the Compensation Committee.

Management of reputational risk

The management of reputational risk is governed by an internal directive signed by the Societe Generale Group CEO. The control system is intended to prevent, identify, assess and control this risk. It is coordinated by the Compliance Division, which:

- supports Group employees, and more particularly the Compliance Control Officers of the businesses, in their strategy for preventing, identifying, assessing and controlling reputational risk;
- offers and updates training programmes to raise awareness of reputational risk;
- develops a reputational risk dashboard that is communicated quarterly to the Risk Committee of the Board of Directors, based on information from the businesses/Business Units and support functions/Service Units (in particular the Human Resources, Communications, Legal, Corporate Social Responsibility and Data Protection Departments).

Moreover, Chief Compliance Officers dedicated to Business Units take part in the various bodies (new product Committees, *ad hoc* Committees, etc.) organised to approve new types of transactions, products, projects or customers, and formulate a written opinion as to their assessment of the level of risk of the planned initiative, and notably the reputational risk.

The compliance function transformation programme

The Compliance function transformation programme aims to strengthen compliance risk management *via* the increased vigilance and awareness of all stakeholders, including businesses, support staff and other units, to increase the operational efficiency of the associated processes and to meet the demands of supervisory and regulatory authorities in the long term.

This programme includes updating the governance and allocating greater resources to the Compliance function, whether in terms of recruitment, training, or modernisation of dedicated information systems and digitalisation. It also relies on a stronger risk-assessment framework and a robust control system. The programme includes a specific component on remediation linked to the agreements signed in 2018 with the US and French authorities.

Its action plan was supplemented and updated in 2019, and it will continue to be implemented in 2020.

COMPLIANCE REMEDIATION PLAN IN THE WAKE OF AGREEMENTS ENTERED INTO WITH FRENCH AND US AUTHORITIES

In June 2018, Societe Generale entered into agreements with the US Department of Justice (DOJ) and the US Commodity Futures Trading Commission (CFTC) to resolve their investigations into IBOR submissions, and with the DOJ and the French Parquet National Financier (PNF) to resolve their investigations into certain transactions involving Libyan counterparties.

In November 2018, Societe Generale entered into agreements with the US authorities to resolve their investigations into certain US dollar transactions involving countries, persons or entities subject to US economic sanctions.

As part of these agreements, the Bank has committed to enhance its compliance system in order to prevent and detect any violation of anti-corruption and bribery, market manipulation and US economic sanction regulations, and any violation of New York state laws. The Bank has also committed to enhance corporate oversight of its economic sanctions compliance programme. The Bank will not be prosecuted if it abides by the terms of the agreements, to which Societe Generale is fully committed.

The Bank has also agreed with the US Federal Reserve to hire an independent consultant to assess the Bank's progress on the implementation of measures to strengthen its compliance programme.

To meet the commitments made by Societe Generale as part of these agreements, the Bank has developed a programme to implement these commitments and strengthen its compliance system in the relevant areas. This programme has been placed under the direct supervision of the Group Head of Compliance. In addition, the programme's Steering Committee is chaired by a member of the Bank's General Management, and a programme progress report is presented to the Board of Directors on a monthly basis.

In 2019, the Programme was rolled out according to the schedule presented to the internal Governance bodies and the various authorities receiving regular reports on the progress of remedial actions. Moreover, the external audits provided in the agreements have been conducted or are under way.

UNITED STATES COMPLIANCE REMEDIATION PLAN

On 19 November 2018, Societe Generale Group and its New York branch (SGNY) entered into an agreement (enforcement action) with the NY State Department of Financial Services regarding the SGNY anti-money laundering compliance programme. This agreement requires (i) submitting an enhanced anti-money laundering programme, (ii) an anti-money laundering governance plan, and (iii) the performance of an external audit in May 2020.

As a reminder, on 14 December 2017, Societe Generale and SGNY on the one hand, and the Board of Governors of the Federal Reserve on the other hand, agreed to a Cease and Desist order (the "Order") regarding the SGNY compliance programme to adhere to the Bank Secrecy Act ("BSA") and its anti-money laundering ("AML") obligations (the "Anti-Money Laundering Compliance Program"), and regarding some aspects of its Know Your Customer programme.

This Cease and Desist Order signed on 14 December 2017 with the FED supersedes the Written Agreement entered into in 2009 between Societe Generale Group and SGNY on the one hand, and the US Federal Reserve and the New York State Financial Services Department on the other hand.

To meet the commitments made by Societe Generale as part of these agreements, the Bank has developed a programme to implement these commitments and strengthen its compliance system in the relevant areas. This programme has been placed under the direct supervision of the Group Head of Compliance. In addition, the programme's Steering Committee is chaired by a member of the Bank's General Management, and a programme progress report is presented to the Board of Directors on a monthly basis.

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12.2 DISPUTES

The information pertaining to risks and litigation is presented in Note 9 to the consolidated financial statements included in the 2020 Universal Registration Document, p. 466.

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MODEL RISK

IN BRIEF

Model risk is defined as the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.

13.1 MODEL RISK MONITORING

Many choices made within the Group are based on quantitative decision support tools (models). Model risk is defined as the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. It can take the form of model uncertainty or errors in the implementation of model management processes.

The Group is fully committed to maintaining a solid governance system in terms of model risk management in order to ensure the efficiency and reliability of the identification, design, implementation, modification monitoring processes, independent review and approval of the models used. An MRM ("Model Risk Management") Department in charge of controlling model risk was created within the Risk Department in 2017. Since then, the model risk management framework has been consolidated and structured, and is based today on the following device:

Actors and responsibilities

The model risk management system is implemented by the three independent lines of defense, which correspond to the responsibility of the business lines in risk management, to the review and independent supervision and evaluation of the system and which are segregated and independent to avoid any conflict of interest.

The device is as follows:

- the first line of defense (LoD1), which brings together several teams with diverse skills within the Group, is responsible for the development, implementation, use and monitoring of the relevance over time of the models, in accordance with model risk management system; these teams are housed in the Business Departments or their Support Departments;
- the second line of defense (LoD2) is made up of governance teams and independent model review teams, and supervised by the "Model Risk" Department within the Risk Department;
- the third line of defense (LoD3) is responsible for assessing the overall effectiveness of the model risk management system (the relevance of governance for model risk and the efficiency of the activities of the second line of defense) and l 'independent audit of models: it is housed within the Internal Audit Department.

Governance, steering and monitoring

A MRM Committee chaired by the Risk Director meets at least every three months to ensure the implementation of the management system and monitor the risk of models at Group level. Within the second line of defense and the "Model risk" Department, a governance team is in charge of the design and management of the model risk management system at Group level.

As such:

- the normative framework applicable to all of the Group's models is defined, applied when necessary to the main families of models to provide details on the specifics, and maintained while ensuring the consistency and homogeneity of the system, its integrity and its compliance with regulatory provisions; this framework specifies in particular the definition of expectations with regard to LoD1, the principles for the model risk assessment methodology and the definition of guiding principles for the independent review and approval of the model;
- the identification, recording and updating of information of all models within the Group (including models under development or recently withdrawn) are carried out in the model inventory according to a defined process and piloted by LoD2;
- the monitoring and reporting system relating to model risks incurred by the Group in Senior Management has been put in place. The appetite for model risk, corresponding to the level of model risk that the Group is ready to assume in the context of achieving its strategic objectives, is also formalised through statements relating to risk tolerance, translated under form of specific indicators associated with warning limits and thresholds.

Model life cycle and review and approval process

For each model, risk management is based on compliance with the rules and standards defined for the entire Group by each LoD1 player, it is guaranteed by an effective challenge from LoD2 and a uniform approval process.

The need to examine a model is assessed according to the level of model risk, its model family and applicable regulatory requirements. The independent review by the second line of defense is triggered in particular for new models, periodic model reviews, proposals to change models and transversal reviews in response to a recommendation:

- it corresponds to all the processes and activities which aim to verify the conformity of the functioning and use of the models with respect to the objectives for which they were designed and to the applicable regulations, on the basis of the activities and controls implemented by LoD1;
- it is based on certain principles aimed at verifying the theoretical robustness (evaluation of the quality of the design and development of the model), the conformity of the implementation and use, and the relevance of the monitoring of the model;
- it gives rise to an independent review report, which describes the scope of the review, the tests carried out, the results of the review, the conclusions or the recommendations.

The approval process follows the same approval scheme for all models, the composition of governance bodies being able to vary according to the level of model risk, the family of models, the applicable regulatory requirements and the Business Units/Service Units in which model is applicable. Responsible for LOD2, the approval process consists of two consecutive instances:

- the Review Authority which aims to present the conclusions identified by the review team in the independent review report and to discuss, allowing for a contradictory debate between LoD1 and LoD2. Based on the discussions, LoD2 confirms or modifies the conclusions of the review report, including the findings and recommendations, without being limited thereto;
- the Approval Authority, a body which has the power to approve (with or without reservation) or reject the use of a model, changes made to the existing model or continuous monitoring of the relevance of the model during of the time proposed by the LOD1, from the independent review report and the minutes of the Review Authority.

14

RISKS RELATED TO INSURANCE ACTIVITIES

IN BRIEF

Through its insurance subsidiaries, the Group is also exposed to a variety of risks linked to this business. In addition to balance sheet management risks (interest rate, valuation, counterparty and exchange rate risk), these risks include premium pricing risk, mortality risk and the risk of an increase in claims.

14.1 MANAGEMENT OF INSURANCE RISKS

Risk related to insurance activities: through its insurance subsidiaries, the Group is also exposed to a variety of risks linked to this business. In addition to balance sheet management risks (interest rate, valuation, counterparty and exchange rate risk), these risks include premium pricing risk, mortality risk and the risk of an increase in claims.

There are two main types of insurance risks:

- underwriting risks, particularly risk through life insurance, individual personal protection and non-life insurance. This risk can be biometrical: disability, longevity, mortality, or related to policyholders' behaviour (risk of lapses). To a lesser extent, the Insurance business line is also exposed to non-life and health risks. Such risks can come from pricing, selection, claims management or catastrophic risk;
- risks related to financial markets and ALM: the Insurance business line, mainly through life insurance on the French market, is exposed to instabilities on the financial markets (changes in interest rates and stock market fluctuations) which can be made worse by policyholder behaviour.

Managing these risks is key to the Insurance business line's activity. It is carried out by qualified and experienced teams, with major bespoke IT resources. Risks are monitored and regularly reported, they are guaranted by risk policies validated by the Board of Directors of each entity.

Risk management techniques are based on the following:

- heightened security for the risk acceptance process, with the aim of guaranteeing that the price schedule matches the policyholder's risk profile and the guarantees provided;
- regular monitoring of indicators on product claims rates in order to adjust certain product parameters, such as pricing or the level of guarantee, if necessary;
- implementation of a reinsurance plan to protect the business line from major/serial claims;
- application of policies on risk, provisioning and reinsurance.

Management of risks linked to the financial markets and to ALM is an integral part of the investment strategy as long-term performance objectives. The optimisation of these two factors is highly influenced by the asset/liability balance. Liability commitments (guarantees offered to customers, maturity of policies), as well as the amounts booked under the major items on the balance sheet (shareholders' equity, income, provisions, reserves, etc.) are analyzed by the Finance and Risk Department of the insurance business line.

Risk management related to financial markets (interest rates, credit and shares) and to ALM is based on the following:

- monitoring short- and long-term cash flows (match between the term of a liability and the term of an asset, liquidity risk management);
- particular monitoring of policyholder behaviour (redemption);
- close monitoring of financial markets;
- hedging against exchange rate risks (both rising and falling);
- defining thresholds and limits per counterparty, per issuer rating and assets class;
- stress tests, the results of which are presented annually at entities' Board of Directors' meetings, as part of the ORSA report (Own Risk and Solvency Assessment), transferred to the ACPR after approval by the Board;
- application of policies related to ALM and investment risks.

14.2 INSURANCE RISK MODELLING

The models are reviewed by the Insurance Risks Department, which is the second line of defense in the context of model risk management. The review works relate to the theoretical robustness (evaluation of the quality of design and development) of the models, the conformity of the implementation and the continuous monitoring of the relevance of the model over time. The independent review process ends with (i) a report describing the scope of the review, the tests performed, the results of the review, conclusions or recommendations and by (ii) validation Committees. The model control system gives rise to recurring reporting to the appropriate bodies.

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OTHER RISKS

IN BRIEF

This section describes equity risks and other risks not described in previous chapters.

15.1 EQUITY RISKS

Investment strategies and purpose

The Societe Generale Group's exposure to its non-trading equity portfolio relates to several of the Bank's activities and strategies. It includes equities and equity instruments, mutual fund units invested in equities, and holdings in the Group's subsidiaries and affiliates which are not deducted from shareholders' equity for the purpose of calculating solvency ratios. Generally speaking, due to their unfavourable treatment under regulatory capital, the Group's future policy is to limit these investments.

- First, the Group has a portfolio of industrial holdings which mainly reflect its historical or strategic relations with these companies;
- It also has some minority holdings in certain banks for strategic purposes, with a view to developing its cooperation with these establishments;
- In addition, the equities that are not part of the trading book include Group shares in small subsidiaries which are not included in its consolidation scope and which operate in France and abroad. This includes various investments and holdings that are ancillary to the Group's main banking activities, particularly in French Retail Banking, Corporate and Investment Banking, and Securities Services (private equity activities in France, closely linked with banking networks, stock market bodies, brokerages, etc.);
- Lastly, Societe Generale and some of its subsidiaries may hold equity investments related to their asset management activities (particularly seed capital for mutual funds promoted by Societe Generale), in France and abroad.

Monitoring of banking book equity investments and holdings

The portfolio of industrial holdings was significantly reduced in recent years, further to the disposal of non-strategic lines. It now includes only a limited number of investments. It is monitored on a monthly basis by the Group's Finance Division and, where necessary, value adjustments are recognised quarterly in accordance with the Group's provisioning policy.

The holdings that are ancillary to the Group's banking activity are monitored on a quarterly basis by the Group's Finance Division and, where necessary, value adjustments are recognised quarterly in accordance with the Group's provisioning policy. Private equity activities in France are subject to dedicated governance and monitoring, within the budgets periodically reviewed by the Group's General Management. Investment or disposal decisions take the financial aspects and the contribution to the Group's activities into consideration (supporting customers in their development, cross-selling with flow activities, Corporate and Investment Banking, Private Banking, etc.).

Valuation of banking book equities

From an accounting perspective, Societe Generale's exposure to equity investments that are not part of its trading book is classified within financial assets measured at fair value through net income or, using the option, at fair value through other comprehensive income (cf Note 3 to the consolidated financial statements included in the 2020 Universal Registration Document).

The Societe Generale Group's exposure to equity investments that are not part of the trading book is equal to their book value representative of a fair value based on a measure at mark to market or at mark to model.

The following table presents these exposures at end-December 2019 and 2018, for both the accounting scope and the regulatory scope. Regulatory data cannot be reconciled with data from consolidated financial statements, specifically because the regulatory scope excludes equity investments held on behalf of clients by the Group's insurance subsidiaries.

TABLE 109: SHARES AND EQUITIES IN THE BANKING BOOK

(In EURm)	31.12.2019	31.12.2018
Banking book - shares and other equity securities at fair value through profit or loss	2,492	1,996
Banking book - shares and other equity securities at fair value through other comprehensive income	16,304	13,976
Banking book - shares and other equity securities on banking book - Prudential scope (Exposure at default)	7,156	5,780
o.w shares and other equity securities at fair value through profit or loss	*6,917*	*5,493*
o.w. shares and other equity securities at fair value through other comprehensive income	*239*	*287*

Unrealised gains and losses related to changes in fair value, since the end of the previous year are recognised in:

- net income statement "Net gains and losses on financial transactions" for equity investment classified into Financial assets at fair value through profit or loss; and
- other comprehensive income "Unrealised gains or losses without subsequent recycling in the income statement" for equity investment classified into Financial assets at fair value through other comprehensive income.

For investments in listed shares, the fair value is estimated based on the stock price at closing date. For investment in unlisted shares, fair value can be estimated based on one or more of the following methods:

- quantitative method such as Discounted Cash Flows (DCF), Discounted Dividend Model (DDM);
- pro rata share of the entity's net assets;
- recent transactions identified on the entity's share (stake acquired by third party, valuation assessed by experts);
- recent transactions identified on entities from the same sector (earnings or NAV multiples, etc.).

Dividends received from equity investment are recognised in the net income statement "Net gains and losses on financial transactions".

In the event of a disposal, gains and losses resulting from a change in fair value occurring since the end of the previous year are recognised in:

- net income statement "Net gains and losses on financial transactions" for equity investment classified into Financial assets at fair value through profit or loss; and
- other comprehensive income "Unrealised gains or losses without subsequent recycling in the income statement" for equity investment classified into Financial assets at fair value through other comprehensive income. Gains and losses on equity investment disposals are transferred to Reserves in the subsequent accounting period following the disposal.

TABLE 110: NET GAINS AND LOSSES ON BANKING BOOK SHARES AND EQUITIES

(In EURm)	31.12.2019	31.12.2018
Gains and losses on the sale of shares and equity	388	651
Net gains/losses on banking book	33	80

Regulatory capital requirements

To calculate the risk-weighted assets under Basel 3, the Group applies the simple risk weighting method for the majority of its non-trading equity portfolio. Shares in private equity companies are assigned a risk-weighting coefficient of 190%, shares in listed companies a coefficient of 290%, and shares in unlisted companies, including the holdings in our insurance subsidiaries, a coefficient of 370%.

Furthermore, if they are not deducted from equity capital, material investments in the capital of finance companies are assigned a weighting coefficient of 250%.

As at 31 December 2019, the Group's risk-weighted assets relating to its non-trading equity portfolio, and its corresponding capital requirements, were as follows:

TABLE 111: CAPITAL REQUIREMENTS RELATING TO BANKING BOOK SHARES AND EQUITIES[1]

(In EURm)			31.12.2019			31.12.2018		
Equities & holdings	**Approach**	**Weighting**	**Exposure at default**	**Risk-weighted assets**	**Capital requirements**	**Exposure at default**	**Risk-weighted assets**	**Capital requirements**
Private equity	Standard	150%	-	-	-	11	16	1
Private equity	Simple approach	190%	185	352	28	197	375	30
Financial securities	Standard	250%	503	1,257	101	943	2,357	189
Listed shares	Simple approach	290%	38	111	9	18	52	4
Unlisted shares and insurance	Simple approach	370%	5,297	19,599	1,568	3,987	14,751	1,180
TOTAL			**6,023**	**21,318**	**1,705**	**5,155**	**17,551**	**1,404**

(1) Excluding cash investments

15.2 RESIDUAL VALUE RISK

Through its Specialised Financial Services division, mainly in its long-term vehicle leasing subsidiary, the Group is exposed to residual value risk (where the net resale value of an asset at the end of the leasing contract is less than expected).

Risk identification

Societe Generale group holds, inside its ALDA Business Units (automobile leasing activity) cars on its balance sheet with a risk related to the residual value of these vehicles at the moment of their disposals.

The Group is exposed to potential losses in a given reporting period caused by (i) the resale of vehicles associated with leases terminated in the reporting period where the used car resale price is lower than its net book value and (ii) additional depreciation booked during the lease term if the expected residual values of its vehicles decline below the contractual residual value. The future sales results and estimated losses are affected by external factors like macroeconomic, government policies, environmental and tax regulations, consumer preferences, new vehicles pricing, etc.

ALD gross operating income derived from car sales totalled EUR 75 million, EUR 102.5 million and EUR 165.3 million for the years ended 31 December 2019, 2018, and 2017 respectively.

Risk management

The residual value setting procedure defines the processes, roles and responsibilities involved in the determination of residual values that will be used by ALD Automotive as a basis for producing vehicle lease quotations.

A Residual Value Review Committee is held at least twice a year within each operating entity of ALD. This Committee debates and decides residual values, taking into account local market specificities, documenting its approach, ensuring that there is a clear audit trail.

A dedicated central ALD team controls and validates the proposed residual values prior to their being notified to the operating entities and updated in the local quotation system. This team informs ALD's Group Finance Director and Risk Manager in case of disagreements.

Additionally, the fleet revaluation process determines an additional depreciation in countries where an overall loss on the portfolio is identified. This process is performed locally twice a year for operating entities owning more than 5,000 cars (once a year for smaller entities) under the supervision of the central team and using common tools and methodologies. This depreciation is booked in accordance with accounting standards.

15.3 STRATEGIC RISKS

Strategic risks are defined as the risks inherent in the choice of a given business strategy or resulting from the Group’s inability to execute its strategy. They are monitored by the Board of Directors, which approves the Group’s strategic direction and reviews them at least once every year. Moreover, the Board of Directors approves strategic investments and any transaction (particularly disposals and acquisitions) that could significantly affect the Group’s results, the structure of its balance sheet or its risk profile.

Strategic steering is carried out under the authority of the General Management, by the General Management Committee (which meets weekly without exception), by the Group Strategy Committee (which meets every two months) and by the Strategic oversight Committees of the Business Units and Service Units (which meet at least once a year for each of the 25 Units). The make-up of these various bodies is set out in Chapter 3 "Corporate Governance" of the 2020 Universal Registration Document (p. 69 and following). The Internal Rules of the Board of Directors (provided in Chapter 7 of the 2020 Universal Registration Document, p. 541) lay down the procedures for convening meetings.

15.4 ENVIRONMENTAL AND SOCIAL RISKS

The Group's approach in terms of environmental and social issues is set out in Chapter 5 of the 2020 Universal Registration Document (p. 255 and following).

15.5 CONDUCT RISK

The Group is also exposed to conduct risk through all of its core businesses. The Group defines conduct risk as resulting from actions (or inactions) or behaviours of the Bank or its employees, inconsistent with the Group's Code of Conduct, which may lead to adverse consequences for its stakeholders, or place the Bank's sustainability or reputation at risk.

Stakeholders include in particular our clients, employees, investors, shareholders, suppliers, the environment, markets and countries in which we operate.

See also "Culture and Conduct programme" (see p. 260 and 261 of the 2020 Universal Registration Document).

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APPENDIX

16.1 PILLAR 3 CROSS-REFERENCE TABLE

CRD4/CRR article	Theme	Pillar 3 report reference (except reference to the Universal Registration Document)	Page in Pillar 3 report
90 (CRD4)	Return on assets	5 Capital management and adequacy	37
435 (CRR)	1. Risk management objectives and policies	3 Risk management and organisation	18-26
436 (CRR)	2. Scope of application	5 Capital management and adequacy	36-42
		SG website - Capital instruments and TLAC eligible SNP	
		SG website - Information about the consolidation scope	
		SG website - Differences in the scopes of consolidation (LI3)	
437 (CRR)	3. Own funds	5 Capital management and adequacy	43
438 (CRR)	4. Capital requirements	5 Capital management and adequacy	46-47
439 (CRR)	5. Exposure to counterparty credit risk	6 Credit and counterparty credit risk	71-73
		Impact of netting and collateral held on exposure values	143
		Exposures on credit derivatives	142-143
440 (CRR)	6. Capital buffers	5 Capital management and adequacy	59
441 (CRR)	7. Indicators of global systemic importance	SG website - Information and publication section	
442 (CRR)	8. Credit risk adjustments	6 Credit and counterparty credit risk	69-71
		Analysis of gross outstanding and provisions for credit risk	90-133
443 (CRR)	9. Unencumbered assets	9 Liquidity risk	199-201
444 (CRR)	10. Use of ECAIs	6 Credit and counterparty credit risk 7 Securitisation	74; 105-106 158
445 (CRR)	11. Exposure to market risk	8 Market risk	164-178
446 (CRR)	12. Operational risk	9 Operational risk	180-188
447 (CRR)	13. Exposures to equities not included in the trading book	15 Equity risk	222-223
448 (CRR)	14. Exposure to interest rate risk on positions not included in the trading book	10 Structural interest rate and exchange rate risks	191-192
449 (CRR)	15. Exposure to securitisation positions	7 Securitisation	148-161
450 (CRR)	16. Remuneration policy	First update of the Universal Registration Document (planned)	
451 (CRR)	17. Leverage	5 Capital management and adequacy	49-50; 56-58
452 (CRR)	18. Use of the IRB Approach to credit risk	6 Credit and counterparty credit risk Average PD and LGD geographic breakdown	74-83 99
453 (CRR)	19. Use of credit risk mitigation techniques	6 Credit and counterparty credit risk	68-69; 129
454 (CRR)	20. Use of the advanced measurement approaches to operational risk	9 Operational risk	180-187
455 (CRR)	21. Use of internal market risk models	8 Market risk	167-178
437 bis (CRR2)	22. TLAC and related eligible instruments	5 Capital management and adequacy SG website - Capital instruments and TLAC eligible SNP	 49

16.2 INDEX OF THE TABLES IN THE RISK REPORT

(1) Universal Registration Document

16.3 MAPPING TABLE OF EXPOSURE CLASSES

As part of the presentation of credit risk data, the table below shows the link between the synthetic presentations of certain tables and the exposure classes detailed in the tables requested by the EBA in the context of the revision of Pillar 3.

Method	COREP exposure class	Pillar 3 exposure class
AIRB	Central governments and central banks	Sovereigns
AIRB	Institutions	Institutions
AIRB	Corporate - SME	Corporates
AIRB	Corporate - Specialised lending	Corporates
AIRB	Corporate - Other	Corporates
AIRB	Retail - Secured by real estate SME	Retail
AIRB	Retail - Secured by real estate non-SME	Retail
AIRB	Retail - Qualifying revolving	Retail
AIRB	Retail - Other SME	Retail
AIRB	Retail - Other non-SME	Retail
AIRB	Other non credit-obligation assets	Others
AIRB	Default funds contributions	Others
FIRB	Central governments and central banks	Sovereigns
FIRB	Institutions	Institutions
FIRB	Corporate - SME	Corporates
FIRB	Corporate - Specialised lending	Corporates
FIRB	Corporate - Other	Corporates
IRB	Equity Exposures	Others
IRB	Securitisation	Others
Standardised	Central governments or central banks	Sovereigns
Standardised	Regional governments or local authorities	Institutions
Standardised	Public sector entities	Institutions
Standardised	Multilateral development banks	Sovereigns
Standardised	International organisations	Sovereigns
Standardised	Institutions	Institutions
Standardised	Corporates	Corporates
Standardised	Retail	Retail
Standardised	Secured by mortgages on immovable property	Others
Standardised	Exposures in default	Others
Standardised	Items associated with particularly high risk	Others
Standardised	Covered bonds	Others
Standardised	Claims on institutions and corporate with a short-term credit assessment	Others
Standardised	Claims in the form of CIU	Others
Standardised	Equity Exposures	Others
Standardised	Other items	Others
Standardised	Default funds contributions	Others
Standardised	Securitisation	Others

16.4 GLOSSARY

ABBREVIATIONS TABLE

Abbreviation	Definition	Glossary
ABS	Asset-Backed Securities	Securitisation
CCF	Credit Conversion Factor	CCF
CDS	Credit Default Swap	Securitisation
CDO	Collaterallised Debt Obligation	Securitisation
CLO	Collateralised Loan Obligation	Securitisation
CMBS	Commercial Mortgage-Backed Securities	Securitisation
CRD	Capital Requirement Directive	CRR/CRD4
CRM (credit risk)	Credit Risk Mitigation	Credit Risk Mitigation
CRM (market risk)	Comprehensive Risk Measure	Comprehensive Risk Measurement
CRR	Capital Requirement Regulation	CRR/CRD4
CVaR	Credit Value at Risk	Credit Value at Risk (CVaR)
EAD	Exposure At Default	Exposure At Default (EAD)
EL	Expected Loss	Expected Loss (EL)
IMM	Internal Model Method	IMM
AIRB	Internal ratings-based approach - Advanced	AIRB
FIRB	Internal ratings-based approach - Foundation	FIRB
IRC	Incremental Risk Charge	IRC
G-SIB	Global Systemically Important Banks (see SIFI)	SIFI
LCR	Liquidity Coverage Ratio	Liquidity Coverage Ratio (LCR)
LGD	Loss Given Default	Loss Given Default (LGD)
NSFR	Net Stable Funding Ratio	Net Stable Funding Ratio (NSFR)
PD	Probability of Default	Probability of Default (PD)
RMBS	Residential Mortgage-Backed Securities	Securitisation
RW	Risk Weight	RWA - Risk-Weighted Assets
RWA	Risk-Weighted Assets	RWA - Risk-Weighted Assets
SVaR	Stressed Value at Risk	Stressed Value at Risk (SVaR)
VaR	Value at Risk	Value at Risk (VaR)

Asset-Backed Securities (ABS): see "Securitisation".

Basel 1 (Accords): prudential framework established in 1988 by the Basel Committee to ensure solvency and stability in the international banking system by setting an international minimum and standardised limit on banks' capital bases. It notably establishes a minimum capital ratio—a proportion of the total risks taken on by banks—which must be greater than 8%. (Source: Bank of France Glossary - *Documents et Débats* - No. 4 - May 2012)

Basel 2 (Accords): prudential framework used to better assess and limit banks' risks. It is focused on banks' credit, market and operational risks. (Source: Bank of France Glossary - *Documents et Débats* - No. 4 – May 2012)

Basel 3 (Accords): further changes to prudential standards which included lessons from the 2007-2008 financial crisis. They supplement the Basel 2 Accords by improving the quality and quantity of banks' required capital. They also implement minimum requirements in terms of liquidity risk management (quantitative ratios), define measures to limit the financial system's procyclicality (capital buffers that vary according to the economic cycle) and even strengthen requirements related to systemically significant banks (Source: Bank of France Glossary - *Documents et Débats* - No. 4 - May 2012). The Basel 3 Accords are defined in Europe in Directive 2013/36/EU ("CRD4") and Regulation 575/2013 ("CRR") that have been in force since 1 January 2014.

Bond: a bond is a fraction of a loan, issued in the form of a security, which is tradable and—in a given issue—grants rights to the issuer according to the issue's nominal value (the issuer being a company, public sector entity or government).

Cash Generating Unit (CGU): the smallest identifiable set of assets which generates incoming cash flow which is generally independent from incoming cash flow generated by other assets or sets of assets in accordance with the IAS 36 accounting standard. "In accordance with IFRS standards, a company must determine the largest number of cash generation units (CGU) which make it up; these CGU should be generally independent in terms of operations and the Company must allocate assets to each of these CGU. Impairment testing must be conducted at the CGU level periodically (if there are reasons to believe that their value has dropped) or annually (if they include goodwill)." (Source: Les Echos.fr, citing Vernimmen)

Collateral: transferable asset or guarantee used as a pledge for the repayment of a loan in the event that the borrower cannot meet its payment obligations. (Source: Bank of France Glossary - *Documents et Débats* - No. 4 - May 2012)

Collateralised Debt Obligation (CDO): see "Securitisation".

Collateralised Loan Obligation (CLO): see "Securitisation".

Commercial Mortgage-Backed Securities (CMBS): see "Securitisation".

Common Equity Tier 1 capital: includes principally share capital, associated share premiums and reserves, less prudential deductions.

Common Equity Tier 1 ratio: ratio between Common Equity Tier 1 capital and risk-weighted assets, according to CRD4/CRR rules. Common Equity Tier 1 capital has a more restrictive definition than in the earlier CRD3 Directive (Basel 2).

Cost/income ratio: ratio indicating the share of net banking income (NBI) used to cover the Company's operating costs. It is determined by dividing management fees by the NBI.

Comprehensive Risk Measurement (CRM): capital charge in addition to Incremental Risk Charge (IRC) for the credit activities correlation portfolio which accounts for specific price risks (spread, correlation, collection, etc.) The CRM is a 99.9% risk factor, meaning the highest risk obtained after eliminating the 0.1% most unfavourable incidents.

Cost of commercial risk in basis points: the cost of risk in basis points is calculated comparing the net cost of commercial risk to loan outstanding at the start of the period. Net commercial risk load equals the cost of risk calculated for credit commitments (balance sheet and off-balance sheet), *i.e.*, allocations – recaptures (whether used or not used) + Losses on non-collectable receivables – collections on amortised loans and receivables. Allocations and recaptures of dispute provisions are excluded from this calculation.

Credit and counterparty credit risk: risk of losses arising from the inability of the Group's customers, issuers or other counterparties to meet their financial commitments. Credit risk includes the counterparty risk linked to market transactions and securitisation activities. In addition, credit risk may be further amplified by individual, country and sector concentration risks.

Credit Conversion Factor (CCF): the ratio between the currently undrawn amount of a commitment that could be drawn and that would therefore be exposed to default and the currently undrawn amount of the commitment, the extent of the commitment being determined by the authorised limit, unless the unauthorised limit is higher.

Credit Default Swaps (CDS): insurance mechanism against credit risk in the form of a bilateral financial contract, in which the protection buyer periodically pays the seller in return for a guarantee to compensate the buyer for losses on reference assets (government, bank or corporate bond) if a credit event occurs (bankruptcy, payment default, moratorium, restructuring). (Source: Bank of France Glossary - *Documents et Débats* - No. 4 - May 2012)

Credit Risk Mitigation (CRM): a technique used by an institution to reduce the credit risk associated with an exposure or exposures that the institution continues to hold;

Credit Value at Risk (CVaR): the largest loss that would be incurred after eliminating the top 1% of the most adverse occurrences, used to set the risk limits for individual counterparties.

CRD4/CRR (Capital Requirement Regulation): the Directive 2013/36/EU ("CRD4") and the Regulation (EU) No. 575/2013 ("CRR") constitute the corpus of the texts transposing Basel 3 in Europe. They therefore define the European regulations relating to the solvency ratio, large exposures, leverage and liquidity ratios, and are supplemented by the European Banking Authority's ("EBA") technical standards.

Derivative: a financial asset or financial contract, the value of which changes based on the value of an underlying asset, which may be financial (equities, bonds, currencies, etc.) or non-financial (commodities such as agricultural commodities, etc.). Depending on the circumstances, this change may be accompanied by a leverage effect. Derivatives can take the form of securities (warrants, certificates, structured EMTNs, etc.) or the form of contracts (forwards, options, swaps, etc.).

Doubtful loan coverage rate: ratio between portfolio provision and depreciation and doubtful outstanding (customer loans and receivables, loans and receivables with credit institutions, finance leases and basic leases).

Expected Credit Loss (ECL): Expected loss of credit materialised by accounting of a provision based on asset valuation.

Expected Loss (EL): losses that may occur given the quality of a transaction's structuring and all measures taken to reduce risk, such as collateral.

Exposure At Default (EAD): Group exposure to default of a counterparty. The EAD includes both balance sheet and off-balance sheet exposures. Off-balance sheet exposures are converted to their balance sheet equivalent using internal or regulatory conversion.

Fair value: the amount for which an asset could be exchanged or a liability settled, between informed and consenting parties under normal market conditions.

Gross rate of doubtful outstanding: ratio between doubtful outstanding and gross book loan outstanding (customer loans and receivables, loans and receivables with credit institutions, finance leases and basic leases).

Haircut: percentage by which the market value of securities is reduced to reflect their value in the context of stress (counterparty or market stress risk). The extent of the reduction reflects the perceived risk.

Impairment: recording of probable loss on an asset. (Source: Bank of France Glossary - *Documents et Débats* - No. 4 - May 2012)

Incremental Risk Charge (IRC): an incremental charge for default and migration risks for non-securitised products. It charges capital requirement in respect of the risk of changes in rating and default of transmitters to horizon one year for the portfolio of trading (bonds and CDS) debt instruments. IRC is a Value at Risk to 99.9% that is the biggest risk obtained after removal of 0.1% of the most adverse occurrences.

Insurance-related risks: risks of losses related to insurance activities to which the Group is exposed through its insurance subsidiaries. Beyond asset/liability risk management (interest rate, valuation, counterparty and currency risks), these include underwriting risk, mortality risk and structural risk of life and non-life insurance activities, including pandemics, accidents and catastrophic events (such as earthquakes, hurricanes, industrial disasters, or acts of terrorism or war).

Internal Model Method (IMM): Internal method used to determine exposure to counterparty risk. The banking models used are subject to validation by the supervisor. The application of these internal models has an impact on the method of calculating the EAD of market transactions but also on the method to calculate the Basel Maturity.

Internal Capital Adequacy Assessment Process (ICAAP): process outlined in Pillar 2 of the Basel Accord, by which the Group verifies its capital adequacy with regard to all risks incurred.

Internal Ratings-Based - Advanced (AIRB): banks are allowed to use their own estimated risk parameters (PD, LGD, CCF) for the purpose of calculating regulatory capital.

Internal Ratings-Based - Foundation (FIRB): banks are allowed to use their own estimated PD for the purpose of calculating regulatory capital, other parameters being based on the Standardised approach.

Leverage ratio: the leverage ratio intends to be a simple ratio that aims to limit the size of banks' balance sheets. The leverage ratio compares the Tier 1 prudential capital with the accounting balance sheet/off-balance sheet, after restatements of certain items. A new definition of the leverage ratio has been implemented in accordance with the application of the CRR Regulation.

Liquidity: for a bank, the capacity to cover its short-term maturities. For an asset, this term indicates the potential to purchase or sell it quickly on the market, with a limited discount. (Source: Bank of France Glossary - *Documents et Débats* - No. 4 - May 2012)

Liquidity Coverage Ratio (LCR): this ratio is intended to promote short-term resilience of a bank's liquidity risk profile. The LCR requires banks to hold risk-free assets that may be easily liquidated on markets in order to meet required payments for outflows net of inflows during a thirty-day crisis period without central bank support (Source: December 2010 Basel document.)

Loss Given Default (LGD): ratio between the loss incurred from exposure to default by a counterparty and the amount of the exposure at the time of default.

Market risk: risk of loss of value on financial instruments arising from changes in market parameters, the volatility of these parameters and the correlations between them. These parameters include, but are not limited to, exchange rates, interest rates, the price of securities (equities or bonds), commodities, derivatives and other assets.

Market stress tests: to assess market risk, alongside the internal VaR and SVaR model, the Group monitors its exposure using market stress test simulations to take into account exceptional market occurrences, based on 26 historical scenarios and eight hypothetical scenarios.

Mezzanine: form of financing between equity and debt. In terms of ranking, mezzanine debt is subordinate to senior debt, but it is still above equity.

Model risk: potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.

Monoline insurer: insurance company participating in a credit enhancement transaction and which guarantees bond issues (for example, a securitisation transaction), in order to improve the issue's credit rating.

Net earnings per share: net earnings of the Company (adjusted for hybrid securities recorded under equity instruments) divided by the weighted average number of shares outstanding.

Net exposure: Initial exposure, net of specific and general provisions in advanced approach and net of specific provisions in the Standardised method.

Net Stable Funding Ratio (NSFR): this ratio aims to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding. This structural ratio has a time horizon of one year and has been developed to provide a sustainable maturity structure of assets and liabilities. (Source: December 2010 Basel document.)

Operational risk (including accounting and environmental risks): risk of losses resulting from inadequacies or failures in processes, personnel or information systems, or from external events.

Own shares: shares held by the Company, especially as part of the Share Buyback programme. Own shares are excluded from voting rights and are not included in the calculation of earnings per share, with the exception of shares held as part of a liquidity contract.

Personal commitment: represented by a deposit, autonomous guarantee or letter of intent. Whoever makes themself guarantor for an obligation binds themself to the creditor to honour that obligation, if the debtor does not honour it themself. An independent guarantee is an undertaking by which the guarantor binds themself, in consideration of a debt subscribed by a third party, to pay a sum either on first demand or subject to terms agreed upon. A letter of intent is an undertaking to do or not to do, the purpose of which is the support provided to a debtor in honouring their obligation.

Physical collateral: guarantees consisting of assets including tangible and intangible property and securities, commodities, precious metals, cash, financial instruments and insurance contracts.

Prime Brokerage: all specific services designed for hedge funds to allow them to better conduct their business. In addition to standard intermediation transactions on financial markets (purchase and sale on behalf of clients), prime brokers offer securities borrowing and lending services and financial services specifically tailored for hedge funds.

Probability of Default (PD): likelihood that a counterparty of the bank will default within one year.

Rating: assessment by a ratings agency (Moody's, Fitch Ratings, Standard & Poor's, etc.) of an issuer's financial solvency risk (company, government or other public institution) or of a given transaction (bond loan, securitisation, covered bond). The rating has a direct impact on the cost of raising capital. (Source: Bank of France Glossary - *Documents et Débats* - No. 4 - May 2012)

Re-securitisation: securitisation of an already securitised exposure where the risk associated with underlyings is divided into tranches and, therefore, at least one of the underlying exposures is a securitised exposure.

Residential Mortgage-Backed Securities (RMBS): see "Securitisation".

Return On Equity (ROE): ratio between the net income restated for interest on hybrid securities recorded under equity instruments and restated book equity (especially hybrid securities), which enables return on capital to be measured.

Risk appetite: level of risk by type and by business line, which the Group is prepared to take on with regard to its strategic objectives. Risk appetite is derived using both quantitative and qualitative criteria. Exercising risk appetite is one of the strategic steering tools available to the Group's decision-making bodies.

Risk Weight: percentage of weighting of exposures which is applied to a particular exposure in order to determine the related risk-weighted asset.

RWA – Risk-Weighted Assets: risk-weighted outstanding balances or risk-weighted assets; exposure multiplied by its risk weighting.

Securitisation: transaction that transfers a credit risk (loan outstanding) to an organisation that issues, for this purpose, tradable securities to which investors subscribe. This transaction may involve a transfer of outstanding (physical securitisation) or a transfer of risk only (credit derivatives). Securitisation transactions may, if applicable, enable securities subordination (tranches).

The following products are considered as securitisations:

- **ABS**: Asset-Backed Securities;
- **CDO**: Collatelalised Debt Obligation, a debt security backed by an asset portfolio (bank loans (residential) or corporate bonds). Interest and principal payments may be subordinated (tranche creation);
- **CLO**: Collateralised Loan Obligation, a CDO backed by an asset portfolio of bank loans;
- **CMBS**: Commercial Mortgage-Backed Securities, a debt security backed by an asset portfolio of corporate real estate loans leading to a mortgage;
- **RMBS**: Residential Mortgage-Backed Securities, a debt security backed by an asset portfolio of residential mortgage loans.

Share: equity stake issued by a company in the form of shares, representing a share of ownership and granting its holder (shareholder) the right to a proportional share in any distribution of profits or net assets as well as a right to vote in a General Meeting of Shareholders.

SIFI (Systemically Important Financial Institution): the Financial Stability Board (FSB) coordinates all of the measures to reduce moral hazard and risks to the global financial system posed by Globally Systemically Important Financial Institutions (G-SIFI). These banks meet criteria defined in the Basel Committee rules included in the document entitled "Global systemically important banks: Assessment methodology and the additional loss absorbency requirement" and published as a list in November 2011. This list is updated by the FSB each November (29 banks to date).

Stressed Value at Risk (SVaR): identical to the VaR approach, the calculation method consists of a "historical simulation" with "one-day" shocks and a 99% confidence interval. Unlike the VaR, which uses 260 scenarios of daily variation year-on-year, the stressed VaR uses a fixed one-year window that corresponds to a historical period of significant financial tensions.

Structural interest rate and exchange rate risks: risk of losses of interest margin or value of the fixed rate structural position arising from variations in interest or exchange rates. Structural interest rate and exchange rate risks arise from commercial activities and from transactions entered into by the Corporate Centre.

Structured issue or structured product: a financial instrument combining a bond product and an instrument (an option for example) providing exposure to all types of assets (equities, currencies, interest rates, commodities). Instruments can include a total or partial guarantee in respect of the invested capital. The term "structured product" or "structured issue" also refers to securities resulting from securitisation transactions, where holders are subject to a ranking hierarchy.

Tier 1 capital: comprises Common Equity Tier 1 capital and Additional Tier 1 capital. The latter corresponds to perpetual debt instruments, with no incentive to redeem, less prudential deductions.

Tier 1 ratio: ratio between Tier 1 capital and risk-weighted assets.

Tier 2 capital: supplementary capital consisting mainly of subordinated notes less prudential deductions.

Total capital ratio: ratio between total (Tier 1 and Tier 2) capital and risk-weighted assets.

Treasury shares: shares held by a company in its own equity through one or several intermediary companies in which it holds a controlling share either directly or indirectly. Treasury shares are devoid of voting rights and are not included in the calculation of earnings per share.

Value at Risk (VaR): composite indicator used to monitor the Group's daily market risk exposure, notably for its trading activities (99% VaR in accordance with the internal regulatory model). It corresponds to the greatest risk calculated after eliminating the top 1% of most unfavourable occurrences observed over a one-year period. Within the framework described above, it corresponds to the average of the second and third largest losses computed.

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