SOCIETE GENERALE LUXEMBOURG

PILLAR 3 2019

RISK REPORT

SOCIETE GENERALE

Societe Generale Luxembourg
11 Avenue Emile Reuter
L-2420 Luxembourg

Pillar 3 on 31 December 2019 positions

R.C.S. Luxembourg: B 006.061

CONTENTS

FOREWORD

The purpose of this Report is to provide Pillar 3 disclosures for Societe Generale Luxembourg (hereafter “SG Luxembourg” or “the bank”) as required by the regulatory framework for capital & liquidity pursuant to Part Eight of the “Regulation (EU) No 575/2013 on prudential requirements for credit institutions and investment firms” (Capital Requirements Regulation, or “CRR”).

In line with Article 13 (1) from the CRR, significant subsidiaries and those subsidiaries which are of significance for their local market are required to disclose information to the extent applicable in respect of own funds, capital requirements, capital buffers, credit risk adjustments, remuneration policy, leverage and use of credit risk mitigation techniques on an individual or sub-consolidated basis. Being of a part of Société Générale Group (hereafter “SG Group”), SG Luxembourg has been identified as significant subsidiary for the Group and hence required to provide additional disclosure requirements in accordance with Article 13 from the CRR.

The information presented in this document gives a comprehensive description of Societe Generale Luxembourg’s Risk Management organization, along with a quantitative and qualitative overview of Societe Generale Luxembourg’s risk exposure at year-end 2019. In addition, the Pillar 3 disclosure report also includes the information on:

- The European Banking Authority (EBA) Guidelines on disclosure of encumbered and unencumbered assets (EBA/GL/2014/03);
- The Commission Implementing Regulation (EU) 1423/2013 laying down implementing technical standards with regard to disclosure of own funds requirements for institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council;
- The European Banking Authority (EBA) Guidelines on materiality, proprietary and confidentiality and on disclosure frequency under Articles 432(1), 432(2) and 433 of Regulation (EU) No 575/2013 (EBA/GL/2014/14);
- The Commission Delegated Regulation (EU) 2015/1555 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for the disclosure of information in relation to the compliance of institutions with the requirement for a countercyclical capital buffer in accordance with Article 440;
- The Commission Implementing Regulation (EU) 2016/200 laying down implementing technical standards with regard to disclosure of the leverage ratio for institutions, according to Regulation (EU) No 575/2013 of the European Parliament and of the Council;
- The European Banking Authority (EBA) Guidelines on disclosure requirements under Part Eight of Regulation (EU) No 575/2013 (EBA/GL/2016/11);
- The European Banking Authority (EBA) Guidelines on LCR disclosure to complement the disclosure of liquidity risk management under Article 435 of Regulation (EU) No 575/2013 (EBA/GL/2017/01);
- The European Banking Authority (EBA) Guidelines on disclosure of non-performing and forborne exposures (EBA/GL/2018/10).

Following paragraph 32 from EBA/GL/2016/11, SG Luxembourg has decided to publish the Pillar 3 disclosure report on an annual basis on its website. This reflects its status as a subsidiary of SG Group where a significant number of clients and counterparties are directly exposed to both SG Luxembourg and SG Group and therefore they would mainly rely on the SG Group disclosures. In addition, the risk processes are aligned between SG Luxembourg and the Group.

1. KEY FIGURES

The risk report provides in-depth information on the approach and strategy for managing its equity capital and risks of Societe Generale Luxembourg.

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

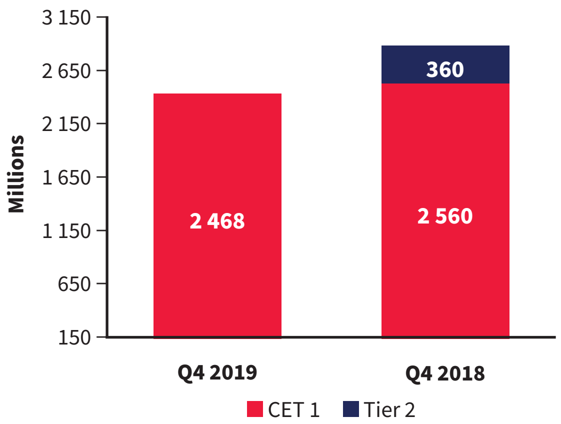
SUMMARY PROFIT AND LOSS[1]

(in EUR thousand)	31 December 2019	31 December 2018
Net banking income	744 992	767 659
Cost of risk[2]	7 497	(7 506)
Net income for the period	283 445	296 557
Net income for the period / total assets	0.24%	0.29%

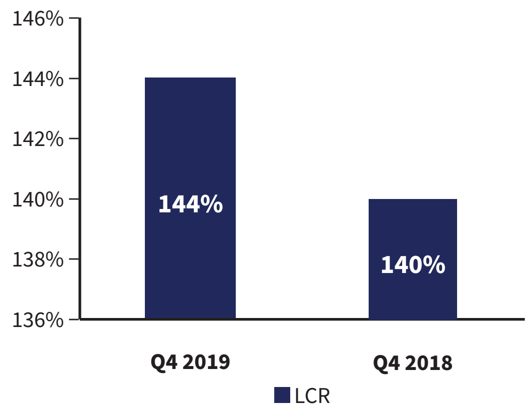
SUMMARY BALANCE SHEET[1]

(in EUR thousand)	31 December 2019	31 December 2018
Total Assets	117 040 600	101 277 209
Total Liabilities	113 961 818	98 114 888
Total Equity	3 078 782	3 162 321

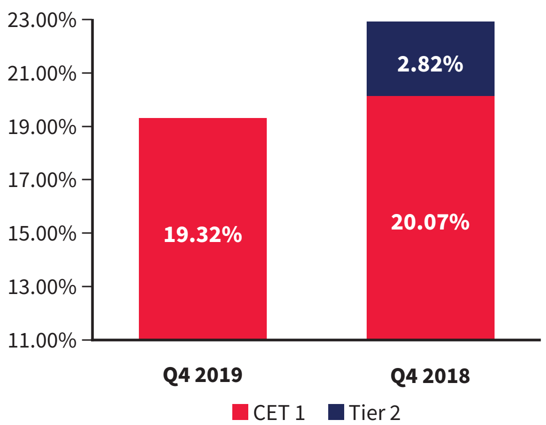
OWN FUNDS



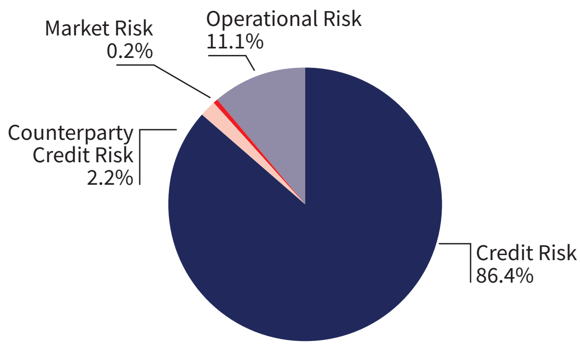
LCR RATIO



SOLVENCY RATIO



RWA BY RISK TYPE



(1) As per consolidated financial statements.

(2) A negative cost of risk implies a positive impact on the PnL of the cost of risk. In 2019, specific provision was reversed.

2. GOVERNANCE AND RISK MANAGEMENT ORGANIZATION

In accordance with Regulation CRR 575/2013 of the European Parliament and of the Council dated 26 June 2013 and with the CSSF circular 17/673, this report, published under the responsibility of Societe Generale Luxembourg Group Authorised Management, sets out the quantitative and qualitative information required on own funds and risk management within SG Luxembourg Group, to ensure transparency vis-à-vis 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 SG Luxembourg Group Risk Appetite Framework and SG Luxembourg Group Risk Appetite Statement.

SG Luxembourg Group is part of Société Générale Group (SG Group) and as such SG Luxembourg risk profile is integrated into the monitoring performed by SG Group. The risk profile and governance of SG Group is detailed in a separate Pillar 3 report published on the website of SG Group. On a consolidated basis, exposures towards SG Group represent about 70% of total exposures which in the various tables of Chapter 4 Credit Risk primarily relate to exposures to “Institutions”.

2.1 INTRODUCTION

A strong risk culture is an integral part of the corporate culture. The identity of SG Group and SG Luxembourg Group are built around four values: teamwork, innovation, commitment and responsibility. The SG Luxembourg Group strives for all staff to adopt these values and conduct their business with ethics and responsibility. These elements of culture and expected behaviours are criteria incorporated into the entire HR process (recruitment, performance assessment, promotion, compensation, penalties, etc.). The notion of risk specific to a function is explicitly included in each job description sent to employees and is emphasized when setting objectives.

2.2 TYPES OF RISKS

SG Luxembourg Group’s business model involves the following main risk categories:

- **Credit and counterparty risk (including concentration effects)** is the risk of losses arising from the inability of 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** is the 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, and the price of securities (equity, bonds), commodities, derivatives and other assets.
- **Operational risk** is the risk of losses resulting from inadequacies or failures in processes, personnel or information systems, or from external events.
- **Structural interest and exchange rate risk** is the risk of losses of interest margin or of the value of the fixed-rate structural position due to changes in interest or exchange rates. Structural interest and exchange rate risks arise from commercial activities and from corporate centre transactions.
- **Liquidity risk** is the inability to meet financial obligations at a reasonable cost. Funding risk is the risk of being unable to finance the development of activities in line with commercial objectives and at a competitive cost.
- **Non-compliance risk** (including legal and tax risks) is the risk of court-ordered, administrative or disciplinary sanctions, or of material financial loss, due to failure to comply with the provisions governing activities.

- **Reputational risk** is the risk arising from a negative perception on the part of customers, counterparties, shareholders, investors or regulators that could negatively impact the ability to maintain or engage in business relationships and to sustain access to sources of financing.
- **Risks related to insurance activities:** through its reinsurance subsidiary (SG Re), SG Luxembourg is exposed to risks related to this business, mainly balance sheet management risks (interest rate, valuation, counterparty and foreign exchange risk).

2.3 RISK APPETITE

Risk appetite is the level of risk that SG Luxembourg Group is prepared to bear in the course of pursuing its strategic objectives. It is formalised in the risk appetite statement document, which describes the principles, policies and metrics that set the risk appetite. The definition of the risk appetite framework and how to adapt it are under the oversight of the Authorised Management. The Authorised Management regularly ensures compliance with the risk appetite framework and is responsible for ensuring the effectiveness and integrity of the risk appetite implementation mechanism.

The SG Luxembourg's Board of Directors approves annually the risk appetite governance, implementation and adaptation mechanism. The Board is regularly informed through the Risk and Compliance Committee of the risk appetite framework and whether the mechanism is operating appropriately based on periodic assessments by the Internal Audit Division. The Board also sets the compensation of the Authorised Management and decides on the principles of the compensation policy, in particular for regulated persons whose activities may have a significant impact on the bank's risk profile and ensures that they are in keeping with risk management objectives. The risk appetite exercise is shared with the various business lines and performed in a manner consistent with objectives, budget procedures and limits. It is also shared with the Finance and Risk Divisions of SG Group. The scope of the risk appetite framework matches the consolidated prudential scope in force for establishing its various regular disclosures to the ECB and the CSSF. Risk appetite in relation to the major risks to which SG Luxembourg Group is exposed is regulated by limits and thresholds. These metrics aid in reaching financial targets and orienting the profitability profile.

2.4 RISK MAPPING FRAMEWORK AND STRESS TESTS

The risks to which SGBT Group is exposed are each covered The risks to which SG Luxembourg Group is exposed are each covered by measurement elements standardized at SG Group level and/or by regulations. The Risk Division's information system for monitoring loans relies on a regular reconciliation of commitments, collateral and internal credit limits. This credit risk architecture is regularly upgraded and maintained according to the project and development maintenance catalogues of the Risk Division to ensure risk monitoring and regulatory requirements. The liquidity and exchange rate risk monitoring mechanism, which is based on SG Group reporting tools and calculators, is linked to the same architecture to ensure consistency between the risk and finance functions and the managed indicators. Oversight of operational risk is primarily provided via the use of an SG Group community tools for entering, reporting and consolidating information, including incidents, permanent monitoring and action plans.

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. They are used to help identify, assess and manage risk, and to evaluate SG Luxembourg Group's capital adequacy with regard to risks. Accordingly, they are an important indicator of the resilience of SG Luxembourg Group and its activities and portfolios, and a core component in the definition of its risk appetite. SG Luxembourg Group's stress test framework covers credit risk, market risk, operational risk, liquidity risk and structural interest rate and exchange rate risks. Stress tests are based on extreme but plausible hypothetical economic scenarios defined by SG Group's economists. These scenarios are translated into impacts on SG Luxembourg Group's activities, taking into account potential countermeasures and systematically combining quantitative methods with an expert assessment (risk, finance or business lines). As such, the stress test framework in place includes an annual global stress test, which is integrated into the budget process as part of preparing SG Luxembourg Group's Risk Appetite and Internal Capital Adequacy Assessment Process (ICAAP). It is used in particular to check SG Luxembourg's compliance with prudential ratios. It covers all of SG Luxembourg Group's activities and is based on two global three-year-horizon macroeconomic scenarios: a core budgetary macroeconomic scenario and a macroeconomic scenario of severe but plausible stress extrapolated on the basis of the core scenario. Each scenario is developed for a large number of countries or regions and incorporates a series of economic and financial variables. Each global scenario is consistent on two levels: consistency between national scenarios and consistency of trends in national aggregates for each individual country.

The core scenario is meant to represent the most likely course of events at the time of its formulation. It is developed on the basis of a series of observed factors, including the recent economic situation and trends in economic (budgetary, monetary and 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.

The stressed scenario is intended to simulate a loss of business (based on real GDP figures) deviating from the core scenario, on a scale similar to that observed during a past baseline recession chosen for its severity. It is a systematic stress scenario, meaning it is constant in scale from one period to the next, whatever the trajectory forecast by the core scenario, as long as the baseline recession remains constant. The stress scenario is also generic, in that its triggering event is not specified. The impact of the stress scenario on the other economic and financial variables is determined by measuring its deviation from the core scenario.

It has to be noted that the impact of Covid-19 crisis was not embedded in the scenarii used by the bank for the time being. It will be in the future ones.

2.5 RISK PLAYERS AND MANAGEMENTS

As of 31 December 2019, the specialized committees of the Board were:

Board of directors

Risk & Compliance Committee	Audit & Accounts Committee	Remuneration Committee	Nomination & Internal Governance Committee

- **Audit and Accounts Committee:** this committee's mission monitors and controls the preparation of accounting and financial information, the independence of the statutory auditors, and the monitoring of the effectiveness of the internal control, risk management and internal audit systems, with regard to the procedures for the preparation and processing of the accounting and financial information. It gives recommendations and advice on such matters to the Board of Directors;
- **Risk and Compliance Committee:** this committee advises the Board of Directors on the overall strategy of the Group and its appetite regarding all types of risks, and assists in verifying the sound implementation of this strategy, examining the quality and effectiveness of the risk monitoring framework;
- **Remuneration Committee:** this committee prepares the decisions of the Board of Directors concerning compensation, especially compensation related to directors, the executive officers and other having a significant impact on the Group's risk profile and risk management;
- **Nomination and Internal Governance Committee:** this committee identifies and recommends future company officers (directors and executive officers) to the Board of Directors. It periodically examines the policies of the Board of Directors regarding selection and appointment, and proposes a target in respect of the balanced representation of women and men at the Board. Moreover, it aims at implementing and supervising key internal governance principles within the Bank and its subsidiaries.

Oversight of internal control and risk management is also exercised by a number of additional committees directly chaired by Authorized Management:

- **The Finance Committee** which defines SG Luxembourg Group's financial strategy and ensures the steering of scarce resources (capital, liquidity, balance sheet and fiscal capacity), their allocation, and the monitoring of structural risks.
- **The Internal Control Coordination Committee** which manages the consistency and effectiveness of the internal control mechanism as a whole.
- **The IS Security Committee** which defines and follows SG Luxembourg Group's: security policy strategy and governance, data leakage, security and security incidents reporting, prioritization of actions based on risk assessments, optimization of capital allocated to Information Security and all other areas essential to the management of security policy. It also ensures consistency with SG Group projects and the defined SG Group strategy.

The main Divisions in charge of risk managements are:

The Risk Division whom main responsibilities are to contribute to the development of SG Luxembourg's activities and profitability by defining its risk appetite (broken down by business) under the aegis of the Authorized Management and in collaboration with the Finance Division and Core Businesses, and to establish a risk management and monitoring system. In exercising its functions, the Risk Division reconciles independence from the business lines and close cooperation with the Core Businesses, which bear primary responsibility for the transactions that they initiate. Accordingly, the Risk Division oversees the risk function hierarchically or functionally. To this end, the Risk Division is responsible for setting the risk appetite; identifying all risks; implementing a governance and monitoring system for these risks, including cross-business risks, regularly reporting on their nature and extent to Authorized Management, the Board of Directors and the supervisory authorities; contributing to the definition of risk policies, taking into account the aims of the business lines and the relevant risk issues; defining and validating risk analysis, assessment, approval and monitoring methods and procedures; validating transactions and limits proposed by business managers; defining and validating the risk monitoring information system; and ensuring its suitability for the needs of the businesses.

The Risk Division manages:

- Credit risk through a process shared across all business units that ensures the authorisation of risk taking and controls of the risk. The main components of this mechanism are a prior analysis of the risk by a credit risk monitoring unit followed by an approval process procedure of any risk taking, and complemented by daily, monthly and quarterly reviews of compliance with risk taking limits and the suitability of collateral;
- Operational risk through a second-level of supervision which defines, challenges and controls the first line of defence which is part of business lines. A set of indicators and exercises guarantees the resilience of the bank: an annual exercise aimed at risk assessment and mapping, a set of key risk indicators; a mechanism for collecting and tracking operational risk incidents; a crisis management and business continuity mechanism;
- Market risk through the daily monitoring of risk metrics (primarily the Value at Risk and Stressed Value at Risk) in order to ensure exposures remain within limit levels approved by the bank's Board.
- Supervision of ALM Risk (IRRBB Risk and Liquidity Risk) as second line of defense (cf. below)

The Compliance Division is responsible for compliance and ensures that banking and investment activities are compliant with all laws, regulations and ethical principles applicable to them. It also manages reputational risk. Compliance risk management includes dedicated procedures related to:

- anti-money-laundering and terrorism financing;
- adherence to rules of conduct and investor protection (professional ethics and personal ethics);
- financial market ethics;
- reputation risks (cross-border activities, complaints, tax compliance, etc.)

Furthermore, the compliance function is in charge of overseeing the annual assessment of exposure to compliance risks, which consists of a granular assessment of intrinsic regulatory risks and the means implemented to bring them under control. This assessment is supplemented by an annual risk assessment exercise related to sanctions and embargoes.

The Finance Division is in charge of:

- Liquidity and refinancing risk: Various indicators are produced to track liquidity risk and thereby ensure that the risk assumed remains consistent with the framework set by management. These indicators cover different aspects of liquidity risk management: independence from financing not related to commercial activity, the business-as-usual liquidity situation, and liquidity in a period of stress. These indicators are enforced either by regulatory limits (to which SG Luxembourg adds a safety buffer) or by internal limits, discussed and set jointly by the central teams. Likewise, the ALM behavioural models for liquidity and interest rates are reviewed annually and centrally validated by those same teams. Oversight of the indicators is provided by teams including ALM and cash flow. Level 1 control is provided by a local team. Level 2 monitoring is carried out jointly by the Finance Division and Risk Division of SG Luxembourg Group and the SG Group.
- Interest rate risk and foreign exchange risk: interest rates and foreign exchange risk influence assets and profitability, as markets exhibit fluctuations. In the SG Luxembourg Group, the monitoring of interest rate risk and foreign exchange risk is centrally delegated to two different teams based on whether the transactions are categorised as structural or market.

Three different bodies ensure the second line of defence (LOD2) function regarding the liquidity risk as well as the interest rate and the foreign exchange risks on the banking book:

- The Risk Division of SG Luxembourg is in charge of the overall follow up of the activity, including the second level monitoring of liquidity metrics, participation on all asset and liabilities management committees, participation in the model and limit definition process;
- The Risk Division of SG Group has as primary role to review and validate liquidity models ans limits, and they have the necessary expertise to reach this goal. More generally, they are also entitled to define, for the whole perimeter of SG Group, the framework for liquidity risk management and to centralize the review of the liquidity risk metrics;
- The Second Level Control function within SG Luxembourg is in charge to review and to assess, following an annual control schedule, the permanent control framework of the bank. In this context, they perform notably deep controls on the quality of the liquidity metrics and on the production process.

The governance and organisational principles of the Internal Audit Department have been formalised through the Directive DI. 10380 dated July, 31st, 2018 regarding the organisation of internal governance of the SG Luxembourg Group and the Directive no. DI-10020 dated June 6th, 2019 regarding the organisation of the internal control system within the SG Luxembourg Group. The Audit Charter sets out the rules of the Internal Audit function in terms of objectives, obligations and powers. The Board of Directors approved the updated Audit Charter on January 31st, 2019.

The Internal Audit Department is an independent and objective function to assess the effectiveness of the organisation in terms of risk management, including the governance, in order to allow the Authorised Management and the Board of Directors to have a clear understanding of the activities and its risks and to protect the Bank's reputation. Internal Audit covers all SG Luxembourg Group activities and entities and can focus on all aspects of their operations without exceptions. Through its assignments, Internal Audit evaluates the quality of risks management, the robustness and effectiveness of the first and second lines of defence, as well as the management risk awareness and compliance with codes of conduct and expected professional practices.

2.6 INTERNAL CONTROL

Internal control is part of a regulatory framework, 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. These principles are completed by EBA's recommendations and CSSF's circulars.

Within SG Luxembourg Group, these principles are applied through directives, procedures, instructions and dedicated committees defined at SG Luxembourg Group level to comply with all regulatory requirements. Coherence is ensured with the general framework defined by SG Group's internal control, the SG Group Audit Charter, and other frameworks relating to the management of credit risks, market risks, operational risks, structural interest rate, exchange rate and liquidity risks, compliance control and reputational risk control.

Control is based on a body of standards and procedures.

All SG Luxembourg Group's activities are governed by rules and procedures covered by a set of documents referred to collectively as the "Normative Documentation". This documentation includes any documents:

- setting forth rules for action and behaviour applicable to 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 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 Authorised Management.

The internal control system is organised according to the "three lines of defence" model in accordance with the texts of the Basel Committee:

- The first line of defence includes all 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 of 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 divisions.

  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 oversee that they are effectively implemented; they conduct second-level permanent control over all of the risks, employing the controls they have established or that have been established by 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. This division carries out internal audits that are strictly independent of the business lines and the permanent control function.

In order to coordinate the three lines of defence, two kinds of Internal Control Coordination Committee are in place formed under the Authorised Management of SG Luxembourg. These committees are decision-making body that eventually makes recommendations, initiates and follows action plans, and observations of inadequacy or dysfunction.

The objective of these Committees is to ensure the overall consistency of the control system by means of a cross-disciplinary approach to the topics.

These two types of Committees are:

- ICCC (Internal Control Coordination Committee) with a Business Unit/ Support Unit's focus and,
- ICCCG (Internal Control Coordination Committee Group) with a global focus on SG Luxembourg/subsidiaries.

3. CAPITAL MANAGEMENT AND ADEQUACY

3.1 THE REGULATORY FRAMEWORK

The Basel Committee, mandated by the G20, defined the new rules governing capital and liquidity aimed at making the banking sector more resilient. The so-called Basel 3 rules were published in December 2010. They were translated into European law by a directive (CRD4) and a regulation (CRR) which entered into force on 1st January 2014.

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 associated capital requirements, according to standard or more advanced methods;
- Pillar 2 relates to 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 with regard to 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.

Throughout 2019, SG Luxembourg Group complied with the minimum ratio requirements applicable to its activities.

3.2 SCOPE OF APPLICATION – PRUDENTIAL SCOPE

SG Luxembourg Group's prudential reporting scope includes all consolidated subsidiaries, with the exception of insurance subsidiaries, which are subject to separate capital supervision (see table 1).

TABLE 1: OUTLINE OF THE DIFFERENCES IN THE SCOPES OF CONSOLIDATION (EU LI3)

Name of the entity	Method of accounting consolidation	Method of regulatory consolidation	Description of the entity
SG Life Insurance Broker	Full consolidation	Neither consolidated nor deducted	Insurance entity
SG Ré	Full consolidation	Neither consolidated nor deducted	Insurance entity
Sogelife Luxembourg	Equity Method	Neither consolidated nor deducted	Insurance entity

The above table covers all entities where the accounting and prudential consolidation are different.

TABLE 2: DIFFERENCES BETWEEN ACCOUNTING AND REGULATORY SCOPES OF CONSOLIDATION AND THE MAPPING OF FINANCIAL STATEMENT CATEGORIES WITH REGULATORY RISK CATEGORIES (EU LI1)

(in EUR 1000)	**Carrying values as reported in published consolidated financial statements**	**Carrying values under scope of regulatory consolidation (*)**
Assets		
Cash and balances with central banks	9 262 134	10 080 043
Financial assets at fair value through profit or loss	59 558 317	59 608 329
Hedging derivatives	447	447
Financial assets at fair value through other comprehensive income	3 263 281	3 263 281
Debt securities	5 412 725	5 412 725
Due from banks at amortised cost	9 495 045	10 788 227
Customers loans at amortised cost	28 357 556	26 246 464
Investment of insurances activities	527 812	–
Tax assets	11 719	11 719
Other assets	901 776	872 247
Investments accounted for using the equity method	73 531	–
Property and equipment and other intangible assets	176 257	176 253
Total assets	**117 040 600**	**116 459 735**
Liabilities		
Financial liabilities at fair value through profit or loss	59 071 898	59 071 898
Hedging derivatives	218 245	218 245
Debt securities issued	224 141	224 142
Due to banks	24 837 739	24 905 552
Customer deposits	27 852 704	27 812 327
Tax liabilities	174 747	41 441
Other liabilities	1 296 919	1 294 039
Insurance contracts related liabilities	207 893	–
Provisions	77 532	94 949
Total liabilities	**113 961 818**	**113 662 592**
Issued Capital	1 389 043	1 389 043
Reserves and retained earnings	1 381 520	1 132 230
Net income	283 445	258 342
Sub-total	**3 054 008**	**2 779 615**
Unrealised or deferred gains and losses	24 672	17 408
Sub-total equity, Group share	3 078 680	2 797 023
Non-controlling interests	102	120
Total equity	**3 078 782**	**2 797 143**
Total liabilities and equity	**117 040 600**	**116 459 735**

(*) Insurance companies are excluded from regulatory consolidation which explains differences on total of carrying values comparing with published financial statements.

3.3 REGULATORY CAPITAL

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

COMMON EQUITY TIER 1 CAPITAL

According to CRR/CRD4 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;

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

- estimated dividend payment;
- goodwill and intangible assets, net of associated deferred tax liabilities;
- unrealised capital gains and losses on cash flow hedging;
- 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;

- value adjustments resulting from the requirements of prudent valuation;
- holding of Tier 2 hybrid shares issued by financial sector entities;

ADDITIONAL TIER 1 CAPITAL

SG Luxembourg Group has no additional Tier 1 capital.

TIER 2 CAPITAL

SG Luxembourg Group has no Tier 2 capital anymore. As on December 24th, 2019, SG Luxembourg redeemed its Tier 2 subordinated debt following ECB agreement.

SOLVENCY RATIO

The solvency ratio is set by comparing the group's equity with the sum of risk-weighted assets for credit risk and the capital requirement multiplied by 12.5 for market risks and operational risks.

Since 1st January 2014, the new regulatory framework sets minimum requirements to be met for the Common Equity Tier 1 (CET1) ratio and the Tier 1 ratio.

At 1st January 2019, the Common Equity Tier 1 (CET1) requirement applicable to the SG Luxembourg Group was set to 9.0% Buffer (including Pillar 2 requirement, conservation buffer and specific systemic buffer) and Institution Specific Countercyclical Capital (0.13%).

As part of Other Systemically Important Institution (O-SII), a discretionary specific systemic buffer is applicable to SG Luxembourg Group (art.59-9 LSF). For 2019, this specific systemic buffer reach it fully loaded level of 1%.

The countercyclical buffer plays a role in determining the overall buffer requirement. The countercyclical buffer rate is set by country. Each establishment calculates its countercyclical buffer requirement by measuring 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 1st January 2016, generally lies between 0% and 2.5% by country. The countercyclical buffer requirement for SG Luxembourg Group on 31/12/2019 represents an add-on of 0.13%.

3.4 CAPITAL REQUIREMENTS

The Basel 3 Accord established the new rules for calculating minimum capital requirements in order to more accurately assess the risks to which banks are exposed. The calculation of credit risk-weighted assets takes into account the transaction risk profile based on two approaches for determining risk-weighted assets: (i) a standard method, and (ii) advanced methods based on internal models for rating counterparties.

TABLE 3: OVERVIEW OF RWAS (OV1)

(in EUR 1000)		**RWAs Q4 2019**	**RWAs Q4 2018**	**Minimum capital requirements Q4 2019**
1	Credit risk (excluding CCR)	8 484 168	8 596 251	678 733
2	*Of which the standardised approach*	*766 232*	*1 053 399*	*61 299*
4	*Of which the advanced IRB (AIRB) approach*	*7 636 726*	*7 536 424*	*610 938*
5	*Of which equity IRB under the simple risk-weighted approach or the IMA*	*81 211*	*6 429*	*6 497*
6	CCR	324 678	454 592	25 974
7	*Of which mark to market*	*317 643*	*183 888*	*25 411*
12	*Of which CVA*	*7 035*	*270 704*	*563*
13	Settlement risk	1 159	81	93
14	Securitisation exposures in the banking book (after the cap)	2 159 573	1 747 478	172 766
18	*Of which standardised approach*	*2 159 573*	*1 747 478*	*172 766*
19	Market risk	34 363	581	2 749
20	*Of which the standardised approach*	34 363	581	2 749
22	Large exposures	–	–	–
23	Operational risk	1 644 801	1 821 493	131 584
24	*Of which basic indicator approach*	*93 079*	*83 698*	*7 446*
26	*Of which advanced measurement approach*	***1 551 721***	***1 737 795***	***124 138***
27	Amounts below the thresholds for deduction (subject to 250% risk weight)	128 014	137 346	10 241
29	**Total**	**12 776 755**	**12 596 130**	**1 022 140**

3.5 CAPITAL MANAGEMENT

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

- meeting its regulatory requirement;
- maintaining its financial solidity;
- preserving its financial flexibility to finance organic growth, within SG Group risk weighted assets allocation;
- maintaining the bank's resilience in the event of stress scenarios;

SG Luxembourg Group determines its internal capital risk appetite thresholds and limits in accordance with these objectives and regulatory requirements. It 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.

At 31st December 2019, the SG Luxembourg Group's Common Equity Tier 1 ratio and the total capital ratio were at 19.32% (see chapter 3.8 for more details).

3.6 LEVERAGE RATIO MANAGEMENT

The leverage ratio is in an observation phase in order to set the minimum requirements. For the time being, SG Luxembourg Group produces its leverage ratio according to the CRR leverage ratio rules, as amended by the delegated act of 10th October 2014.

In order to meet the regulatory constraint in June 2021, SG Luxembourg Group will develop in due course an action plan ensuring a leverage exposure aligned to Tier 1 capital amount.

TABLE 4: SUMMARY RECONCILIATION OF ACCOUNTING ASSETS AND LEVERAGE RATIO EXPOSURES (LRSUM)

(in EUR 1000)

1	Total assets*	117 191 416
4	Adjustments for derivative financial instruments	6 068 297
5	Adjustment for securities financing transactions (SFTs)	2 179 370
6	Adjustment for off-balance sheet items	6 911 093
7	Other adjustments	(27 593)
8	**Leverage ratio total exposure measure**	**132 322 583**

* Based on first version of FINREP Consolidated figures that was sent to the regulator

TABLE 5: LEVERAGE RATIO COMMON DISCLOSURE (LRCOM)

(in EUR 1000)

Part 1: On-balance sheet exposures (excluding derivatives and SFTs)		
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	109 424 816
2	Asset amounts deducted in determining Tier 1 capital	(27 593)
3	Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)	109 397 224
Part 2: Derivative exposures		
4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	6 913 740
5	Add-on amounts for PFE associated with all derivatives transactions (mark- to-market method)	6 921 157
11	Total derivatives exposures	13 834 897
Part 3: SFT exposures		
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	852 860
13	Netted amounts of cash payables and cash receivables of gross SFT assets	1 326 510
16	Total securities financing transaction exposures	2 179 370
Part 4: Other off-balance sheet exposures		
17	Off-balance sheet exposures at gross notional amount	11 627 849
18	Adjustments for conversion to credit equivalent amounts	(4 716 756)
19	Other off-balance sheet exposures	6 911 093
Part 5: Capital and total exposure measure		
20	Tier 1 capital	2 468 252
21	Leverage ratio total exposure measure	132 322 583
Part 6: Leverage ratio		
22	Leverage ratio	1.87%
Part 7: Choice on transitional arrangements and amount of derecognised fiduciary items		
EU-23	Choice on transitional arrangements for the definition of the capital measure	Fully phased in
EU-24	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) No 575/2013	0

TABLE 6: SPLIT-UP OF ON BALANCE SHEET EXPOSURES (EXCLUDING DERIVATIVES, SFTS AND EXEMPTED EXPOSURES) (LRSPL)

(in EUR 1000)

EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	109 847 346
EU-2	Trading book exposures	9 169
EU-3	Banking book exposures, of which:	109 838 177
EU-5	Exposures treated as sovereigns	12 322 575
EU-6	Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	–
EU-7	Institutions	65 408 848
EU-8	Secured by mortgages of immovable properties	962 779
EU-9	Retail exposures	2 716 892
EU-10	Corporate	25 923 516
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	2 503 567

3.7 RATIO OF LARGE EXPOSURES

The CRR (European Capital Requirements Regulation) incorporates the provisions regulating large exposures. As such, the SG Luxembourg Group must not have any exposure where the total amount of net risks incurred on a single beneficiary 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 capital), as well as the introduction of a cross-specific limit on systemic institutions (15%).

On 31 December 2019 SG Luxembourg Group had no additional RWA requirements due to the large exposures framework.

3.8 APPENDIX: INFORMATION ON REGULATORY OWN FUNDS

TABLE 7: CAPITAL INSTRUMENTS' MAIN FEATURES TEMPLATE

Capital instruments main features template		Tier one instrument
1	Issuer	Societe Generale Luxembourg
2	Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)	Not applicable
3	Governing law(s) of the instrument	French law
	Regulatory treatment	
4	Transitional CRR rules	CET1
5	Post-transitional CRR rules	CET1
6	Eligible at solo/(sub-)consolidated/solo & (sub-)consolidated	Consolidated
7	Instrument type (types to be specified by each jurisdiction)	Ordinary share
8	Amount recognised in regulatory capital (in EUR million)	1389
9	Nominal amount of instrument	EUR 126
9a	Issue price	NA
9b	Redemption price	NA
10	Accounting classification	Capital
11	Original date of issuance	NA
12	Perpetual or dated	Perpetual
13	Original maturity date	No maturity
14	Issuer call subject to prior supervisory approval	NA
15	Optional call date, contingent call dates and redemption amount	NA
16	Subsequent call dates, if applicable	NA
	Coupons I dividends	
17	Fixed or floating dividend/coupon	Floating
18	Coupon rate and any related index	NA
19	Existence of a dividend stopper	NA
20a	Fully discretionary, partially discretionary or mandatory (in terms of timing)	Full discretion
20b	Fully discretionary, partially discretionary or mandatory (in terms of amount)	Full discretion
21	Existence of step up or other incentive to redeem	NA
22	Noncumulative or cumulative	NA
23	Convertible or non-convertible	NA
24	If convertible, conversion trigger(s)	NA
25	If convertible, fully or partially	NA
26	If convertible, conversion rate	NA
27	If convertible, mandatory or optional conversion	NA
28	If convertible, specify instrument type convertible into	NA
29	If convertible, specify issuer of instrument it converts into	NA
30	Write-down features	NA
31	If write-down, write-down trigger(s)	NA
32	If write-down, full or partial	NA
33	If write-down, permanent or temporary	NA
34	If temporary write-down, description of write-up mechanism	NA
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	NA
36	Non-compliant transitioned features	No
37	If yes, specify non-compliant features	NA

TABLE 8: OWN FUNDS DISCLOSURE TEMPLATE

Common Equity Tier 1 capital: instruments and reserves (in EUR 1000)		**31/12/2019**
1	Capital instruments and the related share premium accounts	1 391 860
2	Retained earnings	1 099 480
	Accumulated other comprehensive income	47 478
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**2 538 819**
Common Equity Tier 1 (CET1) capital: regulatory adjustments		
7	Additional value adjustments (negative amount)	(476)
8	Intangible assets (net of related tax liability) (negative amount)	(37 798)
11	Fair value reserves related to gains or losses on cash flow hedges	22 773
12	Negative amounts resulting from the calculation of expected loss amounts	(12 092)
25b	Regulatory adjustments applied to Common Equity Tier 1 in respect of amounts subject to pre-CRR treatment	(5 224)
	Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount)	(37 750)
28	Total regulatory adjustments to Common equity Tier 1 (CET1)	(70 567)
29	**Common Equity Tier 1 (CET1) capital**	**2 468 252**
Additional Tier 1 (AT1) capital: regulatory adjustments		
44	Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	(37 750)
45	Excess of deduction from T2 items over T2 Capital (deducted in AT1)	37 750
46	**Tier 1 capital (T1 = CET1 + AT1)**	**2 468 252**
Tier 2 (T2) capital: Instruments and provisions		
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)	(37 750)
	Excess of deduction from T2 items over T2 Capital (deducted in AT1)	37 750
57	Total regulatory adjustments to Tier 2 (T2) capital	–
58	Tier 2 (T2) capital	–
59	**Total capital (TC = T1 + T2)**	**2 468 252**
60	**Total risk weighted assets**	**12 776 755**
Amounts below the thresholds for deduction (before risk weighting)		
61	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)	51 205
Applicable caps on the lncluslon of provisions In Tier 2		
72	Cap on inclusion of credit risk adjustments in T2 under standardised approach	36 697
73	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	48 922

TABLE 9: AMOUNT OF INSTITUTION-SPECIFIC COUNTERCYCLICAL CAPITAL BUFFER

Amount of institution-specific countercyclical capital buffer (Reg (EU) 2015/1555))		*(in EUR 1000)*
010	Total risk exposure	12 776 755
020	Institution specific countercyclical buffer rate	0,129%
030	Institution specific countercyclical buffer requirement	16 482

TABLE 10: GEOGRAPHICAL DISTRIBUTION OF CREDIT EXPOSURES RELEVANT FOR THE CALCULATION OF THE COUNTERCYCLICAL CAPITAL BUFFER

		General credit exposures		Trading book exposure		Securitisation
	SG Luxembourg *31 December 2019 (in EUR 1000)*	**Exposure value for SA**	**Exposure value for IRB**	**Sum of long and short position of trading book**	**Value of trading book exposurefor internal models**	**Exposure value for SA**
		10	**20**	**30**	**40**	**50**
010	Breakdown by country					
	United Arab Emirates	–	1 271 406	–	–	–
	Armenia	–	65	–	–	–
	Marshall Islands	–	–	–	–	–
	Argentina	3 444	11 155	–	–	–
	Austria	–	8 739	–	–	–
	Australia	–	1 609	–	–	–
	Azerbaijan	–	1 701	–	–	–
	Belgium	–	354 462	–	–	–
	Bulgaria	–	3 515	–	–	–
	Bahrain	–	26 027	–	–	–
	Bermuda	–	40 060	–	–	–
	Brazil	–	39 034	–	–	–
	Bahamas	–	–	–	–	–
	Belize	–	69 342	–	–	–
	Canada	–	3	–	–	–
	Congo	–	–	–	–	–
	Switzerland	37 734	1 374 110	1 160	–	–
	Côte d'Ivoire	–	5 691	–	–	–
	Chile	–	1 440	–	–	–
	Cameroon	–	223	–	–	–
	China	11 270	192 077	–	–	–
	Costa Rica	–	–	–	–	–
	Curaçao	–	8	–	–	–
	Cyprus	–	32 931	–	–	–
	Czech Republic	–	11 654	–	–	–
	Germany	836 044	119 949	–	–	–
	Denmark	–	34 220	–	–	–
	Egypt	–	146 314	–	–	–
	Spain	–	1 105 544	–	–	–
	Finland	–	5 220	–	–	–
	France	4 278 789	3 159 106	–	–	–
	Gabon	–	66	–	–	–
	United Kingdom	440 642	748 748	–	–	–
	Guernsey	–	40 153	–	–	–
	Ghana	–	39	–	–	–
	Gibraltar	–	7 003	–	–	–
	Greece	–	11 962	–	–	–
	Hong Kong	–	23 515	–	–	–
	Hungary	–	23 333	–	–	–
	Indonesia	–	9 638	–	–	–
	Ireland	552 067	276 650	–	–	–
	Israel	–	75 183	–	–	–

exposure	Own funds requirements					
Exposure value for IRB	Of which: General credit exposures	Of which: Trading book exposures	Of which: Securitisation exposures	Total	Own funds requirement weights	Countercyclical capital buffer rate
60	70	80	90	100	110	120
–	17 999	–	–	17 999	2,64	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	317	–	–	317	0,05	–
–	183	–	–	183	0,03	–
–	38	–	–	38	0,01	–
–	7	–	–	7	–	–
–	6 113	–	–	6 113	0,9	–
–	18	–	–	18	–	0,005
–	189	–	–	189	0,03	–
–	827	–	–	827	0,12	–
–	226	–	–	226	0,03	–
–		–	–	–	–	–
–	356	–	–	356	0,05	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	46 750	93	–	46 843	6,88	–
–	30	–	–	30	–	–
–	6	–	–	6	–	–
–	1	–	–	1	–	–
–	4 340	–	–	4 340	0,64	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	863	–	–	863	0,13	–
–	49	–	–	49	0,01	0,015
–	859	–	–	859	0,13	–
–	3 546	–	–	3 546	0,52	0,01
–	863	–	–	863	0,13	–
–	43 030	–	–	43 030	6,32	–
–	44	–	–	44	0,01	–
–	260 666	–	–	260 666	38,28	0,0025
–		–	–	–	–	–
–	12 230	–	–	12 230	1,8	0,01
–	343	–	–	343	0,05	–
–	–	–	–	–	–	–
–	36	–	–	36	0,01	–
–	77	–	–	77	0,01	–
–	468	–	–	468	0,07	0,02
–	1 065	–	–	1 065	0,16	–
–	58	–	–	58	0,01	–
–	5 949	–	–	5 949	0,87	0,01
–	396	–	–	396	0,06	–

SG Luxembourg 31 December 2019 (in EUR 1000)	General credit exposures		Trading book exposure		Securitisation
	Exposure value for SA	Exposure value for IRB	Sum of long and short position of trading book	Value of trading book exposurefor internal models	Exposure value for SA
	10	20	30	40	50
Isle of Man	–	7	–	–	–
Italy	485 381	184 517	–	–	–
Jersey	–	188 338	–	–	–
Jordan	–	58 450	–	–	–
Japan	–	1 115	–	–	–
Korea, Republic of	–	1 579	–	–	–
Kuwait	–	21 150	–	–	–
Cayman Islands	–	262 354	–	–	–
Kazakhstan	–	72 547	–	–	–
Lebanon	–	87 555	–	–	–
Liechtenstein	–	28 309	–	–	–
Luxembourg	1 025 290	12 141 487	–	–	–
Latvia	–	60	–	–	–
Libya	–	18	–	–	–
Morocco	–	51 301	–	–	–
Monaco	–	1 295 942	–	–	–
Madagascar	–	1 285	–	–	–
Mauritania	–	271	–	–	–
Malta	–	94 179	–	–	–
Mauritius	–	6 982	–	–	–
Mexico	1 541	19 658	–	–	–
New Caledonia	–	12 484	–	–	–
Netherlands	320 451	625 380	–	–	–
Norway	–	144	–	–	–
Oman	–	6 743	–	–	–
Panama	–	4 085	–	–	–
Peru	–	8	–	–	–
French Polynesia	–	7 733	–	–	–
Pakistan	–	977	–	–	–
Poland	–	93	–	–	–
Puerto Rico	–		–	–	–
Portugal	–	52 552	–	–	–
Qatar	–	237	–	–	–
Romania	–	297	–	–	–
Serbia	–	804	–	–	–
Russian Federation	–	731 098	–	–	–
Saudi Arabia	–	55 234	–	–	–
Seychelles	–	30 056	–	–	–
Sweden	–	60	–	–	–
Singapore	36 324	22 073	–	–	–
Slovakia	–	1 045	–	–	–
Senegal	–	660	–	–	–
Thailand	–	3 429	–	–	–
Tunisia	–	251	–	–	–
Turkey	–	47 233	–	–	–
Ukraine	–	1 973	–	–	–
United States	194 294	1 879 950	2 464	–	–
Uruguay	–	4 536	–	–	–
Venezuela, Bolivarian Republic of	–	134	–	–	–
Virgin Islands, British	–	583 857	–	–	–
South Africa	–	1 212	–	–	–
Total	**8 223 270**	**27 823 337**	**3 624**	**–**	**–**

exposure	Own funds requirements					
Exposure value for IRB	Of which: General credit exposures	Of which: Trading book exposures	Of which: Securitisation exposures	Total	Own funds requirement weights	Countercyclical capital buffer rate
60	70	80	90	100	110	120
–	–	–	–	–	–	–
–	5 121	–	–	5 121	0,75	–
–	988	–	–	988	0,15	–
–	441	–	–	441	0,06	–
–	10	–	–	10	–	–
–	–	–	–	–	–	–
–	211	–	–	211	0,03	–
–	4 145	–	–	4 145	0,61	–
–	1 360	–	–	1 360	0,2	–
–	2 519	–	–	2 519	0,37	–
–	139	–	–	139	0,02	–
–	144 897	–	–	144 897	21,28	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	320	–	–	320	§0,05	–
–	22 409	–	–	22 409	3,29	–
–	8	–	–	8	–	–
–	1	–	–	1	–	–
–	532	–	–	532	0,08	–
–	90	–	–	90	0,01	–
–	530	–	–	530	0,08	–
–	177	–	–	177	0,03	–
–	9 758	–	–	9 758	1,43	–
–	1	–	–	1	–	0,025
–	27	–	–	27	–	–
–	152	–	–	152	0,02	–
–	–	–	–	–	–	–
–	83	–	–	83	0,01	–
–	4	–	–	4	–	–
–	–	–	–	–	–	
–	–	–	–	–	–	–
–	326	–	–	326	0,05	
–	1	–	–	1	–	–
–	5	–	–	5	–	–
–	3	–	–	3		–
–	14 671	–	–	14 671	2,15	–
–	737	–	–	737	0,11	–
–	181	–	–	181	0,03	–
–	1	–	–	1		0,025
–	667	–	–	667	0,1	–
–	8	–	–	8	–	0,015
–	3	–	–	3	–	–
–	14	–	–	14	–	–
–	1	–	–	1	–	–
–	266	–	–	266	0,04	–
–	20	–	–	20	–	–
–	54 052	197	–	54 249	7,97	–
–	38	–	–	38	0,01	–
–	1	–	–	1	–	–
–	7 748	–	–	7 748	1,14	–
–	28	–	–	28	–	–
–	**680 637**	**290**	**–**	**680 927**	**100**	**0,00129**

4. CREDIT RISKS

Credit and counterparty risk (including concentration effects) means 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 risk. It is extended to supplier risks and takes into account techniques for limiting the effects of concentration. It also incorporates settlement/delivery risk.

4.1 CREDIT RISK MANAGEMENT: ORGANIZATION AND STRUCTURE

For each business line, the risk tolerance is consistent with the decisions and orientations taken by SG Luxembourg Board of Directors and also the strategy, guidelines and practices defined by the SG Group. This risk tolerance is monitored by the Risk Division which has defined a control and monitoring system, in conjunction with the business divisions and based on the credit risk policy.

The Risk Division is responsible for:

- setting global and individual credit limits by client, client category or transaction type;
- authorizing transactions submitted by the sales departments;
- approving ratings or internal client rating criteria;
- monitoring exposures (daily, monthly, large exposures and various specific credit portfolios;
- approving specific and general provisioning policies.

In addition, a specific department performs comprehensive portfolio analyses, provides the associated reports, including those for the supervisory authorities and assumes the Risk Project steering.

The amount of exposure for each client group is assessed relative to the amount of SG Luxembourg Group's own capital under the Large Exposure approach. In addition, the SG Luxembourg Group has defined an individual concentration management policy for corporate clients. This policy relies on an internal reference table for evaluating the level of individual concentration, taking into account a consistent measure of exposure (senior unsecured equivalent exposure) and based on the duration of the commitments and the counterparty's rating. The governance rules for tracking and validating individual concentration and the approval level of threshold breaches have been validated by the Risk Committee and the Board of Directors. All of the client groups that have a high exposure level are regularly presented in the Risk Committee. This governance requires that every new transaction with a concentration greater than a specific threshold must be approved by the CEO of SG Luxembourg.

4.2 CREDIT POLICY

SG Luxembourg Group's credit policy is based on the principle that approval of any credit risk undertaking must be based on sound knowledge of the client and the client's business, an understanding of the purpose and structure of the transaction, and of the sources of repayment of the debt. Credit decisions must also ensure that the structure of the transaction will minimise the risk of loss in the event that the counterparty defaults. Furthermore, the credit approval process takes into consideration the overall commitment of the group to which the client belongs. Risk approval forms part of the SG Luxembourg Group's risk management strategy in line with its risk appetite.

The risk approval process is based on four core principles:

- all transactions involving credit risk (debtor risk, settlement/ delivery risk, issuer risk and replacement risk) must be pre-authorised;
- responsibility for analysing and approving transactions lies with the dedicated primary customer relation unit and risk unit, which examine all authorisation requests relating to a specific client or client group, to ensure a consistent approach to risk management;
- the primary customer relation unit and the risk unit must be independent from each other;
- credit decisions must be systematically based on internal risk ratings (obligor rating), as provided by the primary customer relation unit and approved by the Risk Division. The Risk Division submits recommendations on the limits which it deems appropriate for certain countries, geographic regions, sectors, products or customer types, in order to reduce risks with strong correlations. These limits form part of the Risk Appetite Exercise and are subject to approval of the Board of Directors.

4.3 RISK SUPERVISION AND MONITORING SYSTEM

Private bank activities

As mentioned above; the business line has a specific credit policy that is regularly updated and adapted to each of its entities, which specifies the practical terms for implementation. The minimisation of risk of loss and the optimisation of the profitability/capital ratio allocated to the risks is a major goal. Loan approval is primarily offered to clients who hold assets with SG Luxembourg Group, or prospects that have a real development potential for its target business. In principle, any credit exposure granted must receive a guarantee (pledge/surety/collateral), preferably drawing on financial assets and meeting criteria such that the potential risk of loss is minimal. Private banking aims for a net cost of risk goal no greater than 10 bps of exposures. The credit approach is based on the bank's operational capacity to track changes in each loan's collateral.

Loan to value is determined by applying discounts to the value of the collateralized assets based on its quality, liquidity, volatility, and diversification of assets. SG Luxembourg Group implements a monitoring mechanism for detecting degradation in collateral and if it arises defining, with its clients, measures for resolving any margin shortfall. The loan applications are also reviewed in order to assess the debtor's quality and make a decision about the transaction (background and economic justification for the financing).

The SG Luxembourg Group also offers centralized cash management services to Private banking clients which generate interbank exposures and exposures to financial institutions with respect to the conversions performed and the hedging transactions. The risk policy in the matter relies on privileged recourse to the entities of the Group for treasury activities, with limitation to the minimum of the external interbank loans (overnight and term loans); increased reinvestment with respect to central banks; close management of depositor risk in the corresponding banks (nostri accounts); and prioritised use of clearing for interbank foreign-exchange activity.

Corporate loans

The business line's credit approach is based on a case-by-case approval of the proposed arrangements and structures, from regulatory, prudential, tax, risk and accounting perspectives. As mentioned above, the credit approach is in line with a comprehensive banking relationship which disallows the approval of credit in the absence of a business relationship with SG Group. Beyond the unit credit limits for each client, counterparty, or group of clients and counterparties, SG Luxembourg Group sets limits and thresholds in terms of concentration. It pays particular attention to the concentration of its credit risks while ensuring, along several axes, that its exposures are well diversified. These thresholds are set and reviewed annually and are steered through the quarterly Risk Committee. In the event these limits and thresholds are breached, an action plan is established. The limits and thresholds are approved by the Board.

SG Luxembourg Group regularly measures industry concentrations. Sensitive industries are identified by risk rating; by a net exposure after deducting guarantees, insurance and cash collateral above €200 million; or by a decision of the Risk Committee. Industries identified as posing a concentration risk are covered by special guidance through an industry-based limit approved in the Risk Committee. The calibration of the thresholds primarily relies on measuring risk in stress tests, particularly by measuring the estimated loss to the SG Luxembourg Group equity in a stress scenario.

Monitoring of Country Risk

Country risk arises when an exposure (loan, security, guarantee or derivative) becomes liable to negative impact from changing regulatory, political, economic, social and financial conditions in the country of exposure. It includes exposure to any kind of counterparty, including a sovereign state (sovereign risk is also controlled by the system of counterparty risk limits). 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 markets. Country limits are approved annually by Authorised Management and the Board of Directors

They can be revised downward at any time if the country's situation deteriorates or is expected to deteriorate. All of SG Luxembourg Group's exposures (securities, derivatives, loans and guarantees) are taken into account by this monitoring. The country risk methodology determines an initial country of risk and a final country of risk (after the effects of any guarantees) within the country limits framework.

Credit stress tests

With the aim of identifying, monitoring and managing credit risk, the Risk Division had implemented a stress test plan, as promoted in Circular CSSF 11/506, in order to assess to what extent unfavourable elements may challenge the match between the business model (activity stress), the risk profile and the existing capacity to manage and support the risk. This exercise leads, if required, to the development and implementation of corrective action plans to guarantee the longevity of the institution.

Like global stress tests, specific stress tests draw on a core scenario and a stressed scenario, which are defined by the SG Group's sector experts and economists. The core scenario draws on an in-depth analysis of the situation surrounding the activity or the country concerned. The stressed scenario describes triggering events and assumptions regarding the development of a crisis, both in quantitative terms (changes in a country's GDP, the unemployment rate, deterioration in a sector) and qualitative terms.

Structured around the portfolio analysis function, the Risk Division teams translate these economic scenarios into impacts on risk parameters (default exposure, default rate, provisioning rate at entry into default, etc.). To this end, the leading methods are based in particular on the historical relationship between economic conditions and risk parameters. As with the global stress tests, in connection with the regulatory pillar, stress tests routinely take into account the possible effect of counterparty performance for counterparties in which the SG Luxembourg Group is most highly concentrated in a stressed environment.

As mentioned above, the impact of Covid-19 crisis was not embedded in the scenario used by the bank for the time being. It will be in the future ones.

Impairment

Impairments include impairments on groups of homogeneous assets, which cover performing loans, and specific impairments, which cover counterparties in default.

Impairments on groups of homogeneous assets are collective impairments booked for portfolios that are homogeneous and have a deteriorated risk profile although no objective evidence of default can be observed at an individual level.

These homogeneous groups include sensitive counterparties, sectors or countries. They are identified through regular analyses of the portfolio by sector, country or counterparty type.

These impairments are calculated on the basis of assumptions on default rates and loss rates after default. These assumptions are calibrated by homogeneous group based on their specific characteristics, sensitivity to the economic environment and historical data. They are reviewed periodically by the Risk Division of SG Group.

Decisions to book specific impairments on certain counterparties are taken where 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 that may be called up.

A counterparty is deemed to be in default when at least one of the following conditions is verified:

- a significant decline in the counterparty's financial position leads to a high probability of it being unable to fulfil its overall commitments (credit obligations), thereby generating a risk of loss to the bank whether or not the debt is restructured; and/or
- regardless of the type of loan (property or other), one or more receivables past due at least 90 days have been recorded (with the exception of loans restructured on probation, which are considered to be in default at the first missed payment, in accordance with the technical standard published in 2013 by the EBA relative to restructured loans); and/or
- a recovery procedure is under way; and/or
- the debt was restructured less than one year previously; and/or
- legal proceedings such as a bankruptcy, legal settlement or compulsory liquidation are in progress.

The SG Luxembourg Group applies the default contagion principle to all of counterparty's outstanding exposures. When a debtor belongs to a group, all of the group's outstanding exposures are generally defaulted as well.

4.4 IFRS9 ORGANISATION

IFRS 9 Debt instruments provisioning: general concepts

An impairment or loss allowance will be recognized for expected credit losses on debt instruments classified in financial assets at amortised cost or at fair value through equity, for lease receivables and for loan commitments and financial guarantees given. These impairments and allowances are recognised as soon as the loan is granted or as soon as the bonds are acquired, without waiting for the occurrence of an objective evidence of impairment.

The objective is to provide a gradual and phased approach to the recognition of loss allowances for credit risk symmetrically to the recognition in profit/(loss) of the credit margin included in the interest income.

The financial assets concerned will be allocated to three categories according to the gradual increase in their credit risk since initial recognition. Impairment will be booked to each of these categories as follows:

CREDIT RISK IDENTIFIED FROM INITIAL RECOGNITION ON THE FINANCIAL ASSET

RISK CATEGORIES	**STAGE 1** PERFORMING LOANS	**STAGE 2** SIGNIFICANT INCREASE IN CREDIT RISK	**STAGE 3** DOUBTFUL DEBT/ CREDIT IMPAIRED
TRANSFER CRITERIA	Initial classification in Stage 1 > *Maintained as long as there is no significant increase in credit risk*	There is a significant increase in credit risk since initial recognition on the balance sheet/more than 30 days past due	Default identified/ more than 90 days past due
CREDIT RISK MEASUREMENT	12-months expected credit losses	Lifetime expected credit losses	Lifetime expected credit losses
BASIS OF CALCULATION OF INTEREST INCOME	Gross carrying amount of the financial asset before allowance for impairment	Gross carrying amount of the financial asset before allowance for impairment	Net carrying amount of the financial asset after allowance for impairment

A significant increase in credit risk will be assessed on an instrument-by-instrument basis, but may also be assessed on the basis of homogenous portfolios of similar assets, where individual assessment is not relevant. A counterparty-based approach (applying the default contagion principle to all of the counterparty's outstanding loans) will also be possible if it gives similar results. The Group must take into account all available information as well as the potential consequences of a change in macro-economic factors so that any significant increase in the credit risk on a financial asset can be assessed as early as possible. There will be a rebuttable presumption that the credit risk on a financial asset has increased significantly when the contractual payments on this asset are more than 30 days past due. However, this 30-day late period is an ultimate indicator. The entity should use all available information (behaviour scores, "loan to value" type indicators, etc.) and apply a forward looking approach to assess whether there is a significant increase in credit risk before contractual payments are over 30 days past due. Application of IFRS 9 will not alter the definition of default currently used by the Group to determine whether or not there is objective evidence of impairment of a financial asset. An asset will notably be presumed in default if one or more contractual payments are more than 90 days past due. Impairment of groups of similar assets will be replaced by impairment calculated according to the 12-month or lifetime expected credit losses:

- A portion of the exposures on counterparties whose financial position has deteriorated since initial recognition of the financial assets, but where no individual objective indication of impairment has been identified (increase in credit risk) will be included in Stage 2 and impairment will be calculated in the amount of the lifetime ECL;
- Exposures on counterparties in economic sectors considered to be in crisis following the occurrence of loss events, or exposures on regions or countries in which an increase in credit risk has been assessed will be classified either in Stage 1 (impairment calculated in an amount equal to the 12-month ECL) or Stage 2 (impairment calculated in an amount equal to the lifetime ECL), depending on their individual credit risk and factoring in the deterioration in the sector or country from inception to the balance sheet date.

12-month expected credit losses will be measured taking into account past events, the current situation, as well as reasonable forward-looking information. Therefore, these expected losses will not be calculated according to average data observed through the cycle.

The calculation of lifetime expected credit losses will take into account historical data, the current situation, and reasonable forward-looking information on possible changes in general economic conditions, as well as relevant macroeconomic factors until contract maturity.

An impairment or loss allowance must be recognized for expected credit losses on debt instruments classified in financial assets at amortised cost or at fair value through equity, for lease receivables and for loan commitments and financial guarantees given, according to IFRS 9 standards.

The expected credit loss must be at least equal to the 12-month expected credit loss and must be adjusted to give the lifetime expected credit loss for the remaining term of the financial instrument, if there is a significant increase in credit risk since initial recognition.

Therefore the main change is the recognition of impairment on sound loans, from inception or from acquisition of the bonds.

IFRS 9 implementation principles

Since 1 January 2018, the Group has been recording provisions on performing loans under the IFRS9 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. The Group's cost of risk could be negatively impacted by a proven or anticipated deterioration in the quality of the outstanding loan portfolios or macroeconomic prospects. 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 the economic prospects. This could lead to a significant and/or not fully anticipated change in the cost of risk and therefore in the Group's results.

The methodology for calculating Stage 1 and 2 expected credit losses is based on the Basel framework, which served as the basis for selecting the methods for valuing the parameters for calculating IFRS 9 provisions (probability of default and loss given default for exposures under the A-IRB approaches, and the provisioning rate for exposures under the standardised method). The segmentation of portfolios is realized at the level of SG Luxembourg to ensure that they are consistent in terms of risk characteristics and to ensure better correlation with global and local macroeconomic variables. This new segmentation is consistent or equivalent to one defined in the Basel framework in order to ensure the uniqueness of past data on defaults and losses.

The forward-looking ECL approach (12-month/lifetime ECL) is based first and foremost on the incorporation of economic forecasts in probability of default. The main macroeconomic variable used for SG Luxembourg Group is the economic growth of each European country.

The ECL is calculated using assumptions on default rates and losses on default. It takes into account macro-economic 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 of SG Luxembourg Group.

On private banking perimeter, a simplified approach of expected credit losses calculation is deployed.

Under the simplified method, given the unavailability or lack of depth of historical data and the small size of portfolios at SG Group level, for Stage 1 exposures the ECL is estimated on the basis of a flat-provisioning rate per homogeneous risk group (pools)

This rate, reviewed quarterly by SG Group Risk department in charge with the business line, is determined based on statistical approach using PD x LGD estimated based on historical default and recovery rates per portfolio.

For Stage 2 exposures, SG Luxembourg applies an individual approach, based on an expert analysis for each counterparty or transaction. However, a floor, which corresponds to S1 provisioning rate must be applied to Private Banking Stage 2 expected credit losses.

4.5 REPLACEMENT RISK

Replacement risk, i.e. counterparty risk associated with market transactions, is a type of credit risk (potential loss in the event that the counterparty defaults). It represents the current cost to the SG Luxembourg Group of replacing transactions with a positive market value should the counterparty default. Transactions giving rise to a replacement risk are, inter alia, security repurchase agreements, securities lending and borrowing, purchase/sale transactions or foreign exchange transactions in Delivery Versus Payment (DVP) and derivative contracts such as swaps, options and futures traded over the counter or with central counterparty clearing houses (CCP).

Management of counterparty risk linked to market transactions

SG Luxembourg Group places great emphasis on carefully monitoring its credit and counterparty risk exposure in order to minimise its losses in case of default. Counterparty limits are assigned to all counterparties on the supervision of SG Group Risk Division.

The credit profile of counterparties is reviewed on a regular basis and limits are set both according to the type and maturity of the instruments concerned. The intrinsic creditworthiness of counterparties and the reliability of the associated legal documentation are two factors considered when setting these limits. Information technology systems allow both traders and the Risk Division to ensure that counterparty limits are not exceeded. Any significant weakening in the bank's counterparties also prompts urgent internal rating reviews. A specific supervision and approval process is put in place for more sensitive counterparties or more complex financial instruments.

Setting individual counterparty limits

In order to quantify the potential risk, SG Luxembourg Group uses the internal model and associated metrics of the SG Group which estimates a loss distribution. Two metrics from the loss distribution are used to monitor the risk:

- current average risk, particularly suitable for analysing the risk exposure for a portfolio of customers;
- Credit VaR (or 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.

Wrong-way risk

Wrong-way risk is the risk that occurs when the exposure-at-default to a counterparty increases when the probability that the counterparty defaults also increases.

Within SG Luxembourg Group this risk can occur mainly in its private banking activities where clients could provide collateral whose value is correlated with their own probability of default. SG Luxembourg Group limits this risk by having a limit on the percentage of collateral requirements met with collateral presenting wrong-way risk. This ensures that most of the collateral value provided is not correlated with the probability of default.

4.6 HEDGING OF CREDIT RISK

Guarantees and collateral

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

There are two main categories:

- A commitment 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 (insurers, export credit agencies or credit insurers mainly).
- Collateral can consist of physical assets in the form of property, as well as financial instruments such as cash, high-quality investments and securities, and also insurance policies. It could also include precious metal. Appropriate haircuts are applied to the value of collateral, reflecting its quality and liquidity. The SG Luxembourg Group proactively manages its risks by diversifying guarantees.

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 business divisions 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.

SG Luxembourg Group relies on on-balance sheet netting only in one subsidiary, SGIS, where in accordance with the accounting standards, IAS 32, it nets assets and liabilities where the counterparty is an entity of SG Group.

Mitigation of counterparty risk linked to market transactions

SG Luxembourg Group uses a number of techniques to manage its credit risk. With regard to counterparties dealing with market transactions, it seeks to implement master agreements with a termination clearing clause wherever it can. In the event of default, these allow netting of all due and payable amounts. These contracts usually call for the revaluation of the required collateral at regular intervals (often on a daily basis) and for the payment of the corresponding margin calls. Collateral is largely composed of cash and high-quality liquid assets, such as government bonds with a high rating. Other tradable assets are also accepted, provided that the appropriate haircuts are made to reflect the lower quality and/or liquidity of the asset.

4.7 RISK MEASUREMENT AND INTERNAL RATINGS

SG Luxembourg Group uses the internal models developed by SG Group since 2007. SG Luxembourg Group obtained the authorisation from SG Group supervisory authorities to apply the Advanced Internal Ratings-Based (AIRB) approach to most of its exposures in order to calculate the capital requirements in respect of credit risk.

Since the initial authorisation was given, the transition from the standard approach to the AIRB approach for some of its activities and exposures has been selective and marginal. Exposures treated under the Standardised approach for Credit Risk are limited and mainly correspond to SGCMF and SGFD (subsidiaries of SG Luxembourg).

Credit risk measurement for wholesale clients

SG Luxembourg Group uses the SG Group rating system for Wholesale clients, for example for exposures to Sovereign, Financial Institutions and Specialised Lending. The SG Group's credit risk measurement system, which estimates internal Basel parameters, uses a quantitative evaluation mechanism coupled with an expert opinion.

For Corporate, Banking and Sovereign portfolios, the measurement system is based on three key components:

- a counterparty rating system;
- a system that automatically assigns Loss Given Default (LGD) and Credit Conversion Factor (CCF) parameters according to the characteristics of each transaction;
- a collection of procedures setting out the rules relating to ratings (scope, revision frequency, rating approval procedure, etc.), as well as to the supervision, backtesting and validation of models. Among other things, these procedures help to support the human judgement that provides the critical scrutiny that is an essential complement to the models for these portfolios.

RATING SYSTEM

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 over more than 20 years.

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

The rating assigned to a counterparty is generally proposed by a model and then adjusted and approved by experts in the Risk function further to the individual analysis of each counterparty.

The counterparty rating models are structured in particular according to the type of counterparty (companies, financial institutions, public entities, etc.), the country, 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 counterparties and qualitative parameters that evaluate economic and strategic dimensions.

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 homogenous 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.

CCF MODELS (CREDIT CONVERSION FACTOR)

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

BACKTESTS

The performance level of the entire wholesale client credit system is measured by regular back tests that compare PD, LGD and CCF estimates with actual results by portfolio.

The compliance of this system is based on the consistency between the parameters used and the long-term trends analysed, with safety margins that take into account areas of uncertainty (cyclicality, volatility, quality of data, etc.).

The safety margins applied are regularly estimated, checked and revised if necessary. The results of back tests can justify the implementation of remedial plans if the system is deemed to be insufficiently prudent.

Credit risk measurements of retail clients

SG Luxembourg Group uses retail client credit models for its Private banking activities.

PROBABILITY OF DEFAULT MODELS

The modelling of the probability of default of retail client counterparties is carried out specifically by each of the SG Group's business lines recording its assets using the IRBA method. The models incorporate data on the payment behaviour of counterparties.

Once the counterparties have been classified into statistically distinct homogenous risk pools, the probability of default parameters are estimated by observing the average long-term default rates for each product. 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. LGD values are estimated 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 (CREDIT CONVERSION FACTOR)

For its off-balance sheet exposures, SG Luxembourg Group applies its estimates for revolving loans and overdrafts on current accounts held by retail customers.

BACKTESTS

The performance level of the entire retail client credit system is measured by regular back tests, 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 homogenous 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 the LGD, the back test consists in comparing the last estimation of the LGD obtained by computing the average level of payments observed and the value used to calculate regulatory capital.

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.

Likewise, for the CCF, the level of conservatism of estimates is assessed annually by comparing estimated draw downs to observed draw downs on the undrawn part.

TABLE 11: INTERNAL RATING SCALE [3] AND CORRESPONDING SCALES OF RATING AGENCIES

Counterparty internal rating	DBRS	Fitch Ratings	Moody's	S&P	1 year PD
1	AAA	AAA	Aaa	AAA	0.01%
2	AA high to HH low	AA+ to AA-	Aa1 to Aa3	AA+ to AA-	0.02%
3	A high to A low	A+ to A-	A1 to A3	A+ to A-	0.04%
4	BBB high to BBB low	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-	0.30%
5	BB high to BB low	BB+ to BB-	Ba1 to Ba3	BB+ to BB-	2.16%
6	B high to B low	B+ to B-	B1 to B3	B+ to B-	7.93%
7	CCC high to CCC low	CCC+ to CCC-	Caa1 to Caa3	CCC+ to CCC-	20.67%
8, 9 and 10	CC and below	CC and below	Ca and below	CC and below	100.00%

[3] The internal rating scales used by SG Luxembourg Group correspond to the scales used by SG Group.

4.8 QUANTITATIVE INFORMATION

TABLE 12: IRB (SPECIALISED LENDING AND EQUITIES) (EU CR10)

(in EUR 1000)	On- balance-sheet amount	Off-balance-sheet amount	Risk weight	Exposure amount	RWAs	Capital requirements
Exchange-traded equity exposures	22 802	–	290%	22 802	66 125	5 290
Other equity exposures	4 077	–	370%	4 077	15 085	1 207
Total	**26 879**	**–**	**–**	**26 879**	**81 210**	**6 497**

Note that SG Luxembourg Group does not have any specialized lending exposures treated under the slotting approach.

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

TABLE 13: TOTAL AND AVERAGE NET AMOUNT OF EXPOSURES (CRB-B)

		a	b
	(in EUR 1000)	Net value of exposures at the end of the period	Average net exposures over the period
1	Central governments or central banks	12 310 456	9 888 997
2	Institutions	65 512 017	66 514 957
3	Corporates	23 719 673	20 507 482
4	*Of which: Specialised lending*	*1 942 606*	*1 636 219*
5	*Of which: SMEs*	*5 323 515*	*5 329 245*
6	Retail	3 964 148	3 463 581
7	*Secured by real estate property*	*974 714*	*951 199*
8	*SMEs*	*36 086*	*7 217*
9	*Non-SMEs*	*938 629*	*943 982*
11	*Other retail*	*2 989 434*	*2 512 382*
12	*SMEs*	–	–
13	*Non-SMEs*	*2 989 434*	*2 512 382*
14	Equity	70 622	22 878
16	***Total IRB approach***	***105 576 916***	***100 397 896***
17	Central governments or central banks	12 419	14 178
18	Regional governments or local authorities	–	–
22	Institutions	7 440 951	6 812 578
23	Corporates	7 550 605	7 927 513
24	*Of which: SMEs*	***8 511***	***18 699***
25	Retail	–	–
27	Secured by mortgages on immovable property	–	–
28	*Of which: SMEs*	–	–
29	Exposures in default	–	–
35	Other exposures	749 244	781 496
36	***Total standardised approach***	**15 753 220**	**15 535 765**
37	**Total**	**121 330 136**	**115 933 661**

TABLE 14: GEOGRAPHICAL BREAKDOWN OF EXPOSURES (CRB-C)

(Net exposure in EUR 1000)		**Total Western Europe and European Union members**	**France**	**Luxembourg**
1	Central governments or central banks	12 310 456	1 380 174	8 626 577
2	Institutions	65 286 939	64 821 476	104 218
3	Corporates	19 062 422	2 584 919	12 102 919
4	Retail	2 717 804	570 311	124 315
5	Equity	70 622	70 622	–
7	***Total IRB approach***	***99 448 242***	***69 427 501***	***20 958 029***
8	Central governments or central banks	12 419	–	12 419
9	Institutions	2 802 617	2 319 993	–
10	Corporates	7 253 416	4 252 912	288 863
11	Exposures in default	–	–	11
12	Covered bonds	–	–	–
13	Other exposures	749 244	–	749 244
14	***Total standardised approach***	**10 817 697**	**6 572 906**	**1 050 527**
15	**Total**	**110 265 938**	**76 000 407**	**22 008 556**

	Other Western Europe and European Union members	Africa & Midle East	Eastern Europe excluding EU members	Latin America & Caribbean	North America & Asia Pacific	Total
	2 303 705	–	–	–	–	**12 310 456**
	361 245	36 039	109	167 451	21 479	**65 512 017**
	4 374 140	845 229	678 530	977 278	2 156 658	**23 719 673**
	2 023 178	1 033 572	103 629	18 050	91 093	**3 964 148**
	–	–	–	–	–	**70 622**
	9 062 268	***1 914 840***	***782 269***	***1 162 778***	***2 269 231***	***105 576 916***
	–	–	–	–	–	**12 419**
	482 624	–	–	–	4 638 334	**7 440 951**
	2 711 641	–	–	4 984	292 204	**7 550 605**
	–	–	–	–	–	**–**
	–	–	–	–	–	**–**
	–	–	–	–	–	**749 244**
	3 194 265	**–**	**–**	**4 984**	**4 930 539**	**15 753 220**
	12 256 533	**1 914 840**	**782 269**	**1 167 763**	**7 199 770**	**121 330 136**

TABLE 15: CONCENTRATION OF EXPOSURES BY INDUSTRY OR COUNTERPARTY TYPES (CRB-D)

	(in EUR 1000)	**Mining and quarrying**	**Manufacturing**	**Electricity, gas, steam and air conditioning supply**	**Water supply**
1	Central governments or central banks	–	–	–	–
2	Institutions	–	–	–	–
3	Corporates	395 193	762 309	22 307	34 969
4	Retail	–	–	–	–
6	Equity	–	–	–	–
7	***Total IRB approach***	***395 193***	***762 309***	***22 307***	***34 969***
8	Central governments or central banks	–	–	–	–
9	Institutions	–	–	–	–
10	Corporates	–	19 351	–	–
12	Other exposures	–	–	–	–
13	***Total standardised approach***	**–**	**19 351**	**–**	**–**
14	**Total**	**395 193**	**781 660**	**22 307**	**34 969**

	(in EUR 1000)	**Financial activities**	**Real estate activities**
1	Central governments or central banks	9 484 337	–
2	Institutions	65 508 516	–
3	Corporates	4 787 842	330 246
4	Retail	–	–
6	Equity	43 743	–
7	***Total IRB approach***	***79 824 437***	***330 246***
8	Central governments or central banks	–	–
9	Institutions	2 802 617	–
10	Corporates	6 216 095	–
11	Other exposures	–	–
12	***Total standardised approach***	**9 018 712**	**–**
13	**Total**	**88 843 149**	**330 246**

Construction	Wholesale and retail trade	Transport and storage	Accommodation and food service activities	Information and communication		Total
–	–	–	–	–		**12 310 456**
–	–	–	–	–		**65 512 017**
329 345	115 842	685 043	435 377	26 709		**23 720 116**
–	–	–	–	–		**3 964 148**
–	–	–	–	–		**70 622**
329 345	***115 842***	***685 043***	***435 377***	***26 709***	**See next table for the other categories**	***105 576 916***
–	–	–	–	–		**12 419**
–	–	–	–	–		**7 440 951**
159 600	601 531	–	–	49 625		**7 550 605**
–	–	–	–	–		**749 244**
159 600	**601 531**	**–**	**–**	**49 625**		**15 753 220**
488 945	**717 373**	**685 043**	**435 377**	**76 334**		**121 330 136**

Professional, scientific and technical activities	Administrative and support service activities	Public administration and defence, compulsory social security	Human health services and social work activities	Arts, entertainment and recreation	Other services	Total
–	–	2 809 994	16 125	–	–	**12 310 456**
–	3 485	–	–	–	16	**65 512 017**
616 185	9 472 030	–	–	4 942	5 701 335	**23 719 673**
–	–	–	–	–	3 964 148	**3 964 148**
–	–	–	-	–	26 879	**70 622**
616 185	***9 475 515***	***2 809 994***	***16 125***	***4 942***	***9 692 378***	***105 576 916***
–	–	–	–	–	12 419	**12 419**
–	–	–	–	–	4 638 334	**7 440 951**
324 808	171 955	–	–	–	7 641	**7 550 605**
–	–	–	–	–	723 876	**723 876**
324 808	**171 955**	**–**	**–**	**–**	**5 407 638**	**15 753 220**
940 992	**9 647 470**	**2 809 994**	**16 125**	**4 942**	**15 100 016**	**121 330 136**

TABLE 16: MATURITY OF EXPOSURES (CRB-E)

		a	b
		Net exposure value	
(in EUR 1000)		On demand	<= 1 year
1	Central governments or central banks	1 813 782	6 949 509
2	Institutions	15 675	56 343 816
3	Corporates	40 985	9 645 079
4	Retail	–	3 675 946
6	***Total IRB approach***	**1 870 442**	**76 614 351**
7	Central governments or central banks	–	12 419
12	Institutions	–	2 365 687
13	Corporates	–	7 075 462
22	Other exposures	–	571 140
23	***Total standardised approach***	**–**	**10 024 708**
25	**Total**	**1 870 442**	**86 639 058**

On-balance-sheet items are only reported according to requirements from EBA/GL/2016/11.

c	d	e	f
> 1 year <= 5 years	> 5 years	No stated maturity	**Total**
1 974 914	805 500	766 440	**12 310 146**
3 271 947	2 679 289	726 795	**63 037 522**
9 387 203	1 504 109	651	**20 578 026**
–	–	–	**3 675 946**
14 634 064	**4 988 898**	**1 493 885**	**99 601 640**
–	–	–	**12 419**
75	–	5 245	**2 371 007**
–	–	–	**7 075 462**
–	–	–	**571 140**
75	**–**	**5 245**	**10 030 028**
14 634 139	**4 988 898**	**1 499 130**	**109 631 668**

TABLE 17: CREDIT QUALITY OF EXPOSURES BY EXPOSURE CLASS AND INSTRUMENT (CR1-A)

		a	b	c
		Gross carrying values of		
(in EUR 1000)		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment
1	Central governments or central banks	–	12 310 466	10
2	Institutions	–	65 512 340	324
3	Corporates	66 785	23 673 517	20 630
4	*Of which: Specialised lending*	–	*1 944 202*	*1 597*
5	*Of which: SMEs*	*65 693*	*5 273 369*	*15 547*
6	Retail	*89 449*	*3 878 444*	*3 744*
7	*Secured by real estate property*	*16 701*	*960 096*	*2 083*
9	*SMEs*	–	*36 086*	–
10	*Non-SMEs*	*16 701*	*924 011*	*2 083*
11	*Other retail*	*81 354*	*2 909 742*	*1 661*
12	*Non-SMEs*	*81 354*	*2 909 742*	*1 661*
13	*Equity*	–	*70 622*	–
15	***Total IRB approach***	**156 234**	**105 445 389**	**24 723**
16	Central governments or central banks	–	12 419	–
17	Institutions	–	7 440 963	11
18	Corporates	–	7 550 610	5
19	*Of which: SMEs*	–	***8 516***	***5***
20	Other exposures	–	749 244	–
21	***Total standardised approach***	**–**	**15 753 236**	**16**
22	**Total**	**156 234**	**121 198 625**	**24 723**
23	*Of which: Loans*	*156 234*	*90 181 064*	*23 918*
24	*Of which: Debt securities*	–	*8 676*	–
25	*Of which: Off- balance-sheet exposures*	*300*	*10 740 102*	*806*

d	e	f	g
General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
–	–	10	12 310 456
–	–	324	65 512 017
–	–	20 630	23 719 673
–	–	*1 597*	*1 942 606*
–	–	*15 547*	*5 323 515*
–	–	*3 744*	*3 964 148*
–	–	*2 083*	*974 714*
–	–	–	*36 086*
–	–	*2 083*	*938 629*
–	–	*1 661*	*2 989 434*
–	–	*1 661*	*2 989 434*
–	–	–	*70 622*
–	**–**	**24 723**	**105 576 916**
–	–	–	12 419
–	–	11	7 440 951
–	–	5	7 550 605
–	–	*5*	*8 511*
–	–	–	749 244
–	**–**	**16**	**15 753 220**
–	**–**	**24 723**	**121 330 136**
–	–	*23 918*	*90 313 381*
–	–	–	*8 676*
–	–	*806*	*10 739 597*

TABLE 18: CREDIT QUALITY OF EXPOSURES BY INDUSTRY OR COUNTERPARTY TYPES (CR1-B)

		a	b	c
		Gross carrying values of		
(in EUR 1000)		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment
1	Mining and quarrying	–	395 586	393
2	Manufacturing	–	781 983	323
3	Electricity, gas, steam and air conditioning supply	–	22 311	4
4	Water supply	–	35 012	42
5	Construction	–	488 945	–
6	Wholesale and retail trade	–	717 431	58
7	Transport and storage	–	685 839	796
8	Accommodation and food service activities	–	435 781	404
9	Information and communication	–	76 337	3
10	Financial activities	–	88 844 989	1 397
11	Real estate activities	2	330 319	75
12	Professional, scientific and technical activities	–	941 815	822
13	Administrative and support service activities	–	9 647 937	466
14	Public administration and defence, compulsory social security	–	2 810 001	8
15	Human health services and social work activities	–	16 128	3
16	Arts, entertainment and recreation	–	5 000	58
17	Other services	156 232	14 963 211	19 870
18	**Total**	**156 234**	**121 198 625**	**24 723**

d	e	f	g
General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
–	–	–	**395 193**
–	–	–	**781 660**
–	–	–	**22 307**
–	–	–	**34 969**
–	–	–	**488 945**
–	–	–	**717 373**
–	–	–	**685 043**
–	–	–	**435 377**
–	–	–	**76 334**
–	–	–	**88 843 592**
–	–	–	**330 246**
–	–	–	**940 992**
–	–	–	**9 647 470**
–	–	–	**2 809 994**
–	–	–	**16 125**
–	–	–	**4 942**
–	–	–	**15 099 573**
–	**–**	**–**	**121 330 136**

TABLE 19: CREDIT QUALITY OF EXPOSURES BY GEOGRAPHY (CR1-C)

	a	b	c
	Gross carrying values of		
(in EUR 1000)	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment
Western europe	58 311	12 250 589	8 624
France	*10 724*	*75 949 909*	*3 969*
Luxembourg	*68 167*	*21 950 207*	*9 818*
Other countries	–	–	–
Africa & Midle East	17 158	1 898 169	487
Eastern Europe excluding EU members	54	782 929	715
Latin America & Caribbean areas	1 049	1 167 003	289
North America & Asia Pacific	770	7 199 819	820
Total	**156 234**	**121 198 625**	**24 723**

TABLE 20: CREDIT QUALITY OF FORBORNE EXPOSURES

		a	b	c	d
		Gross carrying amount/nominal amount of exposures with forbearance measures			
		Performing forborne	**Non-performing forborne**		
	(in EUR 1000)			Of which defaulted	Of which impaired
1	Loans and advances	3 981	2 702	2 702	2 702
2	*Central banks*	–	–	–	–
3	*General governments*	–	–	–	–
4	*Credit institutions*	–	–	–	–
5	*Other financial corporations*	–	–	–	–
6	*Non-financial corporations*	*3 981*	*1 595*	*1 595*	*1 595*
7	*Households*	–	*1 107*	*1 107*	*1 107*
8	Debt Securities	–	–	–	–
9	Loan commitments given	–	–	–	–
10	**Total**	**3 981**	**2 702**	**2 702**	**2 702**

d	e	f	g
			Net values
General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	(a+ b -c-d)[22]
–	–	8 624	12 300 276
–	–	*3 969*	*75 956 664*
–	–	*9 818*	*22 008 556*
–	–	–	–
–	–	487	1 914 840
–	–	715	782 269
–	–	289	1 167 763
–	–	820	7 199 770
–	**–**	**24 723**	**121 330 136**

e	f	g	h
Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		**Collateral received and financial guarantees received on forborne exposures**	
On performing forborne exposures	**On non-performing forborne exposures**		**Of which collateral and financial guarantees received on non-performing exposures with forbearance measures**
(7)	(1 262)	5 068	1 095
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–
(7)	*(1 250)*	*3 973*	–
–	*(12)*	*1 095*	*1 095*
–	–	–	–
–	–	–	–
(7)	**(1 262)**	**5 068**	**1 095**

TABLE 21: CREDIT QUALITY OF PERFORMING AND NON-PERFORMING EXPOSURES BY PAST DUE DAYS

	a	b	c	d	e
	Gross carrying amount/nominal amount				
	Performing exposures				
(in EUR 1000)		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days
Loans and advances	**100 230 407**	**100 182 100**	**48 307**	**156 234**	**23 056**
Central banks	*9 231 509*	*9 231 509*	–	–	–
General governments	*16 764*	*16 764*	–	–	–
Credit institutions	*64 866 540*	*64 866 540*	–	–	–
Other financial corporations	*2 609 074*	*2 609 074*	–	–	–
Non-financial corporations	*19 927 014*	*19 889 261*	*37 753*	*66 785*	*14 230*
Of which SMEs	*4 935 385*	*4 916 509*	*18 877*	*66 743*	*14 228*
Households	*3 579 506*	*3 568 952*	*10 554*	*89 449*	*8 825*
Debt securities	**8 676 014**	**8 676 014**	**–**	**–**	**–**
Central banks	–	–	–	–	–
General governments	*3 030 546*	*3 030 546*	–	–	–
Credit institutions	*518 540*	*518 540*	–	–	–
Other financial corporations	*5 126 927*	*5 126 927*	–	–	–
Non-financial corporations	–	–	–	–	–
Off-balance-sheet exposures	**10 740 102**	**–**	**–**	**300**	**–**
Central banks	–	–	–	–	–
General governments	*311*	–	–	–	–
Credit institutions	*6 794 173*	–	–	–	–
Other financial corporations	*656 236*	–	–	–	–
Non-financial corporations	*3 033 306*	–	–	–	–
Households	*256 077*	–	–	*300*	–
Total	**119 646 523**	**108 858 114**	**48 307**	**156 534**	**23 056**

f	g	h	i	j	k	l
Gross carrying amount/nominal amount						
Non-performing forborne						
Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
3 498	**60 188**	**28 673**	**36 741**	**3 964**	**115**	**156 234**
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	*8 219*	*18 190*	*22 067*	*3 964*	*115*	*66 785*
–	*8 219*	*18 190*	*22 067*	*3 964*	*115*	*66 743*
3 498	*51 969*	*10 483*	*14 673*	–	–	*89 449*
–	**–**	**–**	**–**	**–**	**–**	**–**
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	**–**	**–**	**–**	**–**	**–**	**300**
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	*300*
3 498	**60 188**	**28 673**	**36 741**	**3 964**	**115**	**156 534**

TABLE 22: PERFORMING AND NON-PERFORMING EXPOSURES AND RELATED PROVISIONS

	a	b	c	d	e	f
	Gross carrying amount/nominal amount					
	Performing exposures			Non-performing exposures		
(in EUR 1000)		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3
Loans and advances	**100 230 407**	**24 575 950**	**55 091**	**156 234**	**–**	**156 234**
Central banks	*9 231 509*	*9 243 277*	–	–	–	–
General governments	*16 764*	*16 779*	–	–	–	–
Credit institutions	*64 866 540*	*330 592*	–	–	–	–
Other financial corporations	*2 609 074*	*1 590 361*	–	–	–	–
Non-financial corporations	*19 927 014*	*9 866 379*	*31 489*	*66 785*	–	*66 785*
Of which SMEs	*4 935 385*	*4 903 897*	*31 489*	*66 743*	–	*66 743*
Households	*3 579 506*	*3 528 562*	*23 602*	*89 449*	–	*89 449*
Debt securities	**8 676 014**	**8 676 014**	**–**	**–**	**–**	**–**
Central banks	–	–	–	–	–	–
General governments	*3 030 546*	*3 030 546*	–	–	–	–
Credit institutions	*518 540*	*518 540*	–	–	–	–
Other financial corporations	*5 126 927*	*5 126 927*	–	–	–	–
Non-financial corporations	–	–	–	–	–	–
Off-balance-sheet exposures	**10 740 102**	**10 738 639**	**1 463**	**300**	**–**	**300**
Central banks	–	–	–	–	–	–
General governments	*311*	*311*	–	–	–	–
Credit institutions	*6 794 173*	*6 794 173*	–	–	–	–
Other financial corporations	*656 236*	*656 236*	–	–	–	–
Non-financial corporations	*3 033 306*	*3 032 031*	*1 275*	–	–	–
Households	*256 077*	*255 889*	*188*	*300*	–	*300*
Total	**119 646 523**	**43 990 603**	**56 554**	**156 534**	**–**	**156 534**

g	h	i	j	k	l	m	n	o
Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						**Accumulated partial write-off**	**Collateral and financial guarantees received**	
Performing exposures – accumulated impairment and provisions			**Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions**				On performing exposures	On non-performing exposures
	Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3			
(12 699)	**(13 408)**	**(413)**	**(13 152)**	**–**	**(13 152)**	**–**	**100 217 708**	**141 216**
–	–	–	–	–	–	–	9 231 509	–
(3)	(5)	–	–	–	–	–	16 760	–
(483)	(42)	–	–	–	–	–	64 866 057	–
(239)	(333)	–	–	–	–	–	2 608 836	–
(9 076)	(10 888)	(48)	(11 875)	–	(11 875)	–	19 917 938	53 333
(4 653)	(4 197)	(48)	(11 836)	–	(11 836)	–	4 930 732	53 333
(2 898)	(2 140)	(365)	(1 277)	–	(1 277)	–	3 576 608	87 882
(8)	**(8)**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
(8)	(8)	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
1 076	**1 065**	**11**	**60**	**–**	**60**	**–**	**–**	**–**
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
30	30	–	–	–	–	–	–	–
190	190	–	–	–	–	–	–	–
816	805	11	–	–	–	–	–	–
40	40	–	60	–	60	–	–	0
(11 631)	**(12 351)**	**(402)**	**(13 092)**	**–**	**(13 092)**	**–**	**–**	**141 216**

4.10 CREDIT RISK DETAIL

TABLE 23: CHANGES IN THE STOCK OF GENERAL AND SPECIFIC CREDIT RISK ADJUSTMENTS (EU CR2-A)

(in EUR 1000)	Accumulated specific credit risk adjustment with IFRS9 impact
Opening balance	**(35 717)**
Increases due to amounts set aside for estimated loan losses during the period	(4 672)
Decreases due to amounts reversed for estimated loan losses during the period	16 915
Decreases due to amounts taken against accumulated credit risk adjustments	4 084
Transfers between credit risk adjustments	(5 483)
Other adjustments	150
Closing balance	**(24 723)**

TABLE 24: CHANGES IN THE STOCK OF DEFAULTED AND IMPAIRED LOANS AND DEBT SECURITIES (EU CR2-B)

(in EUR 1000)	Gross carrying value defaulted exposures
Opening balance	**305 477**
Loans and debt securities that have defaulted or impaired since the last reporting period	86 875
Returned to non-defaulted status	44 717
Amounts written off	4 084
Other changes	187 316
Closing balance	**156 234**

TABLE 25: CRM TECHNIQUES – OVERVIEW (EU CR3)

		a	b	c	d
	(in EUR 1000)	Exposures unsecured – Carrying amount	Exposures secured – Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees
1	Total loans	90 156 245	24 819	15 489	9 330
2	Total debt securities	3 381	5 295	5 295	–
3	***Total exposures***	**90 159 627**	**30 114**	**20 783**	**9 330**
4	Of which defaulted	28 039	128 195	128 195	9 330

For the definitions of “Total loans” and “Total debt securities”, see table CR1-D.

TABLE 26: STANDARDISED APPROACH – CREDIT RISK EXPOSURE AND CRM EFFECTS (EU CR4)

		a	b	c	d	e	f
(in EUR 1000)		**Exposures before CCF and CRM**		**Exposures post CCF and CRM**		**RWAs and RWA density**	
Exposure classes		On-balance-sheet amount	Off-balance-sheet amount	On-balance-sheet amount	Off-balance-sheet amount	RWAs	RWA density
1	Central governments or central banks	12 419	–	12 419	–	–	0%
2	Institutions	2 371 007	5 069 945	2 371 007	215 805	44 299	0%
3	Corporates	7 075 462	475 144	7 075 462	237 745	61 740	0%
5	Other items	571 140	178 104	571 140	89 052	660 192	47%
6	**Total**	**10 030 028**	**5 723 192**	**10 030 028**	**542 603**	**766 232**	**3%**

TABLE 27: STANDARDISED APPROACH (EU CR5)

(in EUR 1000)		**Risk weight**						
Exposure classes		0%	20%	50%	100%	150%	Others	**Total**
1	Central governments or central banks	12 419	–	0	–	–	–	**12 419**
2	Institutions	2 365 428	221 308	75	–	–	–	**2 586 812**
3	Corporates	7 066 758	232 929	–	8 511	–	–	**7 313 207**
5	Other items	–	–	–	660 192	–	–	**660 192**
6	**Total**	**9 444 605**	**454 237**	**75**	**668 703**	**5 009**	**–**	**10 572 630**

SG Luxembourg does not rely on external ratings for the computation of RWAs therefore it did not disclose the "of which unrated" within this table as this information is not relevant. The exposures in table 19 include Counterparty Credit Risk exposures treated under the standardised approach.

TABLE 28: CREDIT RISK EXPOSURES BY EXPOSURE CLASS AND PD RANGE (EU CR6)

		a	b	c	d
(in EUR 1000)	PD scale	Original on-balance-sheet gross exposures	Off-balance-sheet exposures pre-CCF	Average CCF	EAD post CRM and post CCF
Central governments or central banks	0.00 to <0.15	12 263 330	–	1	12 263 330
	0.25 to <0.50	15 818	310	1	16 128
	0.50 to <0.75	31 008	–	1	31 008
	Subtotal	**12 310 156**	**310**	**1**	**12 310 466**
Institutions	0.00 to <0.15	62 506 645	2 430 498	1	64 937 143
	0.25 to <0.50	34 938	–	1	34 938
	0.50 to <0.75	561	–	1	561
	0.75 to <2.50	495 698	44 000	1	539 698
	10.00 to <100.00	–	–	1	–
	Subtotal	**63 037 842**	**2 474 498**	**1**	**65 512 340**
Corporates	0.00 to <0.15	9 860 456	1 236 292	1	11 096 748
	0.15 to <0.25	2 306 230	242 230	1	2 548 460
	0.25 to <0.50	1 231 171	392 589	1	1 623 759
	0.50 to <0.75	1 811 872	330 959	1	2 142 831
	0.75 to <2.50	5 322 018	940 790	1	6 088 808
	10.00 to <100.00	1	–	1	1
	100.00 (Default)	65 695	–	1	65 695
	Subtotal	**20 597 442**	**3 142 861**	**1**	**23 566 303**
Retail	0.00 to <0.15	23 292	–	1	23 292
	0.15 to <0.25	2 304 491	268 502	1	2 572 993
	0.25 to <0.50	64 169	29	1	64 198
	0.50 to <0.75	267 121	4 816	1	271 937
	0.75 to <2.50	923 143	14 275	1	937 419
	100.00 (Default)	97 454	600	1	98 054
	Subtotal	**3 679 670**	**288 222**	**1**	**3 967 892**
Total (all portfolios)		**99 625 110**	**5 905 891**	**1**	**105 357 001**

e	f	g	h	i	j	k
Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL
–	25	–	4	4 352	0.04%	0%
–	1	–	5	3 534	21.91%	0.051%
–	1	–	1	7 633	24.62%	0.10%
–	**27**	**–**	**3**	**15 519**	**0.13%**	**0.034%**
–	65	–	–	2 002 422	3.08%	0.001%
–	8	–	1	9 009	25.79%	0.089%
–	3	–	1	274	48.85%	0.197%
–	11	–	2	45 815	8.49%	0.279%
–	1	–	1	1	186.87%	9.536%
–	**88**	**–**	**1**	**2 057 522**	**3.14%**	**1.553%**
–	138	–	7	283 408	2.55%	0.022%
–	–	–	–	168 003	6.59%	0.023%
–	29	–	14	631 199	38.87%	0.097%
–	26	–	11	531 648	24.81%	0.167%
–	529	–	8	2 919 470	47.95%	0.407%
–	1	–	1	1	249.30%	12.261%
1	3	–	1	156 650	238.45%	36.597%
–	**726**	**–**	**6**	**4 690 379**	**19.90%**	**5.909%**
–	1	–	–	4 772	20.49%	0.000%
–	–	–	–	126 973	4.93%	0.023%
–	–	–	–	17 907	27.89%	0.156%
–	–	–	–	61 536	22.63%	0.152%
–	–	–	–	279 165	29.78%	0.240%
1	–	–	–	339 210	345.94%	28.460%
–	**1**	**–**	**–**	**829 563**	**20.91%**	**4.218%**
–	**842**	**0**	**3**	**7 592 983**	**7.21%**	**2.512%**

TABLE 29: RWA FLOW STATEMENTS OF CREDIT RISK EXPOSURES UNDER THE IRB APPROACH (EU CR8)

		a	b
	(in EUR 1000)	**RWA amounts**	**Capital requirements**
1	**RWAs as at the end of the previous reporting period**	**7 447 722**	**595 818**
2	Asset size	767 207	61 377
3	Asset quality	(545 499)	(43 640)
4	Model updates	–	–
5	Methodology and policy	–	–
6	Acquisitions and disposals	–	–
7	Foreign exchange movements	–	–
8	Other	(76 447)	(6 116)
9	**RWAs as at the end of the reporting period**	**7 592 983**	**607 977**

4.11 COUNTERPARTY RISK DETAIL

TABLE 30: ANALYSIS OF CCR EXPOSURE BY APPROACH (EU CCR1)

		a	b	c	d	e	f	g
	(in EUR 1000)	Notional	Replacement cost/current market value	Potential future credit exposure	EEPE	Multiplier	EAD post CRM	RWAs
1	Mark to market		14 239 481	1 342 308			15 581 789	307 695
2	Original exposure	–					–	–
3	Standardised approach		–			–	–	–
4	IMM (for derivatives and SFTs)				–	–	–	–
5	*Of which securities financing transactions*				–	–	*2 179 370*	*261 655*
6	*Of which derivatives and long settlement transactions*				–	–	*326 477*	*31 070*
7	*Of which from contractual cross-product netting*				–	–	*13 075 942*	*14 970*
8	Financial collateral simple method (for SFTs)						–	–
9	Financial collateral comprehensive method (for SFTs)						–	–
10	VaR for SFTs						–	–
11	**Total**							**307 695**

TABLE 31: CVA CAPITAL CHARGE (EU CCR2)

		a	b
(in EUR 1000)		**Exposure value**	**RWAs**
4	All portfolios subject to the standardised method	65 898	7 035
5	Total subject to the CVA capital charge	65 898	7 035

TABLE 32: IRB APPROACH – CCR EXPOSURES BY PORTFOLIO AND PD SCALE (EU CCR4)

(in EUR 1000)		a	b	c	d	e	f	g
Exposure class	PD scale	EAD post CRM	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA ensity
Institutions	0.00 to <0.15	15 291 863	0.0003	7.00	0.0311	0.130	278 354	2%
	0.25 to <0.50	745	0.0026	1.00	0.2000	1.000	165	22.10%
	0.75 to <2.50	39	0.0326	1.00	0.2000	1.000	25	64.86%
	Subtotal	**15 292 647**	**0.0118**	**9.00**	**0.1437**	**0.7100**	**278 544**	**1.82%**
Corporates	0.00 to <0.15	19 722	0.0015	10.00	0.4587	1.018	3 134	15.89%
	0.15 to <0.25	76 997	0.0020	–	0.1150	–	13 977	18.15%
	0.25 to <0.50	20	0.0054	2.00	0.7288	1.286	7	35.42%
	0.50 to <0.75	2 963	0.0053	–	0.2875	–	2 024	68.30%
	0.75 to <2.50	909	0.0229	4.00	0.3500	1.083	815	89.69%
	Subtotal	**100 610**	**0.0074**	**16**	**0.3880**	**0.6773**	**19 957**	**19.84%**
Retail	0.00 to <0.15	10 541	0.0003	–	0.1230	–	136	1.29%
	0.15 to <0.25	176 804	0.0020	–	0.1150	–	8 729	4.94%
	0.25 to <0.50	1 154	0.0034	–	0.4600	–	322	27.90%
	0.50 to <0.75	32	0.0053	–	0.2875	–	7	22.64%
	Subtotal	**188 531**	**0.0015**	**–**	**0.0762**	**–**	**9 194**	**4.88%**
Total (all portfolios)		**15 581 789**	**0.0006**	**25**	**0.05707**	**0.316**	**307 695**	**1.97%**

TABLE 33: IMPACT OF NETTING AND COLLATERAL HELD ON EXPOSURE VALUES (EU CCR5-A)

		a	b	c	d	e
(in EUR 1000)		**Gross positive fair value or net carrying amount**	**Netting benefits**	**Netted current credit exposure**	**Collateral held**	**Net credit exposure**
1	Derivatives	326 477	–	326 477	271 898	54 579
2	SFTs	2 421 467	1 584 405	837 062	837 062	–
3	Cross-product netting	13 765 044	689 101	13 075 942	13 070 481	5 462
4	**Total**	**16 512 987**	**2 273 506**	**14 239 481**	**14 179 441**	**60 041**

TABLE 34: COMPOSITION OF COLLATERAL FOR EXPOSURES TO CCR (EU CCR5-B)

	a	b	c	d	e	f
	Collateral used in derivative transactions				**Collateral used in SFTs**	
	Fair value of collateral received		**Fair value of posted collateral**		Fair value of collateral received	Fair value of posted collateral
(in EUR 1000)	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	–	5 480	–	218 252	–	–
Sovereign debt	7 217	–	10 934	–	–	–
Total	**7 217**	**5 480**	**10 934**	**218 252**	**–**	**–**

The value of collateral posted is larger than the value of collateral received because, as of 31/12/2019, SG Luxembourg Group had posted slightly under EUR 240 million of collateral to SG Group. This collateral is linked to the market value of the derivatives used by SG Luxembourg Group to hedge its risk.

5. SECURITIZATION

5.1 SECURITIZATIONS

This chapter presents information on SG Luxembourg Group's securitization activities. SG Luxembourg Group does not carry out any securitizations as a sponsor. However SGCMF (a subsidiary of SG Luxembourg) invested in securitization assets ("Assets") fully financed by deposits with a limited recourse feature. The deposits are thus reimbursed only to the extent SGCMF receives repayment under the Assets. In 2017, SGCMF has issued a first loss guarantee in favour of SGPM which covers the first loss of a portfolio of assets selected by SGCMF among those which have been purchased by SGCMF in the normal course of its business. The first loss guarantee is collateralized by a cash deposit pledged for the benefit of SGPM. If triggered the first loss guarantee could result in a maximum loss of EUR 172 766 KEUR (at 31 December 2019).

In accordance with Regulation (EU) 575/2013, this investment is subject to the Securitization framework provided by Part 3, Title II, Chapter 5 of the Regulation and by the Regulation (EU) 2017/2402 laying down a general framework for securitisation. It should be noted that there is no expectation that SG Luxembourg or any of its subsidiaries (other than SGCMF) will invest or undertake additional securitization activities.

For prudential purposes, this first loss guarantee is considered as a banking book exposure, where the bank invests in a synthetic securitization. This first loss is risk-weighted at 1250%. This thus generates total risk-weighted assets of 2 159 573 KEUR (at 31 December 2019).

5.2 ACCOUNTING METHODS

This first loss guarantee is recorded at amortized cost represented as the conclusion of a guarantee commitment together with a cash deposit whose cash flows are "Solely Payment of Principal and Interest". The guarantee commitments given are subject to an Expected Credit Loss (ECL) provision. This ECL is thus accounted under IFRS 9 upon conclusion of the commitment.

5.3 MONITORING OF SECURITIZATION RISKS

In term of risk governance, the Assets covered by the first loss guarantee are selected through a two-step mechanism:

I. at inception, Assets may be selected when SGCMF invests for the first time in a given Asset: SGCMF analyses the risks associated to the new Asset based on a traditional credit analysis and then decides that the exposure is eligible to the first loss guarantee.

II. at each renewal of the first loss guarantee, SGCMF performs an acceptance committee and decides which exposures will remain or be added to or excluded from the first loss guarantee.

Securitization risks are monitored through a quarterly portfolio review according to the rules established by SG Group based on the pool of underlying assets. The maturity is short (1-6 months) and renewable at SGCMF's initiative, allowing SGCMF to remain agile in the management of its risk profile, and be able to quickly adjust to a deteriorating credit environment if needed.

6. MARKET RISKS

Market risks are the risks 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, prices of securities (equities or bonds), commodities, derivatives and other assets. They concern all trading book transactions.

6.1 ORGANISATION

Market risk is managed through procedures that explain how and when to activate and monitor limits for SG Luxembourg independently and for its subsidiaries.

Although primary responsibility for risk monitoring naturally falls onto front office managers, the oversight mechanism also relies on independent structures.

From an organisational viewpoint, responsibility for managing market risk within SG Luxembourg Group is distributed as follows:

- Societe Generale Group's Market Risk Department establishes the risk measurement methods and control procedures, centrally handles Societe Generale Group's market risk reporting, examines and validates the limits requests from the various activities.
- The entities of SG Luxembourg Group bearing market risk (SG Luxembourg and SGPB Switzerland) have a dedicated risk team, independent from the business lines, in charge of managing risks resulting from market activities. From November 2018, this function is under the accountability of the Risk department.

The supervision of market risk primarily covers:

- The daily calculation of market risks, based on a formal and secured procedure;
- The daily monitoring of compliance with the limits notified for each activity;
- The preparation of a daily report on the use of the limits, sent to the general management of the entities concerned, to the front office and to Societe Generale Group's market risk department.

6.2 INDEPENDENT PRICING VERIFICATION

Market products are marked to market, when such market prices exist. Otherwise, they are valued using parameter-based models.

The prices provided by the counterparties are verified daily by the Risk Division comparing them to prices produced by internal models. Each internal model is independently validated by the Market Risk Department of SG Group, including the validity of the market data sources used.

6.3 METHODS FOR MEASURING MARKET RISK AND DEFINING LIMITS

The SG Luxembourg Group policy is to strictly limit market risk taking, in particular through the implementation of very low limits with regard to the SG Luxembourg Group's capital, and restrictions on the nature of instruments held.

For some entities, including SGPB Monaco, the ability to be exposed to market risk is excluded from the business model (systematic and "line to line" hedging of client operation through a symmetrical transaction concluded with SG Luxembourg). For others (SG Luxembourg and SGPB Switzerland), very low limits are set up and are strictly monitored (see below).

SG Luxembourg and subsidiaries exposed to market risk are using SG's methodology and applications to properly monitor market risk exposures. The market risk assessment is mainly based on three daily indicators, which are monitored through limits.

- The 99% Value-at-Risk (VaR) method: in accordance with the regulatory internal model, this composite indicator is used for the day-to-day monitoring of the market risks incurred by the SG Luxembourg Group in its trading activities. The method used is the "historic simulation" method, which takes into account the shocks and correlations between all markets through 1-day horizon scenarios calculated for the current year.
- A series of multifactor stress tests, both historical (three scenarios observed during Q4 2008 during the high-fluctuation post-Lehman Brothers period) and hypothetical (15 scenarios created with the bank's economists, inspired by historical scenarios (terrorist attack in the US/eurozone crisis/dollar crisis) in order to take into account exceptional market disruptions that occur once a decade. These indicators estimate the loss resulting from a severe change in market parameters over a duration that corresponds to the time needed to unwind or hedge the relevant positions. The Stress Test limit relates to the worst of these scenarios.
- An "Emerging Countries" stress test combining shocks calibrated to the history of fluctuations observed in the past. The calibration is created from the 99% quantile of the shock distribution by risk factor for each country. An aggregation by country, region, and worldwide is used to quantify the risk by geographical area. The Stress Test limit relates to the most sensitive area.

These metrics are supplemented by tracking "sensitivity" (10bp fluctuation in rates) and "nominal" indicators (foreign exchange and precious metal positions) that make it possible to manage the size of the positions. Additionally, structured product campaigns are bounded by a Stressed VaR limit, i.e. a Value at Risk calculated over an unfavourable historical period.

These indicators are bounded by a set of limits, defined and calibrated by the Risk Division in coordination with the Front Offices.

6.4 RISK-MITIGATION AND HEDGING

The hedging strategy depends on the type of activity. Only foreign exchange activity is generating market risk exposure for SG Luxembourg Group and classified in the trading book. The residual FX positions are held in case of impossibility, for Front Office, to hedge the position under convenient market conditions. These exposures are bound by very low limits so that, in case of loss occurrence, this will not have significant impact on the P&L of SG Luxembourg.

6.5 MARKET RISK CAPITAL REQUIREMENTS

SG Luxembourg Group applies the standardized approach to measure its minimum capital requirements. The breakdown of the RWAs and equivalent capital requirements are provided in the next table:

TABLE 35: MARKET RISK UNDER THE STANDARDISED APPROACH (EU MR1)

		a	b
(in EUR 1000)		**RWAs**	**Capital requirements**
1	Interest rate risk (general and specific)	384	31
2	Equity risk (general and specific)	–	–
3	Foreign exchange risk[4]	–	–
4	Commodity risk	33 979	2 718
9	**Total**	**34 363**	**2 749**

[4] SG Luxembourg Group does not have minimal capital requirements for foreign exchange rate risk because it does not meet the de minimis threshold as set by the Capital Requirements Regulation 575/2013.

7. OPERATIONAL RISKS

Operational risks correspond to the risk of losses resulting from inadequacies or failures in processes, personnel or information systems, or from external events.

7.1 OPERATIONAL RISK MANAGEMENT: ORGANIZATION AND GOVERNANCE[5]

SG Luxembourg strives to strictly limit its operational risks and participates in the approach of strengthening the management and oversight of operational risks that the Société Générale Group has had in place for several years. This approach is overseen by the operational risk department, which belongs to the Risk Division of the Société Générale.

These include, among others, the monitoring of losses and incidents, managerial supervision, Risk and Control Self Assessment, business continuity plans, the New Product Committees, and specific complementary schemes dedicated to the management of compliance risks and information system security risks.

The Operational Risk Department

The Operational Risk Department within the Societe Generale Luxembourg Risk Division (LoD2) works in close cooperation with operational risk staff in the core businesses and Corporate Divisions (LoD1).

The Operational Risk Department is part of the second line of defense and is notably responsible for:

- organising the Operational Risk function (policy and standard);
- managing schemes for first-level permanent control of SG Luxembourg and organising the managers coordinating first-level permanent control;
- designing and implementing the Group's operational risk management system, in particular: tracking and collecting system for operational incidents, challenging Risk and control Self Assessment, monitoring of controls of first line of defense (managerial supervision);
- promoting high vigilance of operational risk within the Group;
- combatting fraud;
- contributing on new product committee (NPC) and outsourced externalized supervision (OES). Process, which is under corporate secretary supervision.

The Control Department

Performing second level of permanent control following an annual plan based on a risk approach.

Their objectives are the verification of the definition and the effective performance of Level 1 permanent controls and the quantitative and qualitative review of their results and the review of the performance quality of controls and the correction of anomalies.

The department is now on corporate secretary supervision as NPC and OES.

The Business Continuity function (preparing the overall SG Luxembourg business continuity and crisis management policy, managing the policy and coordinating its implementation) and **the department in charge of Information System CyberSecurity** (information cybersecurity policy definition and governance, access management, prevention of information leaks, anonymization rules, application security definition and governance, prevention and awareness-building, particularly with respect to cybercrime) are both conduct their activities under **SG Luxembourg COO**.

[5] Non-compliance and reputational risk are presented in detail in Chapter 10.

The Operational Risk function

In addition to the Operational Risk Department, the Operational Risk function includes Operational Risk Managers (ORMs) in the business lines and Supports functions, who are generally under the authority of the different Chiefs Operational Officers. They constitute the first line of defense and are the primary stakeholders responsible for managing and monitoring their own risks. They must in particular:

- identify their own risk and ensure the implementation of the ongoing control system by assigning the necessary and sufficient resources and ensuring that employees are made aware of it;
- adapt the risk appetite within their scope of activity and incorporate it into the risk management culture;
- ensure compliance with the limits and policies set and alert the function in question and the higher-ups if those limits and policies are exceeded or ignored.

The governance is completed by:

- a NPC (New Product Committee) for approving the risk (including operational risk) of new activities or new products
- a COVADAES (Comité de Validation des Deals SSL) for approving the risk (including operational risk) of new activities or new products dedicated to the business line SSL (Structured Solution and Leasing)
- a process for validating the subcontracting and outsourcing of activities and services

These committees are under the responsibility of the Corporate Secretary and are chaired by an Authorized Director.

The decisions and conditions issued by these committees are recorded in Group tools (Impact for NPC and RAMOS for outsourcing).

This mechanism is supplemented by dedicated monitoring of the risk of the discretionary portfolio management and patrimonial engineering activities.

7.2 OPERATIONAL RISK MEASUREMENT

SG Luxembourg uses the internal models developed by SG Group. Since 2007, SG Luxembourg has used the Advanced Measurement Approach (AMA), as proposed by the Capital Requirements Directive, to measure operational risk and calculated capital needed.

Today the AMA covers more than 90% of the SG Luxembourg Group's total net banking income.

TABLE 36: OVERVIEW OF RWA ON OPERATIONAL RISK

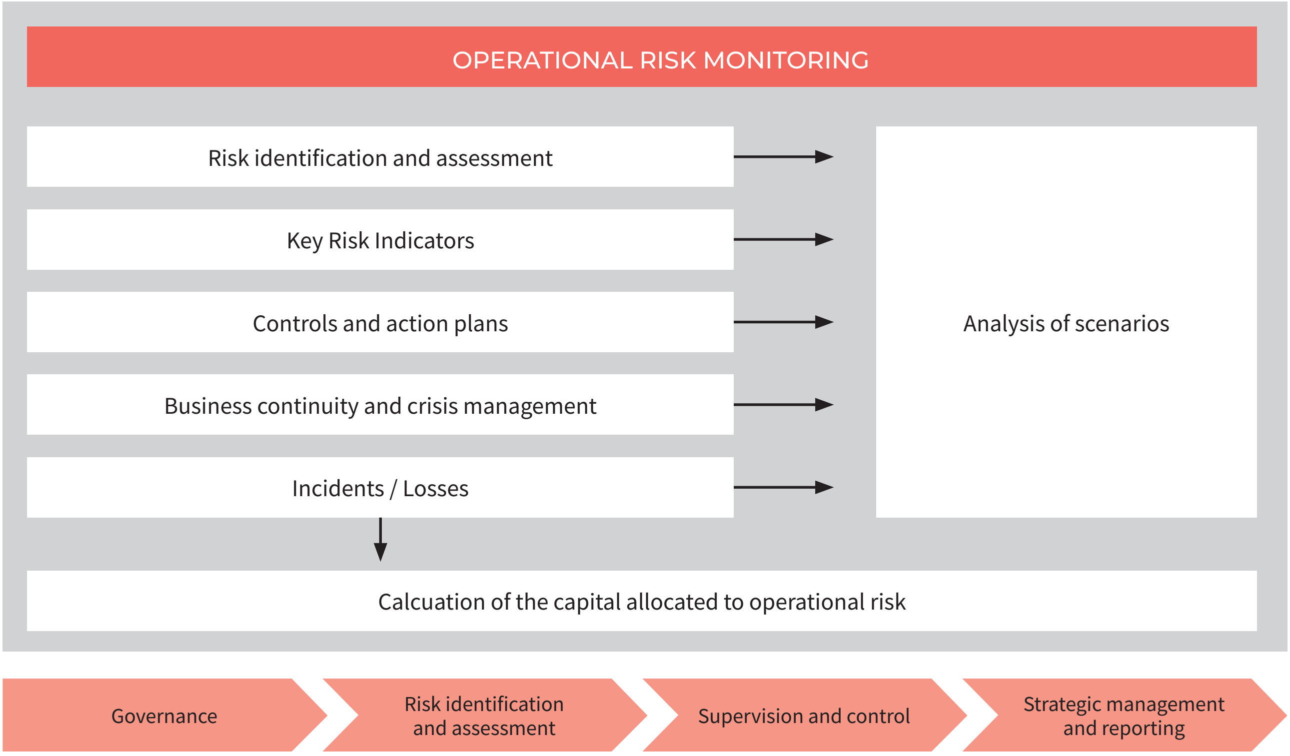
Operational risk	1 644 801
Of which basic indicator approach	93 079
Of which standardised approach	–
Of which advanced measurement approach	1 551 721

7.3 OPERATIONAL RISK MONITORING PROCESS

The frameworks specifically established by regulations have been implemented on the basis of existing procedures wherever possible.

They notably include:

- the gathering of internal data on operational risk losses;
- the analysis of external loss data (SG Group responsibility)
- the analysis of scenarios (SG Group responsibility)
- Risk and Control Self-Assessment (RCSA) processes;
- Key Risk Indicators (KRI);
- permanent second-level control;
- crisis management and business continuity planning;
- combating fraud;
- New Product Committees;
- the monitoring of external service providers



Although primary responsibility for risk management falls on the business lines and support staff, which must promote operational risk culture within their teams on a daily basis, the tracking mechanism relies mainly on four processes overseen by the operational risk departments within the Group:

The periodic Risk and Control Self-Assessment (RCSA) which aims to:

- identify and assess the intrinsic operational risks to which each activity of the Group is exposed (disregarding prevention and mitigation measures);
- assess the quality of the prevention and mitigation measures in place for reducing those risks;
- measure the risk exposure of each Group business that remains once the risk prevention and mitigation measures are taken into account (the "residual exposure"), while disregarding insurance coverage;
- implement, if warranted, corrective action plans.

Internal collection of operational risk incidents with an exhaustive, timely declaration of any gains or losses from the very first euro, providing all the information needed to analyze them while issuing corrective actions that include the degree of criticality, a deadline, and the designation of a person responsible.

Analyses of scenarios are initiated and overseen within the Risk Division of the SG Group, targeting functions and processes that are particularly sensitive within the Bank. These analyses are particularly aimed at assessing potential low-frequency but high-severity losses and contribute to the calculation of capital requirements on the Group level.

The permanent control system with leadership and coordination, over the entire scope of a set of first-and second-level controls.

First-level permanent control is defined as all of the measures taken on a permanent basis to ensure the compliance, security and validity of transactions performed at the operational level. Operational managers must exercise managerial oversight over all of their respective processes, focusing as a priority on the most significant risks and sensitive procedures, with reference to the library of SG Group standard controls.

Second-level control (Control department) aims to verify that the first level of control was properly carried out and that risks are being appropriately covered.

This system is accompanied by producing and tracking key risk indicators, some of which will have goals to achieve or tolerance thresholds set for them.

Furthermore SG Luxembourg has defined **an information security policy and ensures its enforcement**. This policy covers the management of computer access and rights, the prevention of information leaks, rules of anonymity, the conducting of intrusion tests, and the monitoring of the bank's websites. Prevention and employee awareness-raising campaigns are conducted regularly in conjunction with the implementation of a Clean Desk policy.

These processes are supplemented by a **crisis management mechanism and a business continuity plan**, the purpose of which is to develop the inherent capacity of the Bank's activities to withstand crises. This is done by combining the organisations' own capacities (robust systems) and special resources (business continuity plans).

On another note, the Group's constant innovations in terms of the products and services proposed to its clients must be approved by a New Products Committee, which determines the necessary conditions, in terms of both operations and acceptable risks, including an analysis of compliance risks.

7.4 OPERATIONAL RISK MODELLING, INSURANCE AND CAPITAL REQUIREMENTS

SG Luxembourg uses the same methodology as SG Group for operational risk modeling. This methodology is based on the loss distribution approach (lda).

Under this approach, operational risks are modeled 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 or 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, for example, property destruction and pandemic risks.

Aside from the individual risks associated with each segment or cross-business scenario analysis, the model takes into account the diversification between various types of risks and core businesses, as well as the effect of insurance policies underwritten by the Group.

The Group's regulatory capital requirements for operational risks within the scope eligible for the AMA (Advanced Measurement Approach) internal model are then defined as the 99.9% quantile of the Group's annual loss distribution.

In terms of allocation: The first allocation is carried out at the business level based on their Stand Alone Capital Charge adjusted for their contribution to risk diversification (Shapley Method).

The second allocation is performed at the entity level based on a 50/50 internal losses and budgeted NBI contribution key.

Criterion No. 1: internal losses

The internal losses are retained for their net amount after recovery of insurances on a five years time laps. The most significant losses are capped to avoid over-representation of the entities having recorded large losses and a shortage of capital allocated for those without losses history.

Criterion No. 2: revenue.

This is measured through the budgeted NBI.

TABLE 37: VENTILATION ON AMA MODEL FOR SG LUXEMBOURG (AT GROUP LEVEL)

	Capital Allocation (KEUR)	
Business Line	**Q4 2018**	**Q4 2019**
Private banking	58 057	47 239
Corporate Center	10 386	19 808
Financing Solution	9 396	11 096
Global Markets Investor Services	60 167	45 691
Retail Banking	1 018	304
Total	**139 024**	**124 138**

At SG Luxembourg Group level, the amount allocated amounts in AMA is 124 MEUR (against 139 MEUR in 2018). The 15 MEUR decrease can be explained by:

- Review of the operational model (scenario) which decrease the global capital envelop for Priv (- 3.4% impact SG Luxembourg and SGPB Switzerland) and Market activities (-7.21% impact SGIS)
- Decrease of historical operating losses (– 55%) (shift in the reference period – last 4 year end 3 quarter). We can note, 2 majors losses 13.5 MEUR and 2.5 MEUR which are out of the perimeter now
- The drop of NBI especially on Global Markets Investor Services (SGIS) (- 46%)
- Regarding the methodology of risk operational RWA and capital allocation at the SG group level, based on NBI and internal losses, and due to the weight of SGIS in MRK activities, the amount of RWA is nevertheless significant: 17% of total of SG Luxembourg Group Risk Operational RWA.

Insurance cover in risk modelling

The insurance policies cover part of the Group's major risks, i.e. civil liability, fraud, fire and theft, as well as systems interruptions and operating losses due to a loss of operating resources.

8. STRUCTURAL INTEREST RATE AND EXCHANGE RATE RISKS

Structural interest rate (also referred to as Interest Rate Risk in the Banking Book – IRRBB) and foreign exchange rate risks result from commercial activities and their hedging transactions, as well as from own account transactions performed by the SG Luxembourg consolidated entities. SG Luxembourg Group measures and strictly controls structural risks. Interest rate and foreign exchange risks related to the trading portfolio do not fall within the scope of structural risk measurement. They fall under market risks.

The general principle is to reduce structural interest rate and exchange rate risks to the greatest extent possible within the consolidated entities. Wherever possible, commercial transactions and corporate centre operations within entities are hedged against interest rate and exchange rate risks, either through micro-hedging (individual hedging of each commercial transaction) or macro-hedging techniques (hedging of portfolios of similar commercial transactions within a treasury department).

8.1 ORGANIZATION OF THE MANAGEMENT OF STRUCTURAL INTEREST RATE AND EXCHANGE RATE RISKS

The principles and standards for managing these risks are defined at the SG Group level. The entities are first and foremost responsible for managing these risks. The ALM (Asset and Liability Management) Department within the SG Luxembourg Group's Finance Division supplements the control framework.

The SG Group Finance Committee, a General Management body

The SG Group Finance Committee:

- validates and oversees the structural risk monitoring, management and supervision system;
- reviews changes in the SG Group's structural risks through consolidated reporting;
- examines and validates the measures proposed by the SG Group's Finance Division.

The ALM Department within the Finance Division

The ALM Department is responsible for:

- defining the structural risk policies for SG Group and formalising risk appetite for structural risks;
- defining the steering indicators and overall stress test scenarios for the different types of structural risk and setting the main limits for the business divisions and the entities;
- analysing SG Group's structural risk exposure and defining hedging strategies;
- monitoring the regulatory environment concerning structural risk;
- defining the ALM principles for SG Group;
- defining the normative environment of structural risk metrics, modelling methods and framework;
- validating the models used by SG Group with regard to structural risks, validated together with the Risk Division and the business lines;
- inventorying, consolidating and reporting on SG Group structural risks;
- monitoring compliance with structural risk limits.

The ALM Risk Control Department within the Risk Division

The second-level supervision covering both (1) the ALM models used within SG Group and (2) the associated frameworks is provided by dedicated teams within the SG Group and SG Luxembourg Risk Departments (cf. 2.5). These departments provide an opinion on the methodological principles, parameters and back tests of ALM models. They analyse proposals from the ALM Department regarding the risk indicators, stress test scenarios and structural risk frameworks. They also conduct second-level controls of the risk limits comprising such frameworks. The SG Group Risk Department organises and chairs the Model Validation Committee.

The entities are responsible for structural risk management

In this respect, entities apply the standards defined at SG Group level, develop their own models, propose their limits (for approval by local management and SG Group committees), measure their risk exposure and implement the required hedges.

Each entity has its own structural risk manager, who reports to the entity's Finance Division and is responsible for conducting first-level controls and for reporting to SG Group Finance Division via a shared IT system. For SG Luxembourg Group, this role is played by the head of ALM/Treasury department. The ALM committee is then responsible for monitoring the indicators and implementing the hedging program.

8.2 STRUCTURAL INTEREST RATE RISK (INTEREST RATE RISK IN THE BANKING BOOK – IRRBB)

The Banking Book covers the banking activities (lending and borrowing money, holding and issuing securities and gathering deposits) aimed primarily at generating profits through excess earning from assets over the cost of liabilities. Within SG Luxembourg Group the Banking Book covers on-balance sheet operations booked within the balance sheet resulting from client activities (e.g. loans and deposits, issuances) hedging of the ALM risks resulting from these client activities as well as proprietary transactions to manage regulatory requirements (e.g. sovereign bond portfolio). Interest Rate Risk in the Banking Book (IRRBB) arises from the residual gaps (surplus or deficit of cash flows by rate change and timing).

Objective of the Framework

When steering structural interest rate risk, the main aim is to ensure the risk is managed by reducing SG Luxembourg Group's exposure to structural interest rate risk as far as possible.

IRRBB steering framework is defined at the Group level and then transposed to each entity. The risks are monitored at each entity level within dedicated thresholds and limits. On an annual basis, the SG Group Finance Committee updates the limits applicable to each entity.

Measurement and monitoring of structural interest rate risk

In 2019, SG Luxembourg Group structural interest rate risk management relied on a set of four metrics in which two are framed by limits and thresholds (80% of the limit for each scenario). All the metrics are monitored on a monthly basis.

Interest Rate gap – outstanding fixed rate principal (net of fixed rate assets and fixed rate liabilities) broken down by time bucket.

Value sensitivity

- NPV sensitivity – Net Present Value sensitivity of fixed rate residual positions to interest rate changes according to several interest rate scenarios. – *covered by internal limits*.
- EVE sensitivity – Economic Value of Equity sensitivity represents the NPV after exclusion of own funds, investments in subsidiaries and intangible assets. – *covered by regulatory limits*.

Revenue sensitivity

- NIM sensitivity – based on a constant balance-sheet hypothesis

Assets and liabilities are analysed independently, without any prior matching. The amortization profiles of assets and liabilities are determined on the basis of the contractual terms of transactions, models based on historical behaviour patterns (e.g. regulated savings accounts and early loan repayments), and to a lesser extend conventional assumptions relating to certain balance sheet items (shareholders' equity and equity holdings in consolidated entities).

All the limits and thresholds described in this section are presented at each ALM Committee against the current risk levels and variations of the risk levels are detailed such that management can monitor the evolution of the risk profile.

The NPV sensitivity is computed based on a parallel shift of the whole yield curve of +/-10bp, a non-parallel short-term rates up shock (NIRUP), and a non-parallel short-terms rates down shock (NIRDW).

TABLE 38: SG LUXEMBOURG GROUP NPV POSITION

		+10 bps	-10 bps	NIRUP	NIRDW
SG Luxembourg Group	**Limit**	(16.5)	(16.5)	(133.8)	(79.6)
	Target	(13.2)	(13.2)	(107.1)	(63.7)
	31/12/2019	(5.3)	(0.2)	(29.8)	(1.4)

8.3 STRUCTURAL FOREIGN EXCHANGE RATE RISK

Fluctuations in inter-currency exchange rates may result in a change in the value of some assets, liabilities, and off-balance sheet items and may lead to volatility in the income statement or other gains and losses recognized in equity. Structural foreign exchange risk is primarily attributable to residual positions on and off the balance sheet (difference per currency in assets and liabilities).

Objective of the Framework

SG Luxembourg policy consists of hedging its exposure to currency fluctuations by endorsing all on and off-balance sheet positions and controlling residual exposure by setting low limits.

Measurement and monitoring of structural foreign exchange rate risks

SG Luxembourg Group quantifies its exposure to structural foreign exchange rate risks by analysing all assets and liabilities denominated in foreign currencies arising from commercial transactions and the corporate center. SG Luxembourg manages it within very tight limits (2.5 MEUR of Asset and Liability mismatch for the main currencies).

TABLE 39: SG LUXEMBOURG GROUP FOREIGN EXCHANGE POSITION

Indicators	Targets and limits	31/12/2019 in MEUR
Structural exchange rate risk	**≤ 2 MEUR (target)** **≤ 2,5 MEUR (limit)**	0.67

9. LIQUIDITY RISK

Liquidity risk is defined as the SG Luxembourg's inability to meet its financial obligations at a reasonable cost: debt repayments, collateral supply. SG Luxembourg assesses this risk over various time horizons, including intraday, taking into account market access restriction risk (generalized or specific to SG Luxembourg).

9.1 GOVERNANCE AND ORGANIZATION

Liquidity indicators have been defined and specific limits approved by the Board of Directors. On a quarterly basis these indicators are presented to the Board of Directors.

The department in charge of managing and steering the liquidity position of the SG Luxembourg Group is the ALM/Treasury team, within the local Finance division, and which has functional links to both the SG Group ALM and the SG Group Treasury departments.

Additional liquidity indicators are monitored during the monthly ALM Committee of the bank, which gathers local management (CEO, CRO, CFO) and SG Group representatives.

The second line of defence regarding liquidity risk management is ensured as described in 2.5 above.

9.2 THE APPROACH TO LIQUIDITY RISK MANAGEMENT

SG Luxembourg Group's primary objective is to ensure the funding of its activities in the most secure and cost-effective way by managing liquidity risk and adhering to regulatory constraints. The liquidity steering system provides a balance sheet framework based on 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 target liabilities structure. This development must comply with the liquidity gaps defined at SG Luxembourg 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.

This steering system is based on measurement and supervision of the businesses liquidity gaps under reference and stress scenarios, their funding needs, the eligible assets and the businesses contribution to regulatory ratios. Accordingly, the principles of liquidity management are as follows:

1. The businesses maintain low to nil static liquidity gaps of their activities, by using the SG Luxembourg Group's Treasury, which can, if needed, run a transformation position and manage it within the framework of the established risk limits.
2. Internal liquidity stress tests, established on the basis of combined (systemic and idiosyncratic) scenarios, are controlled at SG Luxembourg 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 businesses' funding needs (short-term and long-term) are determined on the basis of the development objectives and in line with the SG Luxembourg 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.
5. SG Luxembourg Group's short-term resources are adapted to the financing of the businesses' short-term. As outlined above, they are adjusted in light of the liquidity reserve on the assets side, based on the established stress survival horizon as well as the SG Luxembourg Group's LCR target (Liquidity Coverage Ratio, see Regulatory Ratios section).
6. SG Luxembourg Group's liquidity steering takes into account compliance with the target regulatory ratios (LCR, NSFR) and

internal ratios (Liquidity Gap in a business as usual situation and in a stress situation).

Finally, liquidity is governed in terms of cost via the SG Luxembourg 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 SG Luxembourg 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 liquidity gap is managed on an overall basis (across all currencies) and by main currency (which currently are EUR, USD and CHF).

9.3 REFINANCING STRATEGY

To manage its liquidity position and refinancing needs, SG Luxembourg Group mainly relies on:

- its private banking business (Luxembourg, Monaco, Switzerland), structurally providing long term liquidity, with more deposits than loans originated, and
- its cash management business for international and large corporate, and
- the SG Group central Treasury.

9.4 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.

An encumbrance policy has been approved by the Board of Directors in 2019.

Total SG Luxembourg Group encumbrance amounts to less than 10% in 2019, measured according to EBA definition. Encumbrance at SG Luxembourg Group level mainly arises from regular liquidity buffer monetization (through repo operations), TLTRO collateralization and SGCMF assets securitization.

A few points are noteworthy:

- Apart from SG CMF whose encumbrance is structural to its core activity of securitization, the other sources of encumbrance at SG Luxembourg Group level are either temporary (TLTRO funding), required by the regulation (buffer monetization, central bank reserves, EMIR) or absolutely marginal to the total balance-sheet of the entity (margining).
- As such, there is no appetite at SG Luxembourg Group level for asset encumbrance at larger scale above on what is being used today.

TABLE 40: ENCUMBERED AND UNENCUMBERED ASSETS

		Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
			of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
(in 1000 EUR)		010	030	040	050	060	080	090	100
010	**Assets of the reporting institution***	12 211 751	12 211 751	–	–	104 979 665	2 717 511	–	–
030	Equity instruments	–	–	–	–	130 442	–	–	–
040	Debt securities	5 958 495	5 958 495	5 958 495	5 958 495	2 717 511	2 717 511	2 717 511	2 717 511
050	*of which: covered bonds*	*285 869*	*285 869*	*285 869*	*285 869*	–	–	–	–
060	*of which: asset-backed securities*	–	–	–	–	–	–	–	–
070	*of which: issued by general governments*	*544 450*	*544 450*	*544 450*	*544 450*	*2 486 096*	*2 486 096*	*2 486 096*	*2 486 096*
080	*of which: issued by financial corporations*	*5 414 045*	*5 414 045*	*5 414 045*	*5 414 045*	*231 416*	–	–	–
090	*of which: issued by non-financial corporations*	–	–	–	–	–	–	–	–
120	Other assets	6 253 255	6 253 255	–	–	102 131 712	–	–	–

* Based on first version of FINREP Consolidated figures that was sent to the regulator

TABLE 41: COLLATERAL RECEIVED

		Fair value of encumbered collateral received or own debt securities issued		Unencumbered	
				Fair value of collateral received or own debt securities issued available for encumbrance	
			of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA
(in 1000 EUR)		010	030	040	060
130	**Collateral received by the reporting institution**	–	–	–	–
140	Loans on demand	–	–	–	–
150	Equity instruments	–	–	–	–
160	Debt securities	–	–	–	–
220	Loans and advances other than loans on demand	–	–	–	–
230	Other collateral received	–	–	–	–
240	**Own debt securities issued other than own covered bonds or asset-backed securities**	–	–	–	–
241	**Own covered bonds and asset-backed securities issued and not yet pledged**	–	–	–	–
250	**TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED**	**12 211 751**	**12 211 751**		

TABLE 42: SOURCES OF ENCUMBRANCE

		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
(in 1000 EUR)		010	030
010	**Carrying amount of selected financial liabilities**	11 906 569	11 906 569
020	Derivatives	239 820	239 820
030	of which: Over-The-Counter	239 820	239 820
040	Deposits	9 737 502	9 737 502
050	Repurchase agreements	830 319	830 319
070	Collateralised deposits other than repurchase agreements	–	–
090	Debt securities issued	8 907 183	8 907 183
120	**Other sources of encumbrance**	–	–
130	Nominal of loan commitments received	1 929 246	1 929 246
140	Nominal of financial guarantees received	–	–
150	Fair value of securities borrowed with non cash-collateral	–	–
160	Other	305 182	305 182

9.5 REGULATORY LIQUIDITY RATIOS

The Basel Committee recommends the international implementation of two standard ratios with harmonized 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 and compares funding needs with stable resources over a one-year period.

During all the year, both regulatory Liquidity ratios remained above the targets and limits defined in the Risk Appetite of SG Luxembourg Group.

TABLE 43: SG LUXEMBOURG GROUP LCR AND NSFR

Indicators	Targets and limits	31/12/2019
Liquidity Coverage Ratio – LCR	≥ 110% (target) ≥ 100% (limit)	144%
Net Stable Funding Ratio (NSFR)	> 70% for 2019 (target)	91,2%

TABLE 44: LCR DISCLOSURE TEMPLATE ON QUANTITATIVE INFORMATION OF LCR WHICH COMPLEMENTS ARTICLE 435(1)(F) OF REGULATION (EU) NO 575/2013

Scope of consolidation (solo/consolidated) *Currency and units (K EUR)*	**Total unweighted value**	**Total weighted value**
High-Quality Liquid Assets		
Total high-quality liquid assets (HQLA)		**11 485 998**
Cash-Outflows		
Retail deposits and deposits from small business customers, of which:	4 232 088	774 585
Stable deposits	–	–
Less stable deposits	4 232 088	774 585
Unsecured wholesale funding	25 605 537	19 647 986
Operational deposits (all counterparties) and deposits in networks of cooperative banks	667 008	166 752
Non-operational deposits (all counterparties)	17 233 197	11 775 902
Unsecured debt	7 705 332	7 705 332
Additional requirements	3 741 592	2 258 400
Outflows related to derivative exposures and other collateral requirements	1 651 009	1 651 009
Credit and liquidity facilities	2 090 583	607 391
Other contractual funding obligations	685 172	685 172
Other contingent funding obligations	1 909 488	13 802
Total Cash Outflows		**23 379 943**
Cash-Inflows		
Secured lending (eg reverse repos)	1 620 109	1 326 363
Inflows from fully performing exposures	13 965 140	13 150 004
Other cash inflows	2 270 548	2 270 548
Toral Cash Intflows	**17 855 797**	**16 746 916**
EU-20a ***Fully exempt inflows***	2 266	2 266
EU-20c ***Inflows Subject to 75% Cap***	16 233 422	16 744 649
		Total adjusted value
Liquidity buffer		**11 485 998**
Total Net Cash Outflows		**7 958 137**
Liquidity Coverage Ratio (%)		**144%**

10. COMPLIANCE, REPUTATIONAL AND LEGAL RISK

10.1 COMPLIANCE

Compliance means acting in accordance with applicable banking and financial rules, ranging from laws and regulations to professional, ethical or internal standards and principles.

By ensuring that these rules are observed, SG Luxembourg Group works to protect its customers and, in general, all of its counterparties and employees. Protecting the company's image is one of the SG Luxembourg Group's strategic objectives.

The compliance framework

The system for prevention of compliance risks is based on a shared responsibility binding all core businesses, support functions and compliance function employees by ensuring the integration compliance with local laws and regulations, rules of good professional conduct, and internal rules into their daily work (compliant SG Group).

The Compliance function has two main duties: (i) advising and assisting the operational teams so that they may complete their tasks in compliance with their professional and regulatory obligations, and in keeping with the SG Group commitments; and (ii) monitoring and assessing the relevance and efficiency of the system for monitoring and controlling compliance risks.

The Compliance team, reports to the General Secretary of SG Luxembourg Group.

The Compliance function works in close coordination with the "Direction du Contrôle permanent" (SGLR/CTL), which was created in 2018 and is dedicated to the assessment of the efficiency of the permanent supervision framework and standard controls defined at Group level

The Legal, Human Resources, Tax, and Corporate Resources support the Compliance function within the scope of their respective fields of expertise.

The General Secretary is responsible for the overall coordination of the Compliance function and of relations with the authorities in this regard. She is assisted in her duties by the Head of Compliance. The efficiency of the compliance system is continuously monitored and strengthened at the highest level: Board of Directors and the Risk and Compliance Committee.

THE COMPLIANCE DEPARTMENT

The Compliance Department manages the compliance control and monitoring system and monitors reputational risk. It ensures the consistency of the SG Luxembourg Group system for prevention of compliance risks, its efficiency, and the development of appropriate relationships with banking supervisors and regulators.

COMPLIANCE DEPARTMENT ORGANIZATION

The Chief Compliance Officer relies on a team organised in six sections:

- International Private Banking and Compliance transformation
- Market integrity and client protection
- Anti Money Laundering and Fight against terrorism financing including Sanction and Embargo issues
- Governance, Risk Assessment and cross divisional thematics
- Compliance supervision of GLBA structures and Luxembourg banking subsidiaries
- Supervision of SGSS's activities (Depositary Agent and Transfer Agent).

Compliance function's capacity was increased in 2019 to meet the requirements arising from the growing complexity of the regulatory framework and the implementation of SG Group's remediation plans. A new reorganisation of the Compliance team aiming at overcoming a significant staff turnover and meeting with the challenge of the "Banque Privée Internationale" is effective since December, 1st 2019. End of 2019, the department counted thirty five compliance officers directly reporting to either the Chief Compliance Officer or the two deputy CCOs newly appointed. Regarding Compliance's missions, the scope extension continued in 2019, mainly driven by SG Group's La Fayette Program (new set of Anti-Bribery and

Sanction & Embargo projects and controls) and the onboarding of the Data Protection Officer.

APPLICATIONS DEDICATED TO COMPLIANCE ENFORCEMENT AND TO THE DEVELOPMENT OF A PROCESS-BASED APPROACH

Two types of IT applications ensure compliance with regulations and detection of situations requiring special attention:

- profiling/scenario management tools that trigger alerts when unusual account flows or transactions are detected. More specifically, they are used to prevent money laundering and terrorism financing, and to detect market abuse, price manipulation and insider trading;
- tools used to filter data based on pre-defined lists (internal lists, external databases, etc.) that trigger alerts upon detecting certain people, countries or activities targeted by national or international sanctions and embargoes, or people with convictions or having PEP (politically exposed person) status;

The Compliance function reports on specific key compliance risk areas and performs mapping and assessment of regulatory risks.

These processes are regularly updated and their features enhanced to incorporate regulatory and technological changes and improve their operational efficiency.

The bank has performed in 2019 the annual risk assessment initiated by SG Group, "COMPASS", on the following topic: Sanction and Embargo. This questionnaire has been reviewed, with US regulators and external advisors, in order to meet the last regulatory requirements and to reflect a fair appraisal of the S&E risks. The risk assessment is usually composed of 18 questionnaires on 5 main topics (Financial Crime, Client Protection, Market Integrity, Anti-Bribery & Corruption, Ethics and Behavior, Tax transparency and Data & Digital). This Group exercise allows to construct a detailed map of areas of risk and to draft specific synthesis based on both inherent risk and mitigant analysis. In addition, findings issued from this risk assessment conducts to action plans to reinforce framework related to the identified risks.

Implementation of compliance policies

ANTI-MONEY LAUNDERING AND COUNTERING TERRORIST FINANCING (AML/CTF)

Measures aimed at increasing the efficiency of the AML/CTF system and the vigilance of SG Luxembourg Group employees were continued in 2019.

In particular, we can mention:

- Release of the AML/FT framework instruction N° 10022, which sets out the professional AML/FT obligations in detail, has been reviewed and a new version deployed in 2019
- Strengthening of the Bank's control system regarding the tax compliance of the assets held by our clients, in particular non-residents. Also, when necessary, a new tax compliance document is added to client files.
- Risk methodology and tool deployment by end of February 2019.
- Deployment of the instruction PR 20593 on AML/KYC requirements for the Transfer Agent activity (September 2019).
- Overhaul of the normative controls for all SG Luxembourg activities as part of the Permanent Control Transformation program "PCT"(including the roll out of GPS controls dedicated to ABC and Sanction & Embargo topics).

KNOW YOUR CUSTOMER (KYC)

The Bank continued its targeted approach with respect to customer risk for all activities, both for onboarding and during regular KYC revisions of existing customers.

Regarding the onboarding, two new instructions have been issued: On the private bank side, the "New relationship (EER)" procedure PR-201814 line has been updated end of November 2019. This procedure describes the process for validating or refusing a new relationship that must be followed for every new relationship, existing client (PP, PM or UBO) or potential partner by the PRIV business.

Deployment of the instruction PR 20593 on AML/KYC requirements for the Transfer Agent activity (September 2019).

Along side the business relationship:

Set up of dedicated periodic committees to rule on KYC / AML issues in the PRIV, GTPS, and SGSS business lines. Committees are held once a month and bring together the members of the Management of SG Luxembourg, the Business Management, the Compliance function and the Operations Department (when required on GTPS & PRIV perimeters).

EMBARGOES AND FINANCIAL SANCTIONS

In terms of embargoes, the international environment in 2019 remained very challenging, with a high level of complexity.

The year 2019 is characterised in particular by:

- Production and reporting of dedicated Key Risk Indicators embedded in the Compliance Committee of SG Luxembourg as part of Lafayette program
- The periodic filtering of the customer database against sanction and embargo lists (Fircosoft Utility) was increased beginning of 2019 from a weekly to a daily task for most of SG Luxembourg business lines.
- The pooling and centralization on SG Group Paris platforms of the SEPA and SWIFT messages filtering (May 2019).
- Overhaul of the procedural framework (including Freezing of assets, Escalation process, Alert handling…) and deployment of new controls as part of the La Fayette Program.

ANTI-CORRUPTION MEASURES

The fight against corruption is a global struggle that is intensifying. Many countries have anti-corruption laws and increasingly severe sanctions are regularly imposed on individuals and legal entities.

In 2019, the ABC framework has been strengthened as part of the La Fayette Program set out in the Deferral Prosecution Agreement signed with the Parquet National Financier (PNF) and the American Department of Justice. Including procedure updates (Code of Conduct, Whistleblowing) and the review/enhancement of certain processes (Employee hiring, purchasing, "Gift & Events" monitoring tool, dedicated trainings for most exposed staff…). The enhancement of the mechanism will be completed with the deployment of new Group framework procedures (ABC, KYS, Third parties, Advocacy and Lobbying, Sponsorship and Donation policy,…). The Anti-Bribery & Corruption Manager has been appointed.

EMPLOYEE ETHICS

SG Luxembourg has adopted the most recent version of the SG Group's Code of Conduct (October 2016), which was circulated to all employees and strengthened by Directive n°10260.V2 dated 09/05/2017. This code has been supplemented by two codes of conduct, the "Tax Code of Conduct" dedicated to the major principles of tax compliance (July 2017) and the "ABC Code of conduct" (Anti Bribery and Corruption) related to combating corruption and insider influence (June 2018).

CPL continued to monitor ethics rules for personnel, which are documented at the beginning of each year by a specific report addressed to Authorised Management. This report relates to the transactions on financial instruments of agents declared as exposed personnel within the Bank, as well as any conflicts of interest and practices in terms of gifts, donations, advantages and external events organised by SG Luxembourg. The process in place is in line with regulatory and/or Group requirements.

CONFLICTS OF INTEREST

The Bank must take all appropriate measures so as to detect, avoid and/or manage conflicts of interest arising between itself (including its senior executives, employees and when needed its tied agents or any person linked by a control relationship) and its clients or between two clients, including conflicts resulting from the collection of incentives from third parties or from the remuneration structure and other incentive structures specific to the Bank.

To meet its obligations, the Bank has a policy for the management of conflicts of interest and it maintains and updates a log of the types of investment or auxiliary services or investment activities carried out by the company or in its name, and for which a conflict of interest that includes any risk of harm to the interests of one or more clients could arise. The log is updated with the new types of conflicts of interest annually or when necessary.

The Bank publishes the summary of its conflicts of interest policy on its Internet site in order to meet the communication requirements imposed by the regulation. The general terms also mention the publication of a summary of the policy on the Bank's Internet site. The complete conflicts of interest policy is made available to clients on request, and is distributed to all personnel members.

MARKET ABUSE

Following the entry into force of the new regulation on market abuse (Regulation N° 596/2014 and Directive 2014/57 of the European Parliament and of the Council of the 16/04/2014 and the resulting Luxembourg law of 27 December 2016), a framework procedure describing the general context of the offences of insider trading and price manipulation and the embedding the corpus of common rules applicable to the entire SG Group was updated on 5 January 2017 and amended on 13 November 2019.

A detection tool to monitor the Market Abuse risk, approved by the CSSF and the ECB, has been put in place and a dedicated committee the "Market Abuse Committee" take place on a regular basis.

SUPERVISING CUSTOMER PROTECTION

The year continued to see local work aimed at integrating obligations from the entry into effect of MiFID 2 to cover regulatory requirements in terms of client protection (ie. Customer and product classification, suitability and appropriateness tests, information and reporting, obligation of best execution, processing orders, inducements, conflict of interests, transparency, records and product governance).

CLAIMS AND MEDIATION

MiFID2 strengthens the requirements for the handling of complaints. The Bank has a transparent policy for managing complaints for the purposes of their quick handling. Clients are informed of the existing mechanism, including the possibility of transferring their complaint to an out-of-court dispute settlement entity, via the general terms and the Bank's Internet site.

The Bank also maintains a log of complaints received and of the measures taken to resolve them.

OTHER REGULATORY MATTERS

In 2019, in cooperation with the business lines, the Compliance function continued development and compliance workshops covering numerous important regulations, in particular: MiFID2, the General Data Protection Regulation ("GDPR"), US TAX Forms FATCA", "QI", "Insurance Distribution Directive", 871 M", "BCBS 239", "MiFID II", "EMIR", Maket Abuse, conflict of Interest, code of conduct, risk appetite, "Beneficial Owner - new requirements …

NORMATIVE DOCUMENTATION AND INFORMATION SHARING

To complete its assignments, the SG Luxembourg Group Compliance function relies on normative documents (directives, guidelines and procedures) which are regularly updated. New instructions were drafted and published in 2019 regarding FATCA, ABC, S&E, KYC topics,. . ...

THE PERMANENT CONTROL SYSTEM

The Compliance function is one of the three control functions of the SG Luxembourg Group (together with finance, risk and internal audit), in charge of second-level control to review the quality of the checks performed by the businesses.

The roll-out of the Permanent Control Transformation Program (PCT), remediation program on the Internal Control framework of Société Générale Group, has reviewed SG Luxembourg's control framework in order to meet regulatory and Group requirements.

Compliance and the Code of Conduct

Compliance with ethical rules which meet the highest professional standards is part of the SG Group's commitments.

Numerous culture and conduct workshops have been conducted in 2019. The SG Luxembourg Group has a set of strict good conduct doctrines and rules. The SG Group's Code of Conduct, updated in April 2017, is covered by an internal instruction which has been enriched by a Code dedicated to Anti-Bribery and Corruption thematic. Theses instructions apply to all employees, regardless of their responsibility level, as well as to SG Luxembourg Group managers, and also specifies alert procedures when a special situation so requires.

10.2 RISKS AND LITIGATION

The information pertaining to risks and litigation is included in Note 8 and 9 from the consolidated financial statements.

11. RISKS RELATING TO INSURANCE ACTIVITIES

SG Luxembourg owns 100% of Société Générale Ré (SG Ré), whose business is the reinsurance of certain insurance risks of the SG Group. The company has implemented a system of governance and risk management aimed at protecting the shareholder's interests, which relies on:

- A governance framework, aligned with the strategic goals assigned to SG Ré.
- A risk management system that adapts the policies for, among other things, solvency, subscription/provisioning, investment, ALM, liquidity/concentration, operational, and on-lending risks, whose indicators are tracked in a risk appetite grid.
- An internal control system based on architecture of processes and a full set of associated controls.
- A log of the risks to which SG Ré is exposed, detailing the risks that might prevent the achievement of the defined strategic objectives, as well as the risk-mitigating actions that particularly result from the risk management system and from the effectiveness of the internal control.

This governance system is detailed in a governance manual approved by the SG Ré Board of Directors and updated annually.

SG Luxembourg is also the 100% owner of an insurance broker, SGLIB (Société Générale Life Insurance Broker).

Given the nature of its activities, the company is primarily exposed to operational risk, which is defined and monitored under the supervision of the SG Luxembourg teams.

SG Luxembourg also has a participation in Sogelife Luxembourg, a life insurance company. Sogelife's primary shareholder is Sogécap (an insurance subsidiary of SG Group) and as such primarily follows the risk management processes of Sogécap.

12. APPENDIX

12.1 PILLAR 3 CROSS REFERENCE TABLE

CRR Article	Theme	Pillar 3 report reference	Page in Pillar 3 Report
435	Risk management objectives and policies	Chapter 2 and 3	Page 7 / Page 12
436 (a) (b)	Scope of application	Chapter 3.2	Page 12
436 (c)(d)(e)	Consolidation perimeter	Scope	n.a.
437	Own funds	Chapter 3.3	Page 12
438	Capital requirements	Chapter 3.4	Page 15
439	Exposure to counterparty credit risk	Chapter 4	Page 26
440	Capital buffers	Chapter 3.3	Page 14
441	Indicators of global systemic importance	Not applicable as SG Luxembourg is not an G-SII	n.a.
442	Credit Risk adjustments	Chapter 4	Page 26
443	Unencumbered assets	Chapter 9.4	Page 68
444	Use of ECAI	Not applicable as SG Luxembourg does not make use of ECAI	n.a
445	Exposure to Market Risk	Chapter 6	Page 59
446	Operational Risk	Chapter 7	Page 61
447	Exposures in equities not included in the trading book	Chapter 3, Chapter 4	Page 12 / page 26
448	Exposure to interest rate risk on positions not included in the trading book	Chapter 8	Page 65
449	Exposure to securitisation positions	Chapter 5	Page 58
450	Remuneration policy	This is covered in the Consolidated Financial Statements	n.a
451	Leverage	Chapter 3.6	Page 16
452	Use of the IRB approach to credit risk	Chapter 4	Page 26
453	Use of credit risk mitigation techniques	Chapter 4	Page 26
454	Use of the Advanced Measurement Approaches to operational Risk	Chapter 7	Page 61
455	Use of Internal Market Risk Models	Not applicable	n.a

12.2 INDEX OF THE TEMPLATES DISCLOSED IN THE PILLAR 3

N°	Legal Reference	Title	CRR articles	Format	Chapter	Page
1	EU LI3	Outline of the differences in the scopes of consolidation (entity by entity)	Article 436 (b)	Flexible	3.2	10
2	EU LI1	Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories	Article 436 (b)	Flexible	3.2	11
3	EU OV1	Overview of RWAs	Article 438 (c)-(f)	Fixed	3.4	13
4	LRSum	Summary reconciliation of accounting assets and leverage ratio exposures	Article 451	Fixed	3.6	14
5	LRCom	Leverage ratio common disclosure	Article 451	Fixed	3.6	14
6	LRSpl	Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)	Article 451	Fixed	3.6	15
7	N/A	Capital instruments' main features template	Article 437 (b)	Fixed	3.8	16
8	N/A	Own funds disclosure template	Article 437 (d)	Fixed	3.8	17
9	N/A	Amount of institution-specific countercyclical capital buffer	Article 440	Fixed	3.8	18
10	N/A	Geographical distribution of credit exposures relevant for the calculation of the countercyclical capital buffer	Article 440	Fixed	3.8	18
11	Internal ref.	Internal rating scale and corresponding scales of rating agencies	Article 452 (b)	Flexible	4.7	29
12	EU CR10	IRB (specialised lending and equities)	Article 438	Flexible	4.8	30
13	EU CRB-B	Total and average net amount of exposures	Article 442 (c)	Flexible	4.9	31
14	EU CRB-C	Geographical breakdown of exposures	Article 442 (d)	Flexible	4.9	32
15	EU CRB-D	Concentration of exposures by industry or counterparty types	Article 442 (e)	Flexible	4.9	35
16	EU CRB-E	Maturity of Exposures	Article 442 (f)	Flexible	4.9	37
17	EU CR1-A	Credit quality of exposures by exposure class and instrument	Article 442 (g)-(h)	Flexible	4.9	38
18	EU CR1-B	Credit quality of exposures by industry or counterparty types	Article 442 (g)	Flexible	4.9	40
19	EU CR1-C	Credit quality of exposures by geography	Article 442 (g)	Flexible	4.9	42
20	NPL1	Credit quality of forborne exposures	Article 442	Fixed	4.9	42
21	NPL3	Credit quality of performing and non-performing exposures by past due days	Article 442	Fixed	4.9	44
22	NPL4	Performing and non-performing exposures and related provisions	Article 442	Fixed	4.9	46
23	EU CR2-A	Changes in the stock of general and specific credit risk adjustments	Article 442 (i)	Fixed	4.10	48
24	EU CR2-B	Changes in the stock of defaulted and impaired loans and debt securities	Article 442 (i)	Fixed	4.10	48
25	EU CR3	CRM techniques – Overview	Article 453 (f) - (g)	Fixed	4.10	48
26	EU CR4	Standardised approach – Credit risk exposure and CRM effects	Article 453 (f) - (g)	Fixed	4.10	49
27	EU CR5	Standardised approach	Article 444 (e)	Fixed	4.10	49
28	EU CR6	Credit risk exposures by exposure class and PD range	Article 452 (e) - (h)	Fixed	4.10	50
29	EU CR8	RWA flow statements of credit risk exposures under the IRB approach	Article 438 (d)	Fixed	4.10	52
30	EU CCR1	Analysis of CCR exposure by approach	Article 439 (e), (f), (i)	Fixed	4.11	52
31	EU CCR2	CVA Capital Charge	Article 439 (e) - (f)	Fixed	4.11	53
32	EU CCR4	IRB approach – CCR exposures by portfolio and PD scale	Article 452 (e) - (h)	Fixed	4.11	53
33	EU CCR5-A	Impact of netting and collateral held on exposure values	Article 439 (e)	Fixed	4.11	54
34	EU CCR5-B	Composition of collateral for exposures to CCR	Article 439 (e)	Flexible	4.11	54
35	EU MR1	Market risk under the standardised approach	Article 445	Fixed	6.5	58
36	Internal ref.	Overview of RWA on operational risk	Article 438 (f)	Flexible	7.2	60

N°	Legal Reference	Title	CRR articles	Format	Chapter	Page
37	Internal ref.	Ventilation on AMA Model for SG Luxembourg (at Group level)	Article 438 (f)	Flexible	7.4	62
38	Internal ref.	SG Luxembourg Group NPV position	Article 448	Flexible	8.2	65
39	Internal ref.	SG Luxembourg Group Foreign exchange position	Article 448	Flexible	8.3	65
40	AE1	Encumbered and unencumbered assets	Article 443	Fixed	9.4	68
41	AE2	Collateral received	Article 443	Fixed	9.4	69
42	AE3	Sources of encumbrance	Article 443	Fixed	9.4	69
43	Internal ref.	SG Luxembourg Group LCR and NSFR	Article 435 (1)	Flexible	9.5	70
44	EU LIQ1	LCR disclosure template on quantitative information	Article 435 (1)	Fixed	9.5	71

12.3 INDEX OF THE TEMPLATES NOT DISCLOSED IN THE PILLAR 3

Legal Reference	Title	CRR articles	Format	Comments
EU INS1	Non-deducted participations in insurance undertakings	Article 438 (c)-(d)	Fixed	SG Luxembourg is not subject to article 49 (1) from CRR
EU CR1-D	Ageing of past-due exposures	Article 442 (g)	Fixed	N/A anymore as replaced by NPE templates according to EBA/GL/2018/10
EU CR1-E	Non-performing and forborne exposures	Article 442 (g)-(i)	Fixed	N/A anymore as replaced by NPE templates according to EBA/GL/2018/10
EU CR7	IRB approach – Effect on the RWAs of credit derivatives used as CRM techniques	Article 453 (g)	Fixed	SG Luxembourg does not have any credit derivatives.
EU CCR7	RWA flow statements of CCR exposures under the IMM	Article 438 (d)	Fixed	SG Luxembourg does not use the IMM approach.
IFRS 9-FL	Comparison of institutions' own funds and capital and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs	Article 473a	Fixed	SG Luxembourg does not use transitional arrangements under article 473a
Own Funds 4	Transitional own funds disclosure template	Article 492 (3)	Fixed	SG Luxembourg does not apply article 79 from the CRR
N/A	Quality of forbearance	Article 442	Fixed	N/A the gross NPL ratio is less than 5%
N/A	Quality of non-performing exposures by geography	Article 442	Fixed	N/A the gross NPL ratio is less than 5%
N/A	Credit quality of loans and advances by industry	Article 442	Fixed	N/A the gross NPL ratio is less than 5%
N/A	Collateral valuation – loans and advances	Article 442	Fixed	N/A the gross NPL ratio is less than 5%
N/A	Changes in the stock of non-performing loans and advances	Article 442	Fixed	N/A the gross NPL ratio is less than 5%
N/A	Collateral obtained by taking possession and execution processes	Article 442	Fixed	SG Luxembourg does not use collateral by taking possesion and execution processes for foreborne exposures
N/A	Collateral obtained by taking possession and execution processes – vintage breakdown	Article 442	Fixed	N/A the gross NPL ratio is less than 5%

12.4 GLOSSARY

Acronym	Definition
CCF	Credit Conversion Factor
CRD	Capital Requirement Direction
CRM	Credit Risk Mitigation
CRR	Capital Requirement Regulation
CVaR	Credit Value-at-Risk
EAD	Exposure at Default
EL	Expected Loss
IMM	Internal Model Method
IRBA	Internal ratings-based approach- Advanced
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
NSFR	Net Stable Funding Ratio
PD	Probability of Default
RW	Risk Weighted
RWA	Risk Weighted Assets
SFT	Securities Financing Transactions
SG	Société Générale Head Office
SG Group	Société Générale Head Office and all its subsidiaries
SG Luxembourg	Societe Generale Luxembourg without its subsidiaries
SG Luxembourg Group	Societe Generale Luxembourg with its subsidiaries
VaR	Value-at-Risk

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