3

RISK MANAGEMENT ORGANISATION

IN BRIEF

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

3.1 SUITABILITY OF RISK MANAGEMENT SYSTEMS

The Pillar 3 report, published under the responsibility of Societe Generale Group's Senior Management, sets out, in accordance with the CRR regulation, the quantitative and qualitative information on Societe Generale's capital, liquidity and risk management to ensure transparency in respect of the various market players. This information has been prepared in compliance with the internal control procedures approved by the Board of Directors in the course of the validation of the Group Risk Appetite Framework and Group Risk Appetite Statement, and are based, among other things, on the annual review, by General Management in the Group Internal Control Coordination Committee (GICCC) and by the Risk Committee of the Board of Directors, of Societe Generale's Risk division, particularly in its ability to exercise its role as the second line of defense for the entire Group.

3.2 RISK APPETITE

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

Principles governing risk appetite

The Group's ambition is to push ahead with sustainable development based on a diversified and balanced banking model with a strong European anchor and a targeted global presence in selected areas of strong business expertise. The Group also wishes to maintain long-term relationships with its clients built on the mutual confidence deserved and to meet the expectations of all of its stakeholders by providing them with responsible and innovative financial solutions.

This is reflected in:

- an organisation with 14[1] Business Units offering various products and services to the Group's clients in different geographic locations;
- balanced selective capital allocation between activities:
  - a preponderance of retail banking activities in France and abroad, which currently represent more than 50% of risk weighted assets ("RWA") of the Group,
  - limitation of Business Unit Global Markets' share in the RWA of the Group. In accordance with its client-focused development strategy, the Group ceased its trading activities for its own account[2] in 2019, and finalised its project to simplify the products processed in 2021,
  - non-bank services activities, in particular Insurance and operating leasing activities are conducted in line with the business strategy; they demonstrate a disciplined risk profile and thus generate profitability compliant with the Group's expectations;
- a geographically balanced model:
  - in Retail Banking, the Group focuses on international development (excluding Russia) where it benefits from a historical presence, extensive market knowledge and top-tier positions, in Retail Banking activities,
  - as regards Global Banking and Investor Solutions, apart from historical establishments, the Group targets activities for which it can leverage international expertise;
- a targeted growth policy, favoring existing areas of expertise, the sound quality business fund and the search for synergies in the diversified banking model;
- a positive and sustainable contribution to the transformations of our economies, in particular with regard to the technological revolution, and economic, social and environmental transitions; CSR concerns are therefore at the heart of its strategy and the Group's relationships with stakeholders (internal and external);
- a strong vigilance as regards its reputation, deemed by the Group to be a high-value asset which must be protected.

A robust financial strength profile

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

- aiming for profitable and resilient business development;
- maintaining a rating allowing access to financial resources at a cost consistent with the development of the Group's businesses and its competitive positioning;
- calibrating its capital and hybrid debt monitorings to ensure:
  - meeting the minimum regulatory requirements on regulatory capital ratios,
  - compliance with the financial conglomerate ratio which considers the combined solvency of the Group's banking and insurance activities,
  - one-year coverage of the "internal capital requirement" using available CET1 capital,
  - a sufficient level of creditor protection consistent with a debt issuance program that is particularly hybrid consistent with the Group's objectives in terms of rating and regulatory ratios such as Tier 1, TLAC ("Total Loss Absorbing Capacity"), MREL ("Minimum Required Eligible Liabilities"), and the leverage ratio;

(1) Fourteen BUs, as CDN and BDDF have merged on 1 January.

(2) In accordance with French Banking Law, the few residual trading activities of the Group unrelated to clients were isolated in a dedicated subsidiary called Descartes Trading.

- ensuring resilience of its liabilities, which are calibrated by taking into account a survival horizon in a liquidity stress ratio, compliance with LCR (Liquidity Coverage Ratio) and NSFR (Net Stable Funding Ratio) regulatory ratios and the level of dependence on short-term fundings and the foreign exchange needs of the Group's businesses, particularly in dollars;
- controlling the leverage ratio.

Credit risk (including concentration effects)

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

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

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

In particular, concerning the underwriting risk, the Group, mainly through GLBA, makes a "steadfast commitment" to transactions at a guaranteed price as debt financing arranger, prior to syndicating them to other banking syndicates and institutional investors. If market conditions deteriorate or markets close while the placement is under way, these transactions may create a major over-concentration risk (or losses, if the transaction placement requires selling below the initial price).

The Group limits the cumulative amount of approved underwriting or underwriting positions in order to limit its risk in the event of a prolonged closure of the debt markets.

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

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

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

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

Counterparty ratings are a key criterion of the credit policy and serve as the basis for the credit approval authority grid used in both the commercial and risk functions. The rating framework relies on internal models. Special attention is paid to timely updating of ratings (which, in any event, are subject to annual review)[1].

The risk measure of the credit portfolio is based primarily on the Basel parameters that are used to calibrate the capital need. As such, the Group relies for the internal rating of counterparties on Balois models allowing the assessment of credit quality, supplemented for "non-retail" counterparties, by expert judgment. These measures are complemented by an internal stress-sized risk assessment, either at the global portfolio level or at the sub-portfolio level, linking risk measures and rating migration to macro-economic variables most often to say expert. In addition, the calculation of expected losses under the provisions of IFRS 9, used to determine the level of impairment on healthy outstandings, provides additional insight into assessing portfolio risk.

In consultation with the Risk Department, the businesses implement, most of the time, pricing policies that are differentiated according to the level of risk of counterparties and transactions. The purpose of pricing a transaction is to ensure acceptable profitability, in line with the objectives of ROE (Return on Equity) of the business or entity, after taking into account the cost of the risk of the transaction in question. The pricing of an operation can nevertheless be adapted in certain cases to take into account the overall profitability and the potential customer relationship development. The intrinsic profitability of products and customer segments is subject to periodic analysis in order to adapt to changes in the economic and competitive environment.

Proactive management of counterparties whose situation has deteriorated is key to containing the risk of final loss in the event of counterparty failure. As such, the Group has put in place rigorous procedures for monitoring non retail counterparties and/or for closer monitoring of retail counterparties whose risk profiles are deteriorating. In addition, the businesses and entities, in conjunction with the Risk and Finance Departments, and through collaborators specialising in recovery and litigation, work together to effectively protect the Bank's interests in the event of default.

MEASURES TO MANAGE ESG RISK FACTORS

Concerning ESG risks (Environmental, Social & Governance), the assessment and management of the impact of ESG risk factors on credit risk is based in particular on the establishment of exclusion lists, portfolio alignment indicators (oil and gas and electricity production for example) and sensitivity analyses (in particular transition risk *via* the CCVI or Corporate Climate Vulnerability Index).

In general, credit granting policies must comply with the criteria defined within the framework of the Group's Social and Environmental Responsibility (CSR) policy, which is broken down through:

- the general environmental and social principles and the sectoral and cross-cutting policies appended to them. Sector policies cover sectors considered potentially sensitive from an environmental, social or ethical point of view;
- the targets for alignment with the objectives of the Paris agreement, which the Group has set itself, starting with the sectors with the highest CO_2 emissions;
- commitment to granting sustainable financing classified as Sustainable and Positive Impact Finance and to sustainability linked transactions.

Risks related to climate change (physical and transition risks), which are an aggravating factor in the types of risks facing the Bank must be taken into account in risk assessment processes. An assessment of climate vulnerability (particularly in terms of transition risk) must be provided by the Business Unit for certain specific sectors and may have an impact on the internal rating so that it incorporates the client's adaptation strategy (See also section 4.13 "Environmental, social and governance risks" of this Universal Registration Document).

(1) For non-automated processes.

Counterparty credit risk

The future value of exposure to a counterparty as well as its credit quality are uncertain and variable over time, both of which are affected by changes in market parameters. Thus, counterparty credit risk management is based on a combination of several types of indicators:

- indicators of potential future exposures (potential future exposures, or PFE), aimed at measuring exposure to our counterparties:
  - the Group controls idiosyncratic counterparty credit risks *via* a set of CVaR[1] limits. The CVaR measures the potential future exposure linked to the replacement risk in the event of default by one of the Group's counterparties. The CVaR is calculated for a 99% confidence level and different time horizons, from one day until the maturity of the portfolio,
  - in addition to the risk of a counterparty default, the CVA (Credit Valuation Adjustment) measures the adjustment of the value of our portfolio of derivatives and repos account the credit quality of our counterparties;
- the abovementioned indicators are supplemented by stress test impacts frameworks or on nominal ones in order to capture risks that are more difficult to measure:
  - the more extreme correlation risks are measured *via* stress tests at different levels (wrong-way risk, stress monitoring at sector level, risk on collateralised financing activities and agency),
  - the CVA risk is measured *via* a stress test in which representative market scenarios are applied, notably involving the credit spreads of our counterparties;
- exposures to central counterparty clearing houses (CCP) are subject to specific supervision:
  - the amount of collateral posted for each segment of a CCP: the initial posted margins, both for our principal and agency activities, and our contributions to CCP default funds,
  - in addition, a stress test measures the impact linked to (i) the default of an average member on all segments of a CCP and (ii) the failure of a major member on a segment of a CCP;
- the Global Stress Test on market activities includes cross market-counterparty risks, it is described in more detail in the "Market risk" section;
- besides, a specific framework that has been set up aims to avoid individual concentration related to counterparty risk in market operations.

Market risk

The Group's market activities are carried out as part of a business development strategy primarily focused on meeting client requirements through a full range of products and solutions.

Market risk is managed through a set of limits for several indicators (such as stress tests, Value at Risk (VaR) and stressed Value at Risk (SVaR), "Sensitivity" and "Nominal" indicators). These indicators are governed by a series of limits proposed by the business lines and approved by the Risk Division during the course of a discussion-based process.

The choice of limits and their calibration reflect qualitatively and quantitatively the fixing of the Group's appetite for market risks. A regular review of these frameworks also enables risks to be tightly controlled according to changing market conditions with, for example, a temporary reduction of limits in case of a deterioration. Warning thresholds are also in place to prevent the possible occurrence of overstays.

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

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

Non financial risks (including compliance risk)

Non-financial risks are defined as non-compliance risk, risk of inappropriate conduct, IT risk, cybersecurity risk, other operational risks, including operational risk associated with credit risk, market risk, model risk, liquidity and financing, structural and rate risk. These risks can lead to financial losses.

Governance and a methodology have been put in place for the scope of non-financial risks.

As a general rule, the Group has no appetite for operational risk or for non-compliance risk. Furthermore, the Group maintains a zero-tolerance policy on incidents severe enough to potentially inflict serious harm to its image, jeopardise its results or the trust displayed by customers and employees, disrupt the continuity of critical operations or call into question its strategic focus.

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

- internal fraud: the Group does not tolerate unauthorised trading by its employees. The Group's growth is founded on trust, as much between employees as between the Group and its employees. This implies respecting the Group's principles at every level, such as exercising loyalty and integrity. The Group's internal control system must be capable of preventing acts of major fraud;
- cybersecurity: the Group has zero tolerance for fraudulent intrusions, disruption of services, compromise of elements of its information system, in particular those which would lead to theft of assets or theft of customer data. The Bank aims to put in place effective means to prevent and detect this risk. It has a barometer that measures the degree of maturity of the cybersecurity controls deployed within its entities and the appropriate organisation to deal with any incidents;
- data leaks: trust is the main asset of the Societe Generale Group. Consequently the Group is committed to deploying the necessary resources and implementing controls to prevent, detect and remediate data leaks. It does not tolerate any leaks of its most sensitive information, in particular that of customer data;

(1) The CVaR economic indicator is built on the samemodeling assumptions as the regulatory Effective Expected Positive Exposure (EEPE) indicator used to calculate RWAs.

- business continuity: the Group relies heavily on its information systems to perform its operations and is therefore committed to deploying and maintaining the resilience of its information systems to ensure the continuity of its most essential services. The Group has very low tolerance for the risk of downtime in its information systems that perform essential functions, in particular systems directly accessible to customers or those enabling to conduct business on financial markets;
- outsourced services: the Group seeks to achieve a high degree of thoroughness in the control of its activities entrusted to external service providers. As such, the Group adheres to a strict policy of reviewing its providers the frequency of which depends on their level of risk;
- managerial continuity: the Group intends to ensure the managerial continuity of its organisation to avoid the risk of a long-term absence of a manager that would question the achievement of its strategic objectives, which might threaten team cohesion or disrupt the Group's relationships with its stakeholders;
- physical security: the Societe Generale Group applies security standards to protect personnel, tangible and intangible assets in all the countries where it operates. The Group Security Department ensures the right level of protection against hazards and threats, in particular through security audits on a list of sites that it defines;
- execution errors: the Societe Generale Group has organized its day-to-day transaction processes and activities through procedures designed to promote efficiency and mitigate the risk of errors. Notwithstanding a robust framework of internal control systems, the risk of errors cannot be completely avoided. The Group has a low tolerance for execution errors that would result in very high impacts for the Bank or its clients.

Structural interest rate and exchange rate risks, risk to employee commitments

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

There are four main types of risk: rate level risk, curve risk book, optional risk (arising from automatic options and behavioral options) and basis risk, related to the impact of relative changes in interest rates indices. The Group's structural interest rate risk management primarily relies on the sensitivity of Net Present Value ("NPV") of fixed-rate residual positions (excesses or shortfalls) to interest rate changes according to several interest rate scenarios. The limits are established either by the Board of Directors or by the Finance Committee, at the Business Unit/Service Unit and Group levels. Furthermore, the Group measures and controls the sensitivity of its net interest margin ("NIM") on different horizons.

The Group's policy in terms of structural exchange rate risks consists of limiting as much as possible the sensitivity of its CET1 capital ratio to changes in exchange rates, so that the impact on the CET1 ratio of an appreciation or a depreciation of all currencies against the euro does not exceed a certain threshold in terms of bp by summing the absolute values of the impact of each currency.

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

Structural risk-liquidity and funding risk

Controlling liquidity risk is based primarily on:

- compliance with regulatory liquidity ratios, with precautionary buffers: LCR (liquidity coverage ratio) ratios that reflect a stress situation and NSFR (net stable funding ratio);
- compliance with a minimum survival horizon under combined market and idiosyncratic stress;
- framing of transformation and anti-transformation positions (price risk).

Controlling financing risk is based on:

- maintaining a liability structure to meet the Group's regulatory constraints (Tier1, Total Capital, Leverage, TLAC, NSFR, MREL) and complying with rating agencies' constraints to secure a minimum rating level;
- recourse to market financing: annual long-term issuance programs and a stock of moderate structured issues and short-term financing raised by supervised treasuries.

Model risk

The Group is committed to defining and deploying internal standards to reduce model risk on the basis of key principles, including the creation of three independent lines of defence, the proportionality of due diligence according to each model's level of risk inherent, the consideration of the models' entire lifecycle and the appropriateness of the approaches within the Group.

A wrong design, implementation, use or a non rigorous models monitoring can have two mains unfavorable consequences: an under estimation of equity based of models validated by Regulators and/or financial losses.

Risk model appetite is defined for the perimeter of this group of models: credit risk IRB and IFRS 9, market and counterparty risk, market product valuation, ALM, trading model, compliance and granting.

Risk related to insurance activities

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

- subscription risk related to pricing and fluctuations in the claims ratio;
- risks related to financial markets (interest rate, credit and equity) and asset-liability management.

Investment risk

The Group has limited appetite for financial holdings, such as proprietary private equity transactions. The investments allowed are mainly related to:

- commercial support for the network through the private equity activity of the Societe Generale and Crédit du Nord network and certain subsidiaries abroad;
- taking stakes, either directly or through investment funds, in innovative companies *via* SG Ventures;
- the takeover of stakes in local companies: Euroclear, *Crédit Logement*, etc., which does not have limit.

Settlement/Delivery risk

The settlement-delivery risk on financial instruments arises when transactions (over-the-counter in cash or forward) give rise to a time lag (usually of a few hours) between the payment and the delivery of the underlying (securities, raw materials, foreign exchange, etc.) during their settlement.

The Group defines a risk appetite for delivery risk in relation to the quality of the counterparty (*via* its rating) with larger limits granted to counterparties in the investment grade category (IG).

3.3 RISK APPETITE – GENERAL FRAMEWORK

Risk appetite is determined at Group level and attributed to the businesses and subsidiaries. Monitoring of risk appetite is performed according to the principles described in the Risk Appetite Framework governance and implementation mechanism, which are summarised below.

Governance

As part of the supervision of risk appetite, the Group relies on the following organisation:

- the Board of Directors:
  - approves each year the Group Risk Appetite Statement and the Group Risk Appetite Framework, as well as the Group Risk Appetite Framework,
  - approves in particular the main Group risk appetite indicators (Board of Directors indicators) validated beforehand by General Management,
  - ensures that risk appetite is relevant to the Group's strategic and financial objectives and its vision of the risks of the macro-economic and financial environment,
  - reviews quarterly the risk appetite dashboards presented to it, and is informed of risk appetite overruns and remediation action plans,
  - sets the compensation of corporate officers, sets out the principles of the remuneration policy applicable in the Group, especially for regulated persons whose activities may have a significant impact on the Group's risk profile, and ensures that they are in line with risk management objectives.

  The Board of Directors relies primarily on the Risk Committee;
- General Management:
  - approves the document summarizing the Group's risk appetite Statement and its Risk Appetite Framework based on the proposal of the Chief Risk Officer and the Chief Financial Officer,
  - regularly ensures that risk appetite is complied with,
  - ensures the effectiveness and integrity of the risk appetite implementation system,
  - ensures that the risk appetite for the Group's Business Units and eligible subsidiaries/branches is formalised and translated into frameworks consistent with the Group's risk appetite,
  - ensures internal communication of risk appetite and its transposition in the Universal Registration Document.

In addition, the main mission of the Risk Department is to draw up the document summarizing the Group's risk appetite, as well as the implementation of a risk management, monitoring and control system.

The Finance Department contributes to setting this risk appetite in the framework of indicators under the responsibility of the Finance Committee (profitability, solvency, liquidity and structural risks).

The Compliance Department is also responsible for instructing the risk appetite setting for indicators falling within its scope.

Risk identification process

The risk identification process is a key process of the Group risk-management framework. It is a Group-wide process to identify all risks that are or might be material. The approach is comprehensive and holistic: it covers all risk types[1] and all Group exposures.

In addition to the annual review of the Group's risk taxonomy yearly reviewed and published in the SG Code, risk identification process is based on two pillars in order to ensure a complete and up-to-date view of all the material risks facing the Group:

- risk management governance and key Committees such as CORISQs or COFI (at Group or Business Unit level), COMCO and New Product Committees making it possible to monitor changes in the risk profile for all types of risk (credit, market, operational, etc.). In addition to monitoring well-identified risks, this governance can also generate a debate between risk experts and senior management on emerging risks. This debate is fueled by the latest market news, early warning signals, internal alerts, and more;

(1) Risks are classified on the basis of the Group's risk taxonomy, which names and defines risk categories and their possible sub-categories.

- a series of exercises aimed at identifying additional risks, for example arising from changes in macroeconomic or sectoral conditions, financial markets, regulatory constraints, competitors or market pressure, business model (concentration effects) and changes in banking organisations. These additional identification exercises are also organised by risk types, but include some identification of cross-risk effects (*e.g.* credit and market or credit and operational). For a given type of risk, these exercises analyse and segment the Group's exposure along several axes (Business Unit, activity, customer, product, region, etc.). The underlying risk factors are identified for the perimeters where this risk is assessed as being significant.

When a significant risk is identified, a risk management system, which may include a quantitative risk appetite (risk ceiling or threshold) or a risk policy, is implemented.

In addition, where possible, the risk factors underlying a significant risk are identified and combined in a dedicated scenario, and the associated loss is then quantified by means of a stress test (see also section "Risk quantification and stress test system").

Risk quantification and stress test system

Within the Group, stress tests, a key attribute of risk management, contribute to the identification, measurement and management of risks, as well as to the assessment of the adequacy of capital and liquidity to the Group's risk profile.

The purpose of the stress tests is to cover and quantify, resulting from the Risk Identification annual process, all the material risks to which the Group is exposed and to inform key management decisions. They thus assess what the behavior of a portfolio, an activity, an entity or the Group would be in a degraded business context. It is essential in building the forward-looking approach required for strategic/financial planning. In this context, they constitute a privileged measure of the resilience of the Group, its activities and its portfolios, and are an integral part of the process of developing risk appetite.

The Group stress testing framework combines stress tests in line with the stress testing taxonomy set by the EBA. Group-wide stress tests should cover all legal entities in the Group consolidation perimeter, subject to risk materiality.

Stress test categories are:

- stress tests based on scenarios: application of historical and/or hypothetical conditions but which must remain plausible and in conjunction with the Economic and Sector Studies department, to a set of risk factors (interest rates, GDP, etc.);
- sensitivity stress tests: assessment of the impact of the variation of an isolated risk factor or of a reduced set of risk factors (a shock in rates, credit rating downgrade, equity index shock, etc.);
- reverse stress tests: start with a pre-defined adverse outcome, such as a level of a regulatory ratio, and then identifies possible scenarios that could lead to such an adverse outcome.

The stress test system within the Group thus includes:

- global stress tests

  Global Group stress tests cover all activities and subsidiaries that are part of the Group's consolidation scope ("Group-wide"), as well as all major risks (including credit risk, market risk, operational risks, liquidity risk). They aim at stressing both the Group P&L and key balance sheet metrics, notably capital and liquidity ratios.

  The central stress test is the overall group stress test, which is based on a central scenario and on adverse macroeconomic scenarios modeled by the Economic Research Department, under the independent supervision of the Group Chief Economist. Macro-economic scenarios are supplemented by other parameters such as capital market conditions, including assumptions on funding.

  The performance of the overall Group stress test is based on the uniform application of the methodology and assumptions at the level of all entities and at Group level. This means that the risk factors, and in particular the macro-economic assumptions used locally, must be compatible with the macro-economic scenario defined by the Group. Entities must submit macro-economic variables to the Group's Economic Studies department to check their consistency.

  The regulatory stress test conducted periodically by the EBA also covers all entities and risks and is scenario-based. Therefore, its execution globally mirrors the process defined for the internal Group Global Stress Test, with an increased involvement of the Group central teams, except for the scenario design which is defined by the supervisor;
- specific stress tests which assess a specific type of risk (market risk, credit risk, liquidity risk, interest rate risk, etc.):
  - credit risk stress tests complement the global analysis with a more granular approach and allow fine-tuning of the identification, assessment and management of risk, including concentration,
  - market stress tests estimate the loss resulting from a severe change in financial market risk factors (equity indexes, interest rates, credit spreads, exotic parameters, etc.). They apply to all Group's market activities and rely on adverse historical and hypothetical scenarios,
  - the operational risk assessment relies on an analysis of historical losses, factoring in internal and external loss data as well as the internal framework and the external environment. This includes losses incurred by international financial institutions, and hypothetical forward-looking "scenario analyses" for all operational risk categories,
  - liquidity stress tests which include: (i) a market-wide scenario that attempts to capture a crisis in which financial markets would undergo an extreme market liquidity disruption causing systemic stress event, and (ii) an idiosyncratic scenario that attempts to capture a firm-specific crisis potentially triggered by a material loss, reputational damage, litigation, executive departures,
  - stress tests which assess the sensitivity to structural interest rate risk concerning the banking book. The exercise focuses on rate variations by stressing (i) the net present value of the positions or (ii) the interest margin and on exchange rate fluctuations on the residual exchange positions,
  - a stress test on employment benefits which consists of simulating the impact of variations in market risk factors (inflation, interest rates, etc.) on the Group's net position (dedicated investments minus the corresponding employment benefits),

- stress tests on the risk linked to insurance activities defined in the risk appetite of the Insurance Business Unit, which puts stress on risk factors specific to financial and insurance activities to measure and control the main risks relating thereto,
- climate stress tests based on climate risk scenarios at least once a year. These stress tests may encompass both transition and/or physical risk and may cover short term to medium-long term horizons. These annual climate stress tests can be either global (covering all group exposures) or cover only specific portfolio. Historically, on climate risk, the Group voluntarily participated in exploratory climate stress exercises organized by the ACPR (Prudential Control and Resolution Authority) and the European Banking Authority in 2020. In 2022, the Group also participated in a stress test coordinated by the European Central Bank (ECB) during the first half of the year (see also Chapter 14 "Environmental, social and governance risks"),
- reverse stress tests, both as part of the risk appetite and the recovery plan. The impact of these stress tests is typically defined *via* a breaking point in the solvency ratio or liquidity indicator, which poses a significant threat to the Bank. Hypothetical scenarios leading to this breaking point are then constructed in order to identify new weaknesses.

In addition to internal stress test exercises, the Group is part of the sample of European banks participating in major international stress tests programs conducted by the European Banking Authority (EBA) and the European Central Bank (ECB).

DEFINITION OF THE "CENTRAL" AND "STRESSED" ECONOMIC SCENARIOS

Central scenario

The central scenario is based first of all on a set of observed factors such as recent economic situation and economic policy shifts (budgetary, monetary and exchange-rate policies). From these observed factors, economists calculate the most likely trajectory of economic and financial variables for the desired forecast horizon.

Stressed scenario

The severity of the stressed scenario, which is determined by the deviation of the GDP trajectory from the central scenario, is based on the magnitude of the 2008-2009 crisis, of the eurozone sovereign crisis, and has been adjusted to take into account the impacts – health, economic and financial – of the Covid-19 crisis on the basis of current knowledge. The severity is constantly compared to that of various adverse scenarios produced by reputable institutions such as the ECB, the Bank of England or the Federal Reserve. In 2022, the Group stress test scenario has been set up in order to take into account the risk of a stagflationary shock.

Setting and formalisation of risk appetite at Group level

The Group's risk appetite is formalised in a document ("Risk Appetite Statement") which sets out:

- the strategic profile of the Group;
- its profile of profitability and financial soundness;
- the frameworks relating to the management of the Group's main risks (qualitative, through risk policies, and quantitative, through indicators).

Regarding the profile of profitability and financial soundness, the Finance Department proposes each year, upstream of the budgetary procedure, to the General Management, limits at Group level, supplemented by alert thresholds and crisis levels according to a "traffic light" approach. These frameworks on financial indicators allow:

- to respect, with a sufficient safety margin, the regulatory obligations to which the Group is subject (in particular the minimum regulatory solvency, leverage and liquidity ratios), by anticipating as best as possible the implementation of new regulations;
- to ensure, *via* a safety margin, sufficient resistance to stress scenarios (stress standardised by regulators or stress defined according to a process internal to the Group).

The frameworks relating to risk management, also represented *via* a graduated approach (limits, alert thresholds, etc.), result from a process in which the needs expressed by the businesses are confronted with a contradictory opinion independent from the second line defence. The latter is based on:

- independent analysis of risk factors;
- the use of prospective measures based on stress approaches;
- the proposal for a framework.

For the main risks, the frameworks set make it possible to consolidate the achievement of the Group's financial targets and to orient the Group's profitability profile.

Allocation of risk appetite in the organisation

The allocation of risk appetite in the organisation is based on the strategic and financial plan, and on risk management systems:

- based on recommendations by the Finance Department to General Management, the financial targets defined at Group level are broken down into financial frameworks[1] at business line level, as part of financial management;
- the breakdown of frameworks and risk policies is based on an understanding of the needs of the businesses and their business prospects and takes into account the profitability and financial strength targets of the Business Unit and/or the entity.

(1) *A Group framework can be broken down into the businesses through a different indicator; for example, the capital ratios are broken down in the business lines into weighted assets: "RWA".*

3.4 RISK MANAGEMENT ORGANISATION

Implementing a high-performance and efficient risk management structure is a critical undertaking for Societe Generale Group in all businesses, markets and regions in which it operates, as is maintaining a balance between strong awareness of risks and promoting innovation. The Group's risk management, supervised at the highest level, is compliant with the regulations in force, in particular the order of 3 November 2014 revised by the order of 25 February 2021 on the internal control of companies in the banking sector, Payment Services and Investment Services subject to the control of the French Prudential Supervisory and Resolution Authority (*Autorité de contrôle prudentiel et de résolution* – ACPR) and the final version of European Regulations Basel 3 (CRR/CRD). (See Board's Expertise, page 89 of the 2023 Universal Registration Document).

Governance of risk management

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

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

As part of the Board of Directors, the Risk Committee advises the Board on overall strategy and appetite regarding all kinds of risks, both current and future, and assists the Board when the latter verifies that the strategy is being rolled out.

The Board of Directors' Audit and Internal Control Committee ensures that the risk control systems operate effectively.

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

- **the Risk Committee** (CORISQ), which met 18 times during the 2022 financial year, aims to:
  - validate the main risk management mechanisms (taxonomy, risk identification, stress testing and Risk Appetite Framework),
  - for credit, counterparties, market, operational, model and environmental risks:
    - validate the Group's risk appetite prior to its proposal to the Board of Directors for approval,
    - then define the Group's main risk policy guidelines in the context of the risk appetite previously approved by the Board of Directors,
    - respect the Group's risk appetite as defined and declined.

  Along with the Risks Committee, the Major Risks Committee (*Comité Grands Risques*) is an *ad hoc* Committee, responsible for approving the sales and marketing strategy and risk-taking with regard to major client groups (Corporates, Insurance Companies and Asset Managers);
- **the Finance Committee** (COFI), chaired by the Chief Executive Officer, is responsible for setting out the Group's financial strategy and for ensuring the management of scarce resources (capital, liquidity, balance sheet, tax capacity) and the management of structural risks. COFI oversees all aspects of the management of the structural risks of the Group and its main entities, including the management of liquidity and financing risks, as well as the management of banking book market risks: interest rate, credit spread, exchange and shares, financial management of scarce resources (liquidity and capital), the dividend policy, monitoring the rating assigned to Societe Generale by credit rating agencies, the recovery and resolution plans, monitoring of the Group's tax capacity, financial management of Corporate Centre and intra-group re-invoicing;
- **the Compliance Committee** (COMCO), chaired by the Chief Executive Officer, reviews the risks of non-compliance, the main issues and defines the Group's compliance principles. It ensures, on an annual basis, the monitoring of the quality of the Embargoes & Sanctions risk management framework. The Committee also reviews the main compliance incidents of the period and the main information related to Supervisor relationships. It reviews and challenges compliance indicators on each area of non-compliance risk. Finally, it validates the compliance risk appetite criteria, the annual roadmap for mandatory Group trainings, the new modules for all employees, and on an *ad hoc* basis certain Group compliance topics. In addition, twice a year, a session dedicated to the review of the regulatory system is organized. Its objective is to ensure the consistency and effectiveness of the compliance system with banking and financial regulations;
- **the Digital Transformation Committee** (DTCO), is Chaired by the Deputy General Manager. The purpose of this Committee, in line with the decisions of the Group Strategic Committee, is to initiate and monitor the transformations of the information system and the associated operating model which require, by their transversal nature or by the extent of the transformation envisaged, a decision of the General Management;
- **the Group Internal Control Coordination Committee (GICCC**), is chaired by the Chief Executive Officer or, in his absence, by a Deputy Chief Executive Officer or by the Deputy Chief Executive Officer in charge of supervising the area under review. The purpose of the GICCC is to ensure the consistency and effectiveness of the Group's internal control, in response in particular to the obligation laid down in Art. 16 of the modified French Order of 3 November 2014. The Committee meets approximately 20 times a year to deal with cross-cutting topics as well as the annual review of each BU/SU;
- **the Non Financial Risks Steering Committee**, chaired by the Head of DGLE/PIC assisted as co-sponsors by the CRO and CCO, aims to develop and instruct the orientations taken by the Group Internal Control Coordination Committee (GICCC) and resulting from the Audit and Internal Control Committee (CACI), to ensure the consistency, efficiency and effectiveness of the transformations of non-financial risk control (NFR) frameworks, to set targets with regard to roadmaps, to validate, coordinate and manage the evolution of NFR frameworks throughout the Group, to highlight risks and alerts related to NFR frameworks, to provide resources, prioritize and decide on their allocation, by making any necessary arbitrations;
- **the Responsible Commitments Committee** (CORESP), chaired by the Deputy Chief Executive Officer in charge of overseeing the ESG policy, deals with all matters falling within the Group's responsibility in Environmental and Social matters, or those having an impact on the Group's responsibility or reputation and not already covered by an existing Executive Management Committee. The Committee is decision-making and has authority over the entire Group. Its objective is to (i) arbitrate complex transaction/client cases presenting a high reputational risk or non-alignment with the Group's standards in terms of CSR, Culture & Conduct, ethics or reputation; (ii) examine subjects with very high CSR, ethical or reputational risks; (iii) make new Group commitments or change the Group's E&S standards (including sectoral policies); (iv) monitor the implementation of the Group's E&S commitments; (v) examine opportunities for the development of sustainable and positive impact financing or investments, requiring the opinion or validation of the General Management;

- **the Group Provisions Committee** (COPRO), chaired by the Chief Executive Officer, meets quarterly and is tasked with presenting and validating the Group's net risk expense (provisions for the credit risk) that will be accounted for the quarter in question.

Divisions involved in risk management and internal control

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

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

- **the Risk Division**

  The main role of the Risk Division (RISQ) is to support the development of the Group's activities and profitability by elaborating the Group's risk appetite (allocated between the Group's different business lines) in collaboration with DFIN and the BUs/SUs and establishing a risk management and monitoring system as a second line of defence. In performing its work, the RISQ SU reconciles independence from the businesses with a close working relationship with the BUs, which are responsible in the first instance for the transactions they initiate.

  Accordingly, the Risk Division:

  - provides hierarchical and functional supervision for the Group's Risk Management Function
  - addresses the guidance, with the Finance Service Unit, for setting the Group's risk appetite as submitted to General Management,
  - identifies all Group risks,
  - implements a governance and monitoring framework for these risks, including cross-business risks, and regularly reports on the nature and extent thereof to General Management, the Board of Directors and the banking supervisory authorities,
  - contributes to the definition of risk policies, taking into account the aims of the core businesses and the relevant risk issues,
  - defines or validates methods and procedures for the analysis, assessment, approval and monitoring of risk,
  - implements a second-level control to ensure the correct application of these methods and procedures,
  - assesses and approves transactions and limits proposed by business managers,
  - defines or validates the architecture of the central risk information system, ensures its suitability to business requirements;
- **the Finance Service Unit** (DFIN) coordinates the Finance Management Function and is responsible for the Group's financial management, oversight and production through several complementary tasks:
  - fuelling General Management's discussions on strategic and financial aspects. To this end, DFIN takes care to provide a consistent overview of performance indicators and financial information,
  - managing, at consolidated level for Societe Generale SA and for certain subsidiaries, the establishment and analysis of financial, tax and regulatory statements (regulatory indicators regarding scarce resources, regulatory reports, ICAAP and ILAAP documentation) in compliance with applicable standards and obligations,
  - monitoring and overseeing P&L performance, profitability and scarce resources (capital, liquidity, balance sheet) in line with strategic objectives and in accordance with regulatory obligations,
  - supporting the Business Units and Service Units with financial and strategic oversight,
  - managing liquidity, in particular through the implementation of financing and resilience plans, in accordance with the objectives set by the Group and in compliance with the Group's risk appetite,
  - maintaining financial crisis management plans tailored to the Group's configuration,
  - ensuring the management and first-level monitoring of structural interest rate, foreign exchange and liquidity risks as defined in Book B Title V Chapter 6. RISQ assuming the role of second line of defence,
  - performing regulatory watch with respect to scarce resources, accounting and finance, and participating in institutional relations and advocacy with its main peers and with banking federations,
  - acting as enterprise architect for all activities performed by the Group's Finance Divisions;
- **the Group Compliance Division** is responsible for the definition and consistency of the non-compliance risk prevention and control framework, related to banking and financial regulation and for coordinating the framework aimed at preventing, identifying, assessing and controlling non-compliance risk across the entire Group. It ensures that roles and responsibilities are identified with the appropriate level of expertise so that the regulatory watch framework and related normative documentation, including its deployment, are operational. In particular, it takes care to harmonise procedures and optimise (in conjunction with the BU/SUs) international resources in order to ensure the framework's effectiveness and compliance with its rules. Within this framework, it has hierarchical and functional authority over the compliance teams of Group entities.

  The Group Compliance Service Unit is organised around three broad categories of non-compliance risks:

  - financial security: know your customer (KYC); compliance with the rules and regulations on international sanctions and embargoes; countering money laundering and terrorist financing (AML/CTF), including reporting suspicious transactions to the appropriate financial intelligence authority when necessary,
  - regulatory risks: customers protection; integrity of the financial markets; countering bribery and corruption, ethics and good conduct; compliance with regulations related to tax transparency (based on knowledge of clients' tax profile); compliance with regulations on social and environmental responsibility and the Group's commitments,
  - protection of data, including personal data and in particular those of customers;

- **the Corporate Secretary** within its fields of expertise, is assigned with the mission of protecting the Bank in order to further its development. Together with the SUs, BUs and other Societe Generale Group entities, it ensures the administrative, legal and tax compliance of the Group's activities, both in France and abroad. It is in charge of managing legal and tax risks. It also oversees global Group security (together with the RESG SU in respect of IT systems security), designs and implements the risk insurance policy for the entire Group and its staff, and provides assistance in developing insurance products for the Group's clients. It devises and oversees the development of corporate social responsibility and public affairs and institutional relations/advocacy initiatives within the Societe Generale Group. Lastly, it handles the Group's central administration and offers support to the Secretary of the Board of Directors as necessary;
- **the Human Resources** is tasked with defining and implementing the general and individual policies designed to enable the Group to develop the skills and talent needed for its strategy to succeed. The Division's role as partner to the businesses is key to the Group's adaptation to its environment;
- **the Corporate Resources and Innovation Department** accompanies the digital transformation and promotes operational efficiency for the Group. It supervises the Resource Management Functions (Information Systems, Sourcing and Property);
- **the Group Internal Audit and General Inspection Department**, under the authority of the General Inspector, is in charge of internal audit; finally
- **the Sustainable Development Department** attached to the general Management, the Group Sustainable Development Division (DGLE/RSE) assists the Deputy Chief Executive Officer in charge of the whole ESG policies (Environmental, Social and Governance) (RSE – Corporate Social Responsibility-) and their actual translation in the business lines and functions trajectories. It supports the Group ESG transformation to make it a major competitive advantage, in the business development as well as in the ESG (Environmental & Social) risks management. DGLE/RSE provides an advising mission to the General Management through three main tasks:
  - the definition and strategic steering of the Group's ESG ambition,
  - the support of the BUs and SUs ESG transformation,
  - the contribution to promoting the Group's ESG reach.

According to the last census carried out on 31 December 2022, the full-time equivalent (FTE) workforce of:

- the Group's Risk Department for the second line of defence represents approximately 4,475 FTEs (1,671 within the Group's Risk Department itself and 2,804 for the rest of the Risk function);
- the Compliance Department or the second line of defence represents approximately 2,934 FTEs;
- the Information System Security Department totals approximately 549 FTEs.

Risk reporting and assessment systems

The Group's risk measurement systems serve as the basis for the production of internal Management Reports allowing the monitoring of the Group's main risks (credit risk, counterparty, market, operational, liquidity, structural, settlement/delivery) as well as the monitoring of compliance with the regulatory requirements.

The risk reporting system is an integral part of the Group's risk management system and is adapted to its organisational structure. The various indicators are thus calculated at the level of the relevant legal entities and Business Units and serve as the basis for the various reportings. Departments established within the Risk, Finance and Compliance sectors are responsible for measuring, analysing and communicating these elements.

Since 2015, the Group has defined architecture principles common to the Finance and Risk functions, the TOM-FIR principles (Target Operating Model for Finance & Risk), in order to guarantee the consistency of the data and indicators used for internal management and regulatory production. The principles revolve around:

- Risk and Finance uses, whether at the local level and at the various levels of consolidation subject to an organised system of "golden sources", with a collection cycle adapted to the uses;
- common management rules and language to ensure interoperability;
- consistency of Finance and Risk usage data, *via* strict alignment between accounting data and management data.

The Group produces, *via* all of its internal reports for internal monitoring purposes by the Business Units and Service Units, a large number of **risk metrics** constituting a measure of the risks monitored. Some of these metrics are also produced as part of the transmission of regulatory reports or as part of the publication of information to the market.

The Group selects from these metrics a set of **major metrics**, able to provide a summary of the Group's risk profile and its evolution at regular intervals. These metrics concern both the Group's financial rating, its solvency, its profitability and the main risks (credit, market, operational, liquidity and financing, structural, model) and are included in the reports intended for internal management bodies.

They are also subject to a framework defined and broken down in line with the Group's risk appetite, giving rise to a procedure for reporting information in the event of breaches.

Thus, the risk reports intended for the management bodies are guided in particular by the following principles:

- coverage of all significant risks;
- combination of a global and holistic view of risks and a more in-depth analysis of the different types of risk;
- overview supplemented by focus on certain specific scopes, forward-looking elements (based in particular on the presentation of elements on the evolution of the macro-economic context) and elements on emerging risks;
- balance between quantitative data and qualitative comments.

The main Risk reports for management bodies are:

- monthly reporting to the Risk Committee of the Board of Directors aims to provide an overview of changes in the risk profile.

  This reporting is complemented by dashboard for monitoring the Group's Risk Appetite Statement indicators is also sent quarterly to the Board of Directors. These indicators are framed and presented using a "traffic light" approach (with distinction between thresholds and limits) in order to visually present monitoring of compliance with risk appetite. In addition, a compliance dashboard and a reputation dashboard are sent to the Risk Committee of the Board of Directors and provide an overview of each non-compliance risk;

- monthly reporting to the Group Risk Committee (CORISQ), for the general management, aims to regularly provide this Committee with a risk analysis under its supervision, with a greater level of detail than reporting to the Risk Committee of the Board of Directors. In particular, a summary of the main credit files over the period covered by the reporting is presented;
- reporting to the Finance Committee (COFI) for General Management gives rise in particular to the following two reports: a "Scarce resources trajectory" report allowing budget execution to be monitored and a "Structural risk monitoring (ALM)" report making it possible to monitor compliance with the thresholds and limits relating to liquidity risks and structural interest and exchange rate risks;
- the quarterly reporting of the Group Compliance Committee (COMCO) to General Management: the COMCO provides *via* dedicated reporting an overview of the main non-compliance risks, raises points of attention on compliance topics Group, decides on the main orientations and defines the Group principles in terms of compliance;
- the quarterly reporting of the Provisions Committee (COPRO) to General Management is intended to provide an overview of changes in the level of provisions at Group level. In particular, it presents the change in the net charge of the cost of risk by pillar, by Business Unit and by stage;
- reporting by the Group Internal Control Coordination Committee (GICCC) to General Management: this Committee reviews, on the basis of a standardised dashboard for all Business Units/Service Units, the efficiency and the consistency of the permanent control system implemented within the Group, as well as, within the framework of the Risk Internal Governance Assessment (RIGA) process, the ability of the Risk function to exercise its role as the 2nd line of defence in the whole group. Finally, the Risk Department contributes, as a permanent member, to all GICCC meetings, through position papers on the subjects under review.

Although the above reports are used at Group level to monitor and review the Group's risk profile in a global manner, other reports are transmitted to the Board of Directors or to the General Management in order to monitor and control certain types specific risks.

Ad hoc reports can also be produced. By way of illustration, the Group had to adapt its risk management system from the start of the Covid-19 crisis in March 2020. Dedicated reports had been set up for the General Management, the Board of Directors or the supervisor, on a regular basis and containing indicators adapted to the context.

Additional information on risk reporting and assessment systems by type of risk is also presented in the following chapters.

INTEREST RATE BENCHMARK REFORM

Presentation of the reform

The interest rate benchmark reform (IBOR: InterBank Offered Rates), initiated by the Financial Stability Board in 2014, aims at replacing these benchmark rates with alternative rates, in particular the Risk-Free Rates (RFR). This reform accelerated on 5 March 2021, when the British Financial Conduct Authority (FCA), the supervisor of LIBOR, announced the official dates for the cessation and loss of representativeness of these benchmarks:

- EUR LIBOR and CHF LIBOR (all terms); GBP LIBOR and JPY LIBOR (terms: overnight, one week, two months and twelve months); USD LIBOR (terms: one week and two months): the publication of these benchmark settings has permanently ceased as of 1 January 2022;
- GBP LIBOR and JPY LIBOR (terms: one, three and six months): these settings have not been contributed by banks since 1 January 2022 and have been published in a synthetic form; their use is thus restricted to the run-off management of legacy positions. Nonetheless, the FCA has announced the cessation of these synthetic benchmarks as follows:
  - JPY LIBOR (terms: one, three and six months): end December 2022,
  - GBP LIBOR (terms: one and six months): end March 2023,
  - GBP LIBOR (term: three months): end March 2024;
- USD LIBOR (terms: overnight, one, three, six and twelve months): the cessation of the publication of these benchmark settings contributed by a panel of banks is scheduled for end June 2023.

In parallel, other indices based on USD LIBOR will be phased out at end June 2023: USD LIBOR ICE SWAP RATE, MIFOR (India), PHIREF (Philippines), SOR (Singapore) and THBFIX (Thailand).

Furthermore, the announced cessation date for the publication of the MosPrime (Russia) is 30 June 2023.

Regarding the major interest rate benchmark indices of the euro area:

- EURIBOR: EMMI (European Money Markets Institute), the administrator of the index, does not plan to cease its publication. The EURIBOR will thus be maintained in the coming years;
- EONIA: its publication definitively ceased on 3 January 2022. The successor benchmark rate recommended by the European Central Bank working group on the euro area interest rates is the €STR on which the EONIA had been based since end 2019.

Impact of the reform for the Societe Generale Group

The Societe Generale Group supports these reforms and takes an active part in the working groups set up by the central banks of the currencies concerned. The Group is actively preparing for these changes, through a specific transition program set up in the Summer of 2018 and supervised by the Finance Division.

For this purpose, the Group has undertaken active awareness and communication campaigns for its customers, supplemented by a monthly newsletter and a Frequently Asked Questions (FAQ) page on the IBOR transition publicly available on the Societe Generale website. To prepare for the announced cessation dates of LIBOR and other transitioning benchmarks, the public authorities and the working groups set up by the central banks issued recommendations to the banking industry. These recommendations aim at stopping the production of new contracts referencing these indices as well as at migrating the existing contracts referencing said indices to alternative benchmark rates.

To ensure a consistent approach throughout the Societe Generale Group, an internal Committee has been formed. Its role is to issue periodical orientations reflecting the market developments and the recommendations from regulators and their working groups. Several internal guidelines have been issued covering four main themes:

- strengthening of the new contracts through the inclusion of fallback clauses and risk warnings;
- cessation of the production of new transactions referencing ceasing benchmarks (with some exceptions provided for by regulators) and use of alternative solutions;
- fair and homogenous treatment of customers through the involvement of the compliance teams in the renegotiations of contracts;
- reporting obligation, and restrictions related to the use of certain interest rates as alternatives to LIBOR.

At this stage, all directives are being applied and widely circulated among the Group's staff.

In order to build the capacity to deal on products referencing RFRs or some term RFRs and thus ensure the continuity of its business after the phasing out of IBOR, the Societe Generale Group updated its tools and processes in line with the major calculation methods recommended by the relevant working groups or professional associations. Nevertheless, the Group continues monitoring developments in the use of RFRs and other alternative rates in order to implement any new convention and meet its customers' needs.

GBP LIBOR, CHF LIBOR, EUR LIBOR, JPY LIBOR and EONIA migration

Until the end of 2021, the Group primarily centred its work on renegotiating transactions with its clients and transitioning all the contracts indexed on the benchmarks terminated or not representative anymore at the end of 2021.

Since Q2 2022, the Societe Generale Group has finalised the transition of all the contracts indexed on the above-mentioned benchmarks.

USD LIBOR and USD LIBOR ICE SWAP RATE migration

The Societe Generale Group has initiated the migration of its stock of operations indexed on USD LIBOR and USD LIBOR ICE SWAP RATE aiming to finalise it by June 2023.

To do this, the Group employs interactions with its customers to offer a proactive transition to alternative solutions.

The Group's customers most concerned by the transition of their contracts are, primarily, customers of the investment banking and Financing and Advisory activities and, to a lesser extent, some of the customers of the Group's French and International retail networks.

The identification of the contracts concerned and the strategy for transitioning the transactions indexed on USD LIBOR have been finalised for all products:

- loans and credit lines are migrated mostly through a bilateral negotiation, and so are the related hedging instruments, in order to maintain their effectiveness;
- the migration of interest rate derivatives is scheduled to be implemented in large part in the first half of 2023, in line with the key milestones set by the clearing houses or by the activation of fallback clauses (ISDA Protocol to which Societe Generale has been adhering since 2020, in particular for USD LIBOR). However, some derivatives contracts are renegotiated bilaterally; lastly
- current accounts and other similar cash products are migrated through an update of their general conditions.

The operational migration of the contracts referencing the USD LIBOR makes use of the processes and tools already developed for the migration of the contracts referencing IBOR interest rates ending at end 2021, as well as of the experience gained. The clearing houses' transition plan is known in advance and based on the experience gained from previous migrations.

Other benchmark rates migration (MIFOR, PHIREF, SOR, THBFIX and MosPrime)

For these rates, the identification of the customers and transactions has been completed. The impact is much smaller than for USD LIBOR. At the level of the Societe Generale Group, these benchmark transitions impact only investment banking products.

The migration strategies are nevertheless similar to those applicable to the USD LIBOR as described above.

The Societe Generale Group keeps monitoring the announcements from regulators and administrators in other jurisdictions in order to react proactively and adapt its migration strategy accordingly.

The table below presents an estimate of the exposures, as at 31 December 2022, related to the contracts impacted by the benchmark reform and whose term is scheduled beyond the official cessation dates.

This table has been produced based on the project monitoring data and on the legal status of the contracts migration.

TABLE 8: FINANCIAL ASSETS AND LIABILITIES AND DERIVATIVES IMPACTED BY THE INTEREST RATE BENCHMARKS REFORM

(In EURbn)			2022		
			Outstanding principal		Notional[1]
Current interest rate benchmarks[5]	New risk-free rates liable to replace the current interest rate benchmarks	Cotation end date	Financial assets[2] (excl. derivatives) impacted by the reform	Financial liabilities[3] (excl. derivatives) impacted by the reform	Derivatives[4] impacted by the reform
EONIA – Euro OverNight Index Average	Euro Short-Term Rate (€STR)	31.12.2021			
LIBOR – London Interbank Offered Rate – GBP	Reformed Sterling Overnight Index Average (SONIA)	31.12.2021			
LIBOR – London Interbank Offered Rate – CHF	Swiss Average Rate Overnight (SARON)	31.12.2021			
LIBOR – London Interbank Offered Rate – JPY	Tokyo OverNight Average (TONA)	31.12.2021			
LIBOR – London Interbank Offered Rate – EUR	Euro Short-Term Rate (€STR)	31.12.2021			
LIBOR – London Interbank Offered Rate – USD	Secured Overnight Financing Rate (SOFR)	30.06.2023	27	1	1,899
USD LIBOR Ice Swap rate (CMS)	USD SOFR Ice Swap rate (CMS)	30.06.2023		12	228
SOR – Singapore Dollar Swap Offer Rate	Singapore Overnight Rate Average (SORA)	30.06.2023			3
MIFOR (INR)	Modified MIFOR	30.06.2023			3
PHIREF (PHP)	No alternative rate defined by regulators	30.06.2023			
THBFIX (THB)	THOR	30.06.2023			
MOSPRIME (RUB)	RUONIA	30.06.2023			6

(1) Notional used in combination with an interest rate benchmark in order to calculate derivative cash flows.
(2) Including accounts receivable, loans, securities received under repurchase agreements, debt securities bearing interest at variable rates.
(3) Including deposits, borrowings, transactions on securities delivered under repurchase agreements, debt issued in the form of securities bearing interest at variable rates.
(4) Including firm instruments (swaps and futures) and conditional instruments.
(5) Only the major interest rate benchmarks impacted by the IBOR reform are presented in this table.

RISKS ASSOCIATED WITH RATE REFORM

The risks related to the IBOR reform are now mainly limited to USD LIBOR for the period running until June 2023. They are managed and monitored within the governance framework dedicated to the IBOR transition. They have been identified as follows:

- program governance and execution risk, liable to cause delays and loss of opportunities, is monitored as part of the work of regular Committees and arbitration bodies;
- legal documentation risk, liable to lead to post-transition litigations, is managed through fallback clauses inserted in the contracts depending on the availability of market standards;
- market risk, with the creation of a basis risk between the rate curves associated with the different indexes, is closely monitored and supervised;
- operational risks in the execution of the migration of transactions depend in particular on the willingness and preparedness of our counterparties, the volume of transactions to be migrated and their spread over time;
- regulatory risk is managed according to the Group guidelines in line with the recommendations of the regulators and working groups on the LIBOR transition;
- conduct risk, related to the end of LIBOR, is notably managed through:
  - specific guidelines on the appropriate conduct detailed by business line,
  - training of the teams,
  - communications to customers (conferences, events, bilateral discussions in particular with the less informed customers) are organised on the transition-related risks, the alternative solutions that may be implemented, and on how they might be affected.