53. Risk management

a) Risk principles and culture

Grupo Santander´s risk principles below are compulsory. They comply with regulatory requirements and are inspired by best market practices:

1. All employees are risk managers who must understand the risks associated with their functions and not assume risks with an impact that exceeds the Group's risk appetite or is unknown.

2. Involvement of senior managers, with consistent risk management and control through their conduct, actions and communications, as well as oversight of the risk culture and make sure Grupo Santander maintain the risk profile within the defined risk appetite.

3. Independent risk management and control functions, according to the three lines of defence model of Grupo Santander.

4. A forward-looking, comprehensive approach to risk management and control for all businesses and risk types.

5. Complete and timely information to identify, assess, manage and disclose risks to the appropriate level.

Grupo Santander's holistic control structure stands on these principles and includes strategic tools and processes set out in the risk appetite statement, such as annual planning and budget planning, scenario analysis, the risk reporting structure and risk identification and assessment.

1. Risk factors

Grupo Santander's risks categorization ensures effective risk management, control and reporting. The risk framework distinguishes these risk types:

- Credit risk relates to financial loss arising from the default or credit quality deterioration of a customer or counterparty, to which Santander has directly provided credit or assumed a contractual obligation.

- Market risk results from changes in interest rates, exchange rates, equities, commodities and other market factors, and from their effect on profit or capital. It includes the structural risk relates to market movements or balance sheets behaviour will change the value or profit generation of assets or liabilities in the banking book.

- Liquidity risk occurs if liquid financial resources are insufficient or too costly to obtain in order to meet liabilities when they fall due.

- Capital risk is the risk that arises from the possibility of having an inadequate quantity or quality of capital to meet internal business objectives, regulatory requirements or market expectations in the area of structural risk.

Grupo Santander also takes into account, on an ongoing basis in its management of the risk function, operational, regulatory compliance, model, reputational and strategic risks.

Besides, environmental and climate-related risk drivers are considered as factors that could impact the existing risks in the medium-to-long-term. These elements include, on the one hand, those derived from the physical effects of climate change, generated by one-off events as well as by chronic changes in the environment and, on the other hand, those derived from the process of transition to a development model with lower emissions, including legislative, technological or behaviour of economic agents changes.

The analysis of climate change scenarios has continued to advance during 2021 in the Group to try to cover the different casuistry related to the risks of transition to a low-carbon economy and/or the effects derived from the physical risk of possible climatic events in certain geographies where the Group operates.

Grupo Santander continues to make progress in the credit granting process following the EBA guidelines as well as in the development of a more restrictive financing policy, taking special account of the most sensitive sectors/activities, which includes ceasing to provide financial services to medium term to electricity generation customers with more than 10% of revenues dependent on coal and eliminate exposure to coal mining production in the world.

Grupo Santander has scheduled a series of actions to continue integrating climatic and environmental factors in the credit admission process, through i) their incorporation in the assessment processes of local credit committees, ii) their inclusion in the assignment of corporate ratings in the wholesale market (with a future expansion to retail banking) and in the process of setting prices through the entities' own ratings and the specific pricing that already exists for specific products with discount rates based on the fulfillment of various conditions , and iii) the inclusion of energy certificates in the valuation of collaterals.

Additionally, Grupo Santander has increased focus on the impact of climate risk in relation to market, structural and liquidity risk, which arise from the possibility that changes in climate may adversely affect the value of a financial instrument, a portfolio or the Group as a whole. This risk may have an impact both on financial instruments value or portfolios and on Santander's liquidity. Grupo Santander measures this risk through stress scenarios for both market and liquidity risk, which arises from the possibility that climate change may adversely affect the value of a financial instrument, a portfolio or the Group as a whole

2. Risk governance

Grupo Santander robust risk and compliance governance structure allows us to conduct effective oversight in line with our risk appetite. It stands on three lines of defence, a structure of committees and strong Group-subsidiary relations, guided by our risk culture, Risk Pro.

2.1 Lines of defence

Grupo Santander model of three lines of defence effectively manages and controls risks:

- First line: formed by businesses and functions that take or originate exposure to risk, it recognizes, measures, controls, monitors and reports on risks according to internal risk management regulation. Risk origination must be consistent with the approved risk appetite and related limits.

- Second line: formed by the Risk and Compliance and Conduct functions, it independently oversees and challenges the first line's risk management. Its duties include ensuring that risks are managed according to the risk appetite defined by senior management and strengthening our risk culture throughout Grupo Santander.

– Third line: the Internal Audit function, which is independent to ensure the board of directors and senior managers with high-quality and efficient internal controls, governance and risk management systems, helping to safeguard our value, solvency and reputation.

The Risk, Compliance & Conduct and Internal Audit functions are separate and independent. Each has direct access to the board of directors and its committees.

2.2 Risk committee structure

The board of directors is ultimately responsible for risk and compliance management and control. It revises and approves the bank's risk frameworks and appetite, while promoting a strong risk culture across the Group. The board relies on its risk supervision, regulation and compliance committee for risk control and on the group's executive committee for risk approval.

The Group chief risk officer (Group CRO), who decides risk strategy and promotes proper risk culture, is in charge of overseeing all risks and challenging and advising business lines on risk management.

The Group chief compliance officer (Group CCO), who decides compliance and conduct strategy, is in charge of controlling the risks within their purview and must provide the Group CRO with a complete overview on the situation of risks being monitored.

Both the Group CRO and the Group CCO have direct access and report to the risk supervision, regulation and compliance committee and the board of directors.

The executive risk, risk control and compliance and conduct committees are executive committees and have been delegated powers by the board.

Furthermore, risk functions have forums and regular meetings to manage and control the risks within their purview. Executive committees also delegate some duties to subordinate forums.

Their responsibilities include:

- Reporting to the Group CRO, the Group CCO, the risk control committee and the compliance and conduct committee on risk management according to risk appetite;

- monitoring and ensuring proper management of each risk factor; and

- overseeing measures to comply with supervisors and auditors' expectations.

Besides, Grupo Santander, in order to establish an adequate control environment for the management of each risk factors, the Risk and Compliance and Conduct functions have effective internal regulation to create the right environment to manage and control all risks.

Grupo Santander can also dictate new governance measures for special situations. During the Brexit crisis transition process, it set up separate steering committees and working groups with Santander UK. Also, to cope with the covid-19 crisis, it created special situation forums, in which close coordination with subsidiaries, local contingency plan activation and scenario analysis enhanced allocated resources and governance.

2.3 The Group's relationship with subsidiaries

In all subsidiaries, the risk and compliance management and control model is consistent with the frameworks approved by Grupo Santander's board of directors, which they adhere to through their own boards and can only adapt according to local law and regulation. In its duty to carry out aggregate risk oversight, Grupo Santander validates and challenges subsidiaries' internal regulation and transactions, which results in a common risk management model across the Group.

In 2021, Grupo Santander continued to strengthen the regional subsidiary relations model, based on regions, to find synergies for common operations and platforms building on the global and regional scale; to streamline processes; and to tighten control mechanisms so Grupo Santander's business can grow, allocate capital more efficiently and offer the best service to customers.

In this sense, each local CRO interact regularly with their regional head of risk, the Group CRO and the Group CCO in periodic regional or country control meetings. Local and global Risk and Compliance functions also hold follow-up meetings to address special matters. The Group CRO and the Group CCO and regional heads of risk are involved in appointing, setting of objectives, reviewing and compensating their local counterparts to ensure proper risk management.

Grupo Santander enhances its relations with subsidiaries and its advanced risk management model through:

- Close collaboration between countries in the same region to carry out common initiatives efficiently;

- structural change, subsidiary benchmarks and a strategic vision for the function to implement advanced risk management infrastructures and practices;

- the exchange of best practices to strengthen processes and drive innovation in order to achieve a quantitative impact.;

- identification of talent in risk and compliance teams, promoting international mobility through a global risk talent programme and tightening succession plans.

3. Management processes and tools

Grupo Santander has these effective risk management processes and tools:

3.1 Risk appetite and structure of limits

Risk appetite is the volume and type of risks Grupo Santander deem prudent for the business strategy, even in unforeseen circumstances. It considers adverse scenarios that could have a negative impact on capital, liquidity and profitability.

The board sets the Group's risk appetite statement (RAS) every year. Grupo Santander subsidiaries' boards also set their own risk appetites annually. Each of those risk appetites translates into risk management limits and policies based on risk type, portfolio and segment.

3.1.1. Business model and risk appetite fundamentals

Grupo Santander's risk appetite is consistent with the risk culture and business model built on customer focus, scale and diversification. At the core of Grupo Santander's risk appetite are:

- A medium-low and predictable target risk profile that is centred on retail and commercial banking, internationally diversified operations and strong market share;
- Stable, recurrent earnings and shareholder remuneration, sustained by a sound base of capital, liquidity and sources of funding;
- Independent subsidiaries that manage their own capital and liquidity, with risk profiles that do not compromise Grupo Santander’s solvency;
- An independent risk function with involvement by senior management to embed a strong risk culture and drive a sustainable return on capital;
- A global and holistic vision through a meticulous control and monitoring of risks, businesses and markets;
- A focus on products Grupo Santander know well;
- A conduct model that protects Grupo Santander`s customers; and
- A remuneration policy that aligns employees and executives' interests with risk appetite and long-term results.

3.1.2. Corporate risk appetite principles

The principles that inform Grupo Santander's risk appetite are:

- **The board and senior management's responsibility** for risk appetite;
- **An enterprise-wide view of risk, back-testing and challenge of risk profile** based on quantitative metrics and qualitative indicators;
- **A forward-looking view** based on plausible assumptions and adverse/stress scenarios to reflect the desired risk profile in the short and medium term;
- **Strategic and business plans embedded in daily management** by policies and limits;
- **Common standards** that align each subsidiary's appetite with the Group's; and
- **Regular reviews, best practice and regulatory requirements**, with mechanisms in place to keep the risk profile stable and mitigate non-compliance.

3.1.3. Structure of limits, monitoring and control

Risk appetite is expressed in qualitative terms and limits, structured on these five core elements.

1 **Earnings volatility**
The maximum loss Grupo Santander can tolerate in an acute -but- plausible stress scenario.

2 **Solvency**
- Minimum capital position Grupo Santander can tolerate in a stress scenario.
- Maximum leverage Grupo Santander can tolerate in a stress scenario.

3 **Liquidity**
- Minimum structural liquidity position.
- Minimum liquidity horizon Grupo Santander can tolerate in peak stress scenario.
- Minimum liquidity coverage position.

4 **Concentration**
- Concentration in single names, industries and portfolios.
- Concentration in non-investment grade counterparties.
- Concentration in large exposures.

5 **Non-financial risks**
- Maximum operational risk losses.
- Maximum risk profile.
- Non-financial risk indicators:
  - Financial crime compliance (FCC)
  - Cyber and security risk
  - Model risk
  - Reputational risk

b) Credit risk

1. Introduction to the credit risk treatment

Credit risk refers to a potential financial loss from the default or credit quality deterioration of a customer or other third party with whom Grupo Santander has a contractual obligation. It is our most important risk, both in terms of exposure and capital consumption. It also includes counterparty risk, country risk and sovereign risk.

Credit risk management

Grupo Santander identifies, analyses, controls and decides on credit risk based on holistic view of the credit risk cycle, which includes the transaction, the customer and the portfolio.

Credit risk identification is key to managing and controlling Grupo Santander's portfolios effectively. Grupo Santander classify external and internal risks in each business and adopt corrective and mitigating measures when needed through these processes:

1.1. Planning

Grupo Santander´s planning helps to set business targets and define specific action plans within our risk appetite framework.

Strategic commercial plans (SCP) are a management and control tool the business and risk areas prepare for Grupo Santander's credit portfolios. They determine commercial strategies, risk policies, resources and infrastructure, ensuring a holistic view of the portfolios. They provide managers with an updated view of credit portfolio quality to measure credit risk, run internal controls over the defined strategy coupled with regular monitoring, detect significant deviations in risk and potential impacts, and take corrective actions when necessary. They also align with Grupo Santander's risk appetite and its subsidiaries' capital targets, and are approved and monitored by senior managers at each subsidiary before being reviewed and validated by Grupo Santander.

1.2. Risk assessment and credit rating

To analyse customers' ability to meet contractual obligations, Grupo Santander uses valuation and parameter estimation models in each of the segments. Grupo Santander's credit quality valuation models are based on credit rating drivers, which Grupo Santander monitors to calibrate and adjust the decisions and ratings they assign. Depending on each segment, drivers can be:

- Rating: from mathematical algorithms that have a quantitative model based on balance sheet ratios or macroeconomic variables, and a qualitative module supplemented by the credit analyst's expert judgement. It is used for SCIB, corporate, institutional and SME segments (with individualised treatment).

- Scoring: an automatic system to evaluate credit applications that assigns an individual score to customers for subsequent decision-making, generally in the retail and smaller SME segments.

Grupo Santander's parameter estimation models follow econometric models built on Grupo Santander's portfolios' historical defaults and losses. Grupo Santander uses them to calculate economic and regulatory capital as well as IFRS 9 provisions for each portfolio.

Grupo Santander regularly monitoring and evaluate models' appropriateness, predictive capacity, performance, granularity, compliance with policies and other related factors. Grupo Santander reviews ratings with the latest available financial and economic information. Grupo Santander has also increased the reviews for customers who are under closer observation or have automatic warnings in the risk management systems.

1.3. Credit risk mitigation techniques

We approve risks generally on the basis of borrowers' ability to pay in fulfilment of financial obligations, notwithstanding any additional collateral or personal guarantees we can require from them. To determine this, we analyse funds or net cash flows from their businesses or income with no guarantors or the assets pledged as collateral. We always consider guarantors and collateral when deciding to approve a loan as a secondary means of recourse if the first channel fails.

In general, a guarantee is as a reinforcement measure added to a credit transaction to mitigate a loss due to a failure to meet a payment obligation.

Grupo Santander has credit risk mitigation techniques for various types of customer and products. Some are for specific transactions (e.g., property) while others apply to a series of transactions (e.g., derivatives netting and collateral). Grupo Santander can be grouped into personal guarantees, guarantees in the form of credit derivatives or collateral.

1.4. Definition of limits, pre-classifications and pre-approvals

Grupo Santander uses SCPs to manage credit portfolios, defining limits for each of them and for new originations, in line with the Group´s credit risk appetite and its target risk profile. Transposing the risk appetite to portfolio management strengthens controls over our credit portfolios.

Grupo Santander´s limits, pre-classifications and pre-approvals processes determine the risk we can assume with each customer.

Limits are approved by the executive risk committee (or delegated committees) and should reflect a transaction's expected risk-return

Grupo Santander applies various limits models to each segment:

- Large corporate groups: are subject to a pre-classification model based on a system for measuring and monitoring economic capital. Pre-classification models express the level of risk Grupo Santander is willing to assume in transactions with customers/groups in terms of capital at risk, nominal cap and maximum tenors. To manage limits with financial entities, Grupo Santander uses Credit Equivalent Risk (CER), which includes actual and expected risks with customers according to risk appetite and credit policies.

- Corporates and institutions: that meet certain requirements (strong relationships, rating, etc.): Grupo Santander uses simpler pre-classification model with an internal limit. It establishes a reference point in a customer's level of risk based on repayment capacity, overall indebtedness and a pool of banks.

Transactions with large corporates, corporates and institutions above certain limits or with special characteristics could require approval from a senior credit analyst or a committee.

- For individual customers and SMEs with low turnover, Grupo Santander manages large volumes of credit transactions with automatic decision models to classify customers and transactions.

1.5. Scenario analysis

Grupo Santander´s scenario analyses determine the potential risks in its credit portfolios and provide a better understanding of our portfolios' performance under various macroeconomic conditions.

They allow us to anticipate management strategies that will avoid future deviations from defined plans and targets. They simulate the impact of alternative scenarios in portfolios' credit parameters (PD, LGD) and expected credit losses. We compare findings with portfolios' credit profile indicators to find the right measures for managers to take. Credit risk management of portfolios and SCPs incorporate scenario analyses.

1.6. Monitoring

Regularly monitoring business performance and comparing it to pre-defined plans is key to our management of risk.

Grupo Santander's holistic monitoring of customers helps detect impacts on risk performance and credit quality early.

Grupo Santander assigns customers a classification with a pre-defined course of action and ad hoc measures to correct any deviations.

Monitoring, which considers transaction forecasts and characteristics, in addition to changes in classification, is performed by local and global risk teams and is based on customer segmentation:

- For SCIB, monitoring is initially a function of business managers and risk analysts which provide an up-to-date view of customers' credit quality to predict a potential customer's deterioration.

- For commercial banking, institutions and SMEs assigned a credit analyst, Grupo Santander tracks customers requiring closer monitoring and review their ratings based on relevant indicators.

- Monitoring of individual customers, businesses and smaller SMEs follows a system of automatic alerts to detect shifts in portfolios' performance.

Monitoring uses the Santander Customer Assessment Note (SCAN) tool. Grupo Santander fully rolled it out in our subsidiaries in 2019. It helps set individual monitoring levels and frequencies, policies, and actions for customers based on credit quality and particular circumstances.

In addition to monitoring customer credit quality, Grupo Santander defines control procedures to analyse portfolios and performance, as well as any deviations from planning or approved alert levels.

1.7. Recovery and collections management

The Collections & Recoveries area carries out recoveries, which are important to risk management. It defines a global, enterprise-wide management strategy with guidelines and general lines of action for Grupo Santander's subsidiaries based on the economic environment. business model and other local recovery conditions. Recovery management follows regulatory requirements set out in the EBA Guidelines on the management of non-performing and forborne exposures. In addition, Grupo Santander applies specific policies on recovery management that include the principles of the different strategies.

The Collections & Recoveries areas directly manage customers. As sustained value creation is based on effective and efficient collections, digital channels that develop new customer relations are gaining importance. Grupo Santander's diverse customer base requires segmentation to manage recoveries appropriately. The highly technological and digital processes Grupo Santander follows help us attend to large groups of customers with similar profiles and products. Grupo Santander's personalized management, however, focuses on customer profiles that require a special manager and approach.

Grupo Santander splits recovery management into four phases: arrears, credit impaired loans, write-offs and foreclosed assets. Grupo Santander may uses mechanisms to rapidly reduce assets like sales of foreclosed assets or credit impaired loans pool sales. Grupo Santander constantly seeks alternatives to legal action in order to collect debt.

Grupo Santander includes debt instruments as written-off loans (even if they are not past-due) if an individual analysis of the solvency of a transaction and the borrower leads us to believe recovery is remote due to a notorious and unrecoverable impairment. Though this may lead to full or partial cancellation and de-recognition of the gross carrying amount of debt, it does not mean we interrupt negotiations and legal proceedings to recover debt. In countries with high exposure to real estate risk, we have efficient sales management instruments that help maximize recovery and optimize balance sheet stocks.