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STRUCTURAL INTEREST RATE AND EXCHANGE RATE RISKS

IN BRIEF

Structural interest rate and exchange rate risks correspond to the risk of losses of interest margin or value of the fixed rate structural position arising from variations in interest or exchange rates. Structural interest rate and exchange rate risks arise from commercial activities and from transactions entered into by the Corporate Centre.

This section describes the monitoring of structural risks and provides information on structural interest rate and exchange rate risks.

Structural exposure to interest rate and exchange rate risks results from commercial transactions, their associated hedging transactions and corporate centre transactions.

The interest rate and exchange rate risks linked to Trading Book activities are excluded from the structural risk measurement scope as they belong to the category of market risks.

Structural and market exposures constitute the Group's total interest rate and exchange rate exposure.

The general principle for managing structural interest rate and exchange rate risks within consolidated entities is to ensure that adverse movements in interest rates do not significantly threaten the Group's financial base or its future earnings.

Within the entities, commercial and corporate centre operations must therefore be matched in terms of interest rates and exchange rates as much as possible. At the consolidated level, a structural foreign exchange position is maintained in order to minimise the sensitivity of the Group's Common Equity Tier 1 (CET1) ratio to exchange rates fluctuations.

11.1 ORGANISATION OF THE MANAGEMENT OF STRUCTURAL INTEREST RATE AND EXCHANGE RATE RISKS

The principles and standards for managing these risks are defined at the Group level. The entities are first and foremost responsible for managing these risks. The ALM (Asset and Liability Management) Department within the Group's Finance Division leads the control framework of the first line of defense. The ALM department of the Risk Department assumes the role of second line of defense supervision.

The Group Finance Committee, a General Management Body

The purpose of the Group Finance Committee is to:

- validate and ensure the adequacy of the system for monitoring, managing and supervising structural risks;
- review changes in the Group's structural risks through consolidated reporting;
- review and validate the measures proposed.

The Finance Committee gives delegation to the Global Rate Forex Committee chaired by the Finance Department and the Risk Division for the validation of frameworks not exceeding defined amounts.

The ALM Department, within the Group's Finance Department

The ALM (Asset and Liability Management) Department is responsible for:

- defining the structural risk policies for the Group and formalising risk appetite;
- analysing the Group's structural risk exposure and defining hedging strategies;
- monitoring the regulatory environment concerning structural risk;
- defining the ALM principles for the Group;
- defining the modelling principles applied by the Group's entities regarding structural risks;
- identifying, consolidating and reporting on Group structural risks;
- monitoring compliance with structural risk limits.

The ALM Risk Control Department within the Risk division

Within the Risk Division, the ALM Risk Department oversees structural risks and assesses the management system for these risks. As such, this department is in charge of:

- defining the steering indicators and overall stress test scenarios of the different types of structural risks and setting the main limits for the business divisions and the entities and Business Units (BU) and Service Units (SU);
- defining the normative environment of the structural risk metrics, modelling and framing methods.

In addition, by delegation of MRM, this department ensures the validation of ALM models for which it organizes and chairs the Validation Committee of Models. Finally, he chairs the Model Validation Committee and the ALM Standards Validation Committee and thus ensures that the regulatory framework is correctly interpreted and that the SG environment is properly adapted.

The entities and BU/SU are responsible for ALM risk management

Each entity, each BU/SU, manages its structural risks and is responsible for regularly assessing risks incurred, producing the risk report and developing and implementing hedging options. Each entity, each BU/SU is required to comply with Group standards and to adhere to the limits assigned to it.

As such, the entities and the BUs/SUs apply the standards defined at Group level and develop the models, with the support of the central modelling teams of the Finance Department.

A dedicated ALM manager reporting to the Finance Department in each entity, BU/SU, is responsible for monitoring these risks (first-level control). This manager is responsible for reporting ALM risks to the Group Finance Department. All entities, BU/SU, have an ALM Committee responsible for implementing validated models, managing exposure to interest rate and exchange rate risks and implementing hedging programmes in accordance with the principles set out by the Group and the limits validated by the Finance Committee and the BU/SU ALM Committees.

11.2 STRUCTURAL INTEREST RATE RISK

Structural interest rate risk is generated by commercial transactions and their hedging, as well as the management operations specific to each of the consolidated entities.

The Group's objective

The objective of managing structural interest rate risk is to manage exposure of each Group entity.

To this end, the Board of Directors, the Finance Committee and the ALM Committee set sensitivity limits (in terms of value and income) for the Group, the BUs/SUs and the entities respectively.

Measuring and monitoring structural interest rate risk

Societe Generale uses several indicators to measure the Group's overall interest rate risk.

The three most important indicators are:

- the sensitivity of the net present value (NPV) to the risk of interest rate mismatch. It is measured as the sensitivity of the net present value of the static balance sheet to a change in interest rates. This measure is calculated for all currencies to which the Group is exposed;
- the sensitivity of the interest margin to changes in interest rates in various interest rate scenarios. It takes into account the sensitivity generated by future commercial production;
- the sensitivity of NPV to basis risk (risk associated with decorrelation between different variable rate indices).

Limits on these indicators are applicable to the Group, the BUs/SUs and the various entities. Limits are set for shocks at +/-0.1% and for stressed shocks (+/-1% for value sensitivity and +/-2% for income sensitivity) without floor application. Only the sensitivity of income over the first two years is framed. The measurements are computed monthly 10 months a year (with the exception of the months of January and July for which no Group-level closing is achieved). An additional synthetic measurement of value sensitivity – all currencies – is framed for the Group. To comply with these frameworks, the entities combine several possible approaches:

- orientation of the commercial policy so as to offset interest rate positions taken on the asset and liability side;
- implementation of a swap operation or – failing this in the absence of such a market – use of a loan/borrowing operation;
- purchase/sale of options on the market to cover optional positions taken vis-à-vis our clients.

Assets and liabilities are analysed without a prior allocation of resources to uses. Maturities of outstanding amounts are determined by taking into account the contractual characteristics of the transactions, adjusted for the results of customer behaviour modelling (in particular for demand deposits, savings and early loan repayments), possibly differentiated according to the rate scenario considered, as well as a certain number of disposal agreements, in particular on equity items.

As at 31 December 2022, the main models applicable for the calculation of interest rate risk measurements are : models – sometimes dependent rates – on part of the deposits without a maturity date leading to an average duration of less than 5 years – the schedule may in some cases to reach the maximum maturity of 20 years.

The automatic balance sheet options are taken into account:

- either *via* the Bachelier formula or possibly from Monte-Carlo type calculations for value sensitivity calculations;
- or by taking into account the pay-offs depending on the scenario considered in the income sensitivity calculations

Changes in OCI or P&L of instruments recognised at fair value are not included in the controlled income sensitivity measures.

Hedging transactions are mainly documented from an accounting viewpoint: this can be carried out either as micro-hedging (individual hedging of commercial transactions and hedging instruments) or as macro-hedging under the IAS 39 “carve-out” arrangement (global backing of portfolios of similar commercial transactions within a Treasury Department; macro-hedging concerns essentially French retail network entities).

Macro-hedging derivatives are essentially interest rate swaps in order to maintain networks' net asset value and result sensitivity within limit frameworks, considering hypotheses applied. For macro-hedging documentation, the hedged item is an identified portion of a portfolio of commercial client or interbank operations. Conditions to respect in order to document hedging relationships are reminded in Note 3.2 to the consolidated financial statements.

Macro-hedging derivatives are allocated to separate portfolios according to whether they are used to hedge fixed-rate assets or liabilities in the accounting books. The hedging instrument portfolios allocated to liability elements are net fixed-rate receiver/variable-rate payer whereas the hedging instrument portfolios allocated to asset elements are net fixed-rate payer/variable-rate receiver.

In the context of the macro-hedging, the controls carried out and documented enable to verify that intra-group transactions are returned to the market, to verify the non-over hedging and the non-disappearance of the items hedged and the effectiveness of the hedges (MTM change in hedging instruments / MTM change in hedged items in the 80-125% range).

TABLE 98: INTEREST RATE RISK OF NON-TRADING BOOK ACTIVITIES (IRRBB1)

		31.12.2022	
(In EURm)		Changes of the economic value of equity (EVE)	Changes of the net interest income (NII)
Supervisory shock scenarios			
1	Parallel up	(2,900)	375
2	Parallel down	1,011	(1,102)
3	Steepener	1,875	
4	Flattener	(2,547)	
5	Short rates up	(2,747)	
6	Short rates down	2,862	

		30.06.2022	
(In EURm)		Changes of the economic value of equity (EVE)	Changes of the net interest income (NII)
Supervisory shock scenarios			
1	Parallel up	(3,080)	991
2	Parallel down	(1,375)	(470)
3	Steepener	800	
4	Flattener	(2,641)	
5	Short rates up	(2,627)	
6	Short rates down	810	

Regulatory metrics are calculated in accordance with the provisions imposed by the regulator (EBA GL 2018/02).

11.3 STRUCTURAL EXCHANGE RATE RISK

Structural exchange rate risk, understood as resulting from all transactions that do not belong to the Trading Book, results from:

- exposures related to net investments abroad in foreign currencies, i.e. in subsidiaries and branches. FX positions generated by an imperfect hedge are valued through other comprehensive income;
- exposures related to activities made by entities in currencies that are not their reporting currency.

The Group's policy is to make the CET1 ratio insensitive to fluctuations in exchange rates against the euro.

As such:

- Group entities are asked to individually hedge the results related to activities in currencies other than their reporting currency;

- the foreign exchange position generated by investments in foreign holdings and branches, as well as by the conversion of their results into euros, is partially covered centrally: at the level of the Group Finance Division. Societe Generale retains a target exposure multiplied by the RWA generated in this currency in each RWA constituent currency equivalent to the level of the CET1 Target Group ratio and covers the balance by borrowings or forward foreign exchange transactions denominated in the currency of investments and recognised as investment hedging instruments (cf. Note 3.2.2 in the consolidated financial statements set out in Chapter 6 of the Universal Registration Document).

For each currency, the difference between actual and target exposure is governed by limits validated by the General Management in Finance Committee and the Board of Directors.

Similarly, the sensitivities of the CET1 ratio to shocks of +/-10% per currency are framed.

TABLE 99: SENSITIVITY OF THE GROUP'S COMMON EQUITY TIER 1 RATIO TO A 10% CHANGE IN THE CURRENCY (IN BASIS POINTS)

Currency	Impact of a 10% currency depreciation on the Common Equity Tier 1 ratio		Impact of a 10% currency appreciation on the Common Equity Tier 1 ratio	
	31.12.2022	31.12.2021	31.12.2022	31.12.2021
CHF	0.2	(0.1)	(0.2)	0.1
CZK	(0.4)	0.4	0.4	(0.4)
MAD	(0.2)	-	0.2	-
RON	0.3	0.4	(0.3)	(0.4)
RUB	0.3	0.5	(0.3)	(0.5)
TND	(0.2)	0.1	0.2	(0.1)
TRY	0.2	-	(0.2)	0.0
USD	0.6	0.8	(0.6)	(0.8)
XAF	(0.6)	0.6	0.6	(0.6)
Autres	(0.8)	0.1	0.8	(0.1)

