Indicate whether the company is aware of the existence of any concerted actions among its shareholders. If so, give a brief description as applicable:

Yes ☑ No ☐

Participants in the concerted action	% of share capital affected	Brief description of concerted action	Expiry date, if applicable
Javier Botín-Sanz de Sautuola y O'Shea (directly and indirectly through Agropecuaria El Castaño, S.L.U.) Emilio Botín-Sanz de Sautuola y O'Shea, Puente San Miguel, S.L.U. Ana Botín-Sanz de Sautuola y O'Shea, CRONJE, S.L.U. Nueva Azil, S.L. Carmen Botín-Sanz de Sautuola y O'Shea Paloma Botín-Sanz de Sautuola y O'Shea Bright Sky 2012, S.L.	0.61	Transfer restrictions and syndication of voting rights as described under section 2.4 'Shareholders' agreements' of the 'Corporate governance' chapter in the annual report. The communications to CNMV relating to this shareholders' agreement can be found in material facts with entry numbers 64179, 171949, 177432, 194069, 211556, 218392, 223703, 226968 and 285567 filed in CNMV on 17 February 2006, 3 August 2012, 19 November 2012, 17 October, 2013, 3 October 2014, 6 February 2015, 29 May 2015, 29 July 2015 and 31 December 2019, respectively.	01/01/2056

A.8 Indicate whether any individual or entity currently exercises control or could exercise control over the company in accordance with article 5 of the Spanish Securities Market Act. If so, identify them:

Yes ☐ No ☑

A.9 Complete the following tables on the company's treasury shares:

At year end:

Number of shares held directly	Number of shares held indirectly (*)	% of total share capital
220,942,806	22,746,219	1.451

(*) Through:

Name or corporate name of the direct shareholder	Number of shares held directly
Pereda Gestión, S.A.	13,680,000
Banco Santander Río, S.A.	975,238
Banco Santander México, S.A.	3,006,429
Total:	**17,661,667**

A.11 Estimated free float:

	%
Estimated free float	**85.98**

A.14 Indicate whether the company has issued securities not traded in a regulated market of the European Union.

Yes ☑ No ☐

B. GENERAL SHAREHOLDERS' MEETING

B.4 Indicate the attendance figures for the general shareholders' meetings held during the financial year to which this report relates and in the two preceding financial years:

	Attendance data				
			% remote voting		
Date of General Meeting	**% attending in person**	**% by proxy**	**Electronic means**	**Other**	**Total**
03/04/2020	0.09	62.60	1.71	0.60	65.00
Of which free float:	0.01	61.59	1.71	0.60	63.91

	Attendance data				
			% remote voting		
Date of General Meeting	**% attending in person**	**% by proxy**	**Electronic means**	**Other**	**Total**
27/10/2020	0.17	43.29	16.30	0.59	60.35
Of which free float:	0.11	42.27	16.30	0.59	59.27

	Attendance data				
			% remote voting		
Date of General Meeting	**% attending in person**	**% by proxy**	**Electronic means**	**Other**	**Total**
26/03/2021	0.06	65.02	2.04	0.55	67.67
Of which free float:	0.01	64.03	2.04	0.55	66.63

	Attendance data				
			% remote voting		
Date of General Meeting	**% attending in person**	**% by proxy**	**Electronic means**	**Other**	**Total**
01/04/2022	0.71	65.41	2.08	0.57	68.77
Of which free float:	0.09	64.98	2.08	0.57	67.72

B.5 Indicate whether in the general shareholders' meetings held during the financial year to which this report relates there has been any matter submitted to them which has not been approved by the shareholders:

Yes ☐ No ☑

B.6 Indicate whether the Bylaws require a minimum holding of shares to attend to or to vote remotely in the general shareholders' meeting:

Yes ☐ No ☑

C. MANAGEMENT STRUCTURE

C.1 Board of directors

C.1.1 Maximum and minimum number of directors provided for in the Bylaws:

Maximum number of directors	**17**
Minimum number of directors	**12**
Number of directors set by the General Meeting	**15**

C.1.2 Complete the following table with the directors' details:

Name or corporate name of director	Representative	Category of director	Position in the board	Date of first appointment	Date of last appointment	Election procedure
Ana Botín-Sanz de Sautuola y O'Shea	N/A	Executive	Chair	04/02/1989	03/04/2020	Vote in general shareholders' meeting
José Antonio Álvarez Álvarez	N/A	Executive	Chief executive officer	25/11/2014	12/04/2019	Vote in general shareholders' meeting
Bruce Carnegie-Brown	N/A	Independent	Lead independent director	25/11/2014	26/03/2021	Vote in general shareholders' meeting
Homaira Akbari	N/A	Independent	Director	27/09/2016	26/03/2021	Vote in general shareholders' meeting
Javier Botín-Sanz de Sautuola y O'Shea	N/A	Other external	Director	25/07/2004	26/03/2021	Vote in general shareholders' meeting
Sol Daurella Comadrán	N/A	Independent	Director	25/11/2014	03/04/2020	Vote in general shareholders' meeting
Henrique de Castro	N/A	Independent	Director	12/04/2019	12/04/2019	Vote in general shareholders' meeting
Germán de la Fuente	N/A	Independent	Director	01/04/2022	01/04/2022	Vote in general shareholders' meeting
Gina Díez Barroso	N/A	Independent	Director	22/12/2020	22/12/2020	Vote in general shareholders' meeting
Glenn Hutchins	N/A	Independent	Director	20/12/2022	20/12/2022	Cooption
Luis Isasi Fernández de Bobadilla	N/A	Other external	Director	03/04/2020	03/04/2020	Vote in general shareholders' meeting
Ramiro Mato García-Ansorena	N/A	Independent	Director	28/11/2017	26/03/2021	Vote in general shareholders´ meeting
Sergio Rial	N/A	Other external	Director	03/04/2020	03/04/2020	Vote in general shareholders' meeting
Belén Romana García	N/A	Independent	Director	22/12/2015	12/04/2019	Vote in general shareholders' meeting
Pamela Walkden	N/A	Independent	Director	29/10/2019	03/04/2020	Vote in general shareholders' meeting
Total number of directors				15		

Indicate any directors who have left during the financial year to which this report relates, regardless of the reason (whether for resignation or by agreement of the general meeting or any other):

Name or corporate name of director	Category of director at the time he/her left	Date of last appointment	Date of leave	Board committees he or she was a member of	Indicate whether he or she has left before the expiry of his or her term
Álvaro Cardoso de Souza	Independent	26/03/2021	01/04/2022	Responsible banking, sustainability and culture committee	YES
R. Martín Chávez Márquez	Independent	27/10/2020	01/07/2022	Nomination committee	YES

C.1.3 Complete the following tables for the directors in each relevant category:

Executive directors

Name or corporate name of director	Position held in the company	Profile
Ana Botín-Sanz de Sautuola y O'Shea	Executive chair	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
José Antonio Álvarez Álvarez	CEO	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.

Total number of executive directors	2
% of the Board	13.33

Proprietary non-executive directors

Name or corporate name of director	Name or corporate name of significant shareholder represented or having proposed his or her appointment	Profile
N/A	N/A	N/A

Total number of proprietary non-executive directors	0
% of the Board	0%

Independent directors

Name or corporate name of director	Profile
Bruce Carnegie-Brown	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Homaira Akbari	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Álvaro Cardoso de Souza	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
R. Martín Chávez Márquez	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Sol Daurella Comadrán	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Henrique de Castro	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Gina Díez Barroso	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Ramiro Mato García-Ansorena	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Belén Romana Garcia	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.
Pamela Walkden	See section 4.1 'Our directors' in the 'Corporate governance' chapter in the annual report.

Total number of independent directors	10
% of the Board	66.67

Identify any independent director who receives from the company or its group any amount or perk other than his or her director remuneration, as a director, or who maintain or have maintained during the financial year covered in this report a business relationship with the company or any group company, whether in his or her own name or as a principal shareholder, director or senior manager of an entity which maintains or has maintained such a relationship.

In such a case, a reasoned statement from the Board on why the relevant director(s) is able to carry on their duties as independent director(s) will be included.

Name or corporate name of director	Description of the relationship	Reasoned statement
Homaira Akbari	Business	When conducting the annual verification of the independence of directors classified as independent, the nomination committee analysed the business relationships between Grupo Santander and the companies in which they are or have previously been principal shareholders, directors or senior managers. The committee concluded that the business relationships maintained between Grupo Santander and the company in which Homaira Akbari was a director in 2022 were not significant because, among other reasons they did not reach certain comparable materiality thresholds used in other jurisdictions, e.g. NYSE and Nasdaq.
Sol Daurella	Business/Financing	When conducting the annual verification of the independence of directors classified as independent, the nomination committee analysed the business relationships between Grupo Santander and the companies in which they are or have previously been principal shareholders, directors or senior managers. The committee concluded that the business relationships maintained and the funding Grupo Santander granted to companies in which Sol Daurella was a principal shareholder or director in 2022 were not significant because, among other reasons: (i) did not generate economic dependence on the companies involved in view of the substitutability of this funding by other sources, whether banks or others, (ii) were aligned with Grupo Santander's share in the corresponding market, and (iii) did not reach certain comparable materiality thresholds used in other jurisdictions, e.g. NYSE, Nasdaq and the Canadian Bank Act.
Henrique de Castro	Business	When conducting the annual verification of the independence of directors classified as independent, the nomination committee analysed the business relationships between Grupo Santander and the companies in which they are or have previously been principal shareholders, directors or senior managers. The committee concluded that the business relationships maintained between Grupo Santander and the company in which Henrique de Castro was a director in 2022 were not significant because, among other reasons they did not reach certain comparable materiality thresholds used in other jurisdictions, e.g. NYSE and Nasdaq.
Gina Díez Barroso	Business/Financing	When conducting the annual verification of the independence of directors classified as independent, the nomination committee analysed the business relationships between Grupo Santander and the companies in which they are or have previously been principal shareholders, directors or senior managers. The committee concluded that the business relationships maintained and the funding granted by Grupo Santander to the companies in which Gina Díez Barroso was a principal shareholder and director in 2022 were not significant because, among other reasons: (i) did not generate a situation of economic dependence on the company involved in view of the substitutability of this funding by other sources, whether banks or others, (ii) were aligned with Grupo Santander's share in the corresponding market, and (iii) did not reach certain comparable materiality thresholds used in other jurisdictions, e.g. NYSE, Nasdaq and the Canadian Bank Act.
Glenn Hutchins	Financing	When conducting the annual verification of the independence of directors classified as independent, the nomination committee analysed the business relationships between Grupo Santander and the companies in which they are or have previously been principal shareholders, directors or senior managers. The committee concluded that the funding Grupo Santander granted to the company in which Glenn Hutchins was a director in 2022 was not significant because, among other reasons: (i) did not generate economic dependence on the companies involved in view of the substitutability of this funding by other sources, whether banks or others, (ii) was aligned with Grupo Santander's share in the corresponding market, and (iii) did not reach certain comparable materiality thresholds used in other jurisdictions, e.g. NYSE, Nasdaq and the Canadian Bank Act.
Belén Romana	Business/Financing	When conducting the annual verification of the independence of directors classified as independent, the nomination committee analysed the business relationships between Grupo Santander and the companies in which they are or have previously been principal shareholders, directors or senior managers. The committee concluded that the business relationships maintained and the funding Grupo Santander granted to the companies in which Belén Romana was a director in 2022 were not significant because, among other reasons: (i) did not generate economic dependence on the companies involved in view of the substitutability of this funding by other sources, whether banks or others, (ii) were aligned with Grupo Santander's share in the corresponding market, and (iii) did not reach certain comparable materiality thresholds used in other jurisdictions, e.g. NYSE, Nasdaq and the Canadian Bank Act.

Other external directors

Identify all other external directors and explain why these cannot be considered proprietary or independent directors and detail their relationships with the company, its executives or shareholders:

Name or corporate name of director	Reasons	Company, manager or shareholder to which or to whom the director is related	Profile
Javier Botín-Sanz de Sautuola y O'Shea	Given that Mr Botín has been director for over 12 years, pursuant to sub-section 4. i) of article 529 *duodecies* of the Spanish Companies Act.	Banco Santander, S.A.	See section 4.1 'Our directors' in the Corporate governance chapter in the annual report.
Luis Isasi Fernández de Bobadilla	Under prudent criteria given his remuneration as non-executive Chair of Santander España's body as supervisor, unit without its own corporate identity separate to Banco Santander, pursuant to sub-sections 2 to 4 of article 529 *duodecies* of the Spanish Companies Act.	Banco Santander, S.A.	See section 4.1 'Our directors' in the Corporate governance chapter in the annual report.
Sergio Rial	Given that Mr Rial, as a former executive director of Banco Santander as CEO of Banco Santander (Brasil) S.A. and Regional head of South America until 31 December 2021, pursuant to sub-section 4 a) of article 529 *duodecies* of the Spanish Companies Act.	Banco Santander, S.A.	See section 4.1 'Our directors' in the Corporate governance chapter in the 2021 annual report.
Total number of other external directors			3
% of the Board			20.00

List any changes in the category of a director which have occurred during the period covered in this report.

Name or corporate name of director	Date of change	Previous category	Current category
N/A	N/A	N/A	N/A

C.1.4 Complete the following table on the number of female directors at the end of each the past four years and their category:

Number of female directors					% of total directors of each category			
	FY 2022	FY 2021	FY 2020	FY 2019	FY 2022	FY 2021	FY 2020	FY 2019
Executive	1	1	1	1	50.00	50.00	33.33	50.00
Proprietary	—	—	—	—	0.00	0.00	0.00	0.00
Independent	5	5	5	5	50.00	50.00	50.00	55.55
Other external	—	—	—	—	0.00	0.00	0.00	0.00
Total:	6	6	6	6	40.00	40.00	40.00	40.00

C.1.11 List the positions of director, administrator or representative thereof, held by directors or representatives of directors who are members of the company's board of directors in other entities, whether or not they are listed companies:

Identity of the director or representative	Company name of the listed or non-listed entity	Position	Remunerated YES/NO
Ana Botín-Sanz de Sautuola y O'Shea	The Coca-Cola Company	Director	YES
Bruce Carnegie-Brown	Lloyd's of London	Chair	YES
	Cuvva Limited	Chair	YES
Javier Botín-Sanz de Sautuola y O'Shea	JB Capital Markets, Sociedad de Valores, S.A.U.	Chair	YES
	Inversiones Zulú, S.L.	Chair-chief executive officer	NO
	Agropecuaria El Castaño, S.L.E	Joint and several administrator	NO
	Inversiones Peña Cabarga, S.L.	Sole administrator	NO
Homaira Akbari	Landstar System, Inc.	Director	YES
	AKnowledge Partners, LLC	Chief executive officer	YES
	Temenos AG	Director	YES
Sol Daurella Comadrán	Coca-Cola Europacific Partners PLC	Chair	YES
	Cobega, S.A.	Representative of director	NO
	Equatorial Coca Cola Bottling Company, S.L.	Director	YES
	Cobega Invest S.L.	Joint and several administrator	NO
	Olive Partners, S.A.	Representative of director	NO
	Indau, S.A.R.L.	Sole administrator	YES
Henrique de Castro	Fiserv Inc.	Director	YES
	Stakecorp Capital, s.a.r.l.	Director	NO
Gina Díez Barroso Azcárraga	Grupo Diarq, S.A. de C.V.	Chair	NO
	Dalia Women, S.A.P.I. de C.V.	Director	NO
	Centro de Diseño y Comunicación, S.C.	Chair	NO
	Bolsa Mexicana de Valores, S.A.B. de C.V.	Director	YES
	AT&T Inc.	Director	YES
Glenn Hogan Hutchins	North Island, LL	Chair	NO
	North Island Ventures, LLC	Chair	NO
Luis Isasi Fernández de Bobadilla	Compañía de Distribución Integral Logista Holdings, S.A.	Director	YES
	Balcón del Parque, S.L.	Sole administrator	NO
	Santa Clara de C. Activos, S.L.	Director	NO
Ramiro Mato García-Ansorena	Ansorena, S.A.	Chair	NO
Sergio Rial	Delta Airlines Inc	Director	YES
	Vibra Energia S.A.	Chair	YES
	BRF S.A.	Vice Chair	YES
Belén Romana García	Werfen, S.A.	Director	YES
	Six Group AG	Director	YES
	Bolsas y Mercados Españoles, Sociedad Holding de Mercados y Sistemas Financieros, S.A.	Director	YES

Indicate, where appropriate, the other remunerated activities of the directors or directors' representatives, whatever their nature, other than those indicated in the previous table.

Identity of the director or representative	Other paid activities
Bruce Carnegie-Brown	Member of investment committee of Gresham House PLC
Glenn Hogan Hutchins	Member of the international advisory board Government of Singapore Inestment Corporation
	Member of the executive committee of Boston Celtics
Luis Isasi Fernández de Bobadilla	Senior Advisor of Morgan Stanley
Ramiro Mato García-Ansorena	External advisor of ACON Southern Europe Advisory, S.L.
Belén Romana García	Senior advisor of Artá Capital, S.G.E.I.C., S.A
Pamela Walkden	Member of the advisory board of JD Haspel Limited

C.1.12 Indicate and, if applicable explain, if the company has established rules on the maximum number of directorships its directors may hold and, if so, where they are regulated:

Yes ☑ No ☐

The maximum number of directorships is established, as provided for in article 30 of the Rules and regulations of the board, in article 26 of Spanish Law 10/2014 on the ordering, supervision and solvency of credit institutions. This rule is further developed by articles 29 and subsequent of Royal Decree 84/2015 and by Rules 30 and subsequent of Bank of Spain Circular 2/2016.

C.1.13 Identify the following items of the total remuneration of the board of directors:

Board remuneration accrued in the fiscal year (EUR thousand)	25,071
Funds accumulated by current directors for long-term savings systems with consolidated economic rights (EUR thousand)	65,683
Funds accumulated by current directors for long-term savings systems with unconsolidated economic rights (EUR thousand)	0
Pension rights accumulated by former directors (EUR thousand)	47,950

C.1.14 Identify the members of the company's senior management who are non executive directors and indicate total remuneration they have accrued during the financial year:

Name or corporate name	Position (s)	
Alexandra Brandão	Global head of Human Resources	
Juan Manuel Cendoya Méndez de Vigo	Group head of Communications, Corporate Marketing and Research	
José Francisco Doncel Razola	Group head of Accounting and Financial Control - Group Chief Accounting Officer	
Keiran Paul Foad	Group Chief Risk Officer	
José Antonio García Cantera	Group Chief Financial Officer	
Juan Guitard Marín	Group Chief Audit Executive	
José Maria Linares Perou	Global head of Corporate & Investment Banking	
Mónica Lopez-Monís Gallego	Group head of Supervisory and Regulatory Relations	
Dirk Marzluf	Group head of Technology and Operations	
Víctor Matarranz Sanz de Madrid	Global head of Wealth Management & Insurance	
José Luis de Mora Gil-Gallardo	Group head of Strategy & Corporate Development, Financial Planning and Santander Consumer Finance	
Jaime Pérez Renovales	Group head of General Secretariat	
Antonio Simões	Regional head of Europe	
Marjolein van Hellemondt-Gerdingh	Group Chief Compliance Officer	
Number of women in senior management		3
Percentage of total senior management		21.43
Total remuneration accrued by the senior management (EUR thousand)		53,236

C.1.15 Indicate whether any changes have been made to the board's regulations during the financial year:

Yes ☑ No ☐

C.1.21 Indicate whether there are any specific requirements, other than those applying to directors generally, to be appointed Chair:

Yes ☐ No ☑

C.1.23 Indicate whether the Bylaws or the board's regulations set a limited term of office (or other requirements which are stricter than those provided for in the law) for independent directors different than the one provided for in the law.

Yes ☐ No ☑

C.1.25 Indicate the number of board meetings held during the financial year and how many times the board has met without the Chair's attendance. Attendance also includes proxies appointed with specific instructions:

Number of board meetings	14
Number of board meetings held without the Chair's attendance	0

Indicate the number of meetings held by the Lead Independent Director with the rest of directors without the attendance or representation of any executive director.

Number of meetings	5

Indicate the number of meetings of the various board committees held during the financial year.

Number of meetings of the audit committee	12
Number of meetings of the responsible banking, sustainability and culture committee	5
Number of meetings of the innovation and technology committee	3
Number of meetings of the nomination committee	12
Number of meetings of the remuneration committee	13
Number of meetings of the risk supervision, regulation and compliance committee	17
Number of meetings of the executive committee	32

C.1.26 Indicate the number of board meetings held during the financial year and data about the attendance of the directors:

Number of meetings with at least 80% of directors being present	14
% of votes cast by members present over total votes in the financial year	98.04
Number of board meetings with all directors being present (or represented having given specific instructions)	12
% of votes cast by members present at the meeting or represented with specific instructions over total votes in the financial year	98.53

C.1.27 Indicate whether the company´s consolidated and individual financial statements are certified before they are submitted to the board for their formulation.

Yes ☑ No ☐

Identify, where applicable, the person(s) who certified the company's individual and consolidated financial statements prior to their formulation by the board:

Name	Position
José Francisco Doncel Razola	Group head of Accounting and Financial Control

C.1.29 Is the secretary of the board also a director?

Yes ☐ No ☑

If the secretary of the board is not a director fill in the following table:

Name or corporate name of the secretary	Representative
Jaime Pérez Renovales	N/A

C.1.31 Indicate whether the company has changed its external audit firm during the financial year. If so, identify the incoming audit firm and the outgoing audit firm:

Yes ☐ No ☑

C.1.32 Indicate whether the audit firm performs non-audit work for the company and/or its group. If so, state the amount of fees paid for such work and express this amount as a percentage they represent of all fees invoiced to the company and/or its group.

Yes ☑ No ☐

	Company	Group companies	Total
Amount of non-audit work (EUR thousand)	10,712	7,682	18,394
Amount of non-audit work as a % of amount of audit work	41.50	10.30	18.30

C.1.33 Indicate whether the audit report on the previous year's financial statements contains a qualified opinion or reservations. Indicate the reasons given by the Chair of the audit committee to the shareholders in the general shareholders meeting to explain the content and scope of those qualified opinion or reservations.

Yes ☐ No ☑

C.1.34 Indicate the number of consecutive years during which the current audit firm has been auditing the financial statements of the company and/or its group. Likewise, indicate for how many years the current firm has been auditing the financial statements as a percentage of the total number of years over which the financial statements have been audited:

	Individual financial statements	Consolidated financial statements
Number of consecutive years	7	7

	Company	Group
Number of years audited by current audit firm/Number of years the company's or its Group financial statements have been audited (%)	17.07	17.50

C.1.35 Indicate and if applicable explain whether there are procedures for directors to receive the information they need in sufficient time to prepare for meetings of the governing bodies:

Yes ☑ No ☐

Procedures
Our Rules and regulations of the board foresees that members of the board and committees are provided with the relevant documentation for each meeting sufficiently in advance of the meeting date.

C.1.39 Identify, individually in the case of directors, and in the aggregate in all other cases, and provide detailed information on, agreements between the company and its directors, executives and employees that provide indemnification, guarantee or golden parachute clause in the event of resignation, unfair dismissal or termination as a result of a takeover bid or other type of transaction.

Number of beneficiaries	21
Type of beneficiary	**Description of the agreement:**
Employees	The Bank has no commitments to provide severance pay to directors. A number of employees have a right to compensation equivalent to one to two years of their basic salary in the event of their contracts being terminated by the Bank in the first two years of their contract in the event of dismissal on grounds other than their own will, retirement, disability or serious dereliction of duties. In addition, for the purposes of legal compensation, in the event of redundancy a number of employees are entitled to recognition of length of service including services provided prior to being contracted by the Bank; this would entitle them to higher compensation than they would be due based on their actual length of service with the Bank itself.

Indicate whether these agreements must be reported to and/or authorised by the governing bodies of the company or its group beyond the procedures provided for in applicable law. If applicable, specify the process applied, the situations in which they apply, and the bodies responsible for approving or communicating those agreements:

	Board of directors	General Shareholders' Meeting
Body authorising clauses	√	

	YES	NO
Is the general shareholders' meeting informed of such clauses?	√	

C.2 Board committees

C.2.1 Give details of all the board committees, their members and the proportion of executive, independent and other external directors.

Executive committee

Name	Position	Type
Ana Botín-Sanz de Sautuola y O'Shea	Chair	Executive director
José Antonio Álvarez Álvarez	Member	Executive director
Bruce Carnegie-Brown	Member	Independent director
Luis Isasi Fernández de Bobadilla	Member	Other external director
Ramiro Mato García-Ansorena	Member	Independent director
Belén Romana García	Member	Independent director

% of executive directors	33.33
% of proprietary directors	0.00
% of independent directors	50.00
% of other external directors	16.67

Audit committee

Name	Position	Type
Pamela Walkden	Chair	Independent director
Homaira Akbari	Member	Independent director
Henrique de Castro	Member	Independent director
Germán de la Fuente	Member	Independent director
Ramiro Mato García-Ansorena	Member	Independent director
Belén Romana García	Member	Independent director

% of executive directors	0
% of proprietary directors	0
% of independent directors	100
% of other external directors	0

Identify those directors in the audit committee who have been appointed on the basis of their knowledge and experience in accounting, audit or both and indicate the date of appointment of the committee chair.

Name of directors with accounting or audit experience	Pamela Walkden Belén Romana García Homaira Akbari Germán de la Fuente Henrique de Castro Ramiro Mato García-Ansorena
Date of appointment of the committee chair for that position	26 April 2020

Nomination committee

Name	Position	Type
Bruce Carnegie-Brown	Chair	Independent director
Sol Daurella Comadrán	Member	Independent director
Gina Díez Barroso	Member	Independent director
Glenn Hutchins	Member	Independent director

% of executive directors	0
% of proprietary directors	0
% of independent directors	100
% of other external directors	0

Remuneration committee

Name	Position	Type
Bruce Carnegie-Brown	Chair	Independent director
Sol Daurella Comadrán	Member	Independent director
Henrique de Castro	Member	Independent director
Glenn Hutchins	Member	Independent director
Luis Isasi Fernández de Bobadilla	Member	Other external director

% of executive directors	0
% of proprietary directors	0
% of independent directors	80.00
% of other external directors	20.00

Risk supervision, regulation and compliance committee

Name	Position	Type
Belén Romana García	Chair	Independent director
Luis Isasi Fernández de Bobadilla	Member	Other external director
Ramiro Mato García-Ansorena	Member	Independent director
Pamela Walkden	Member	Independent director

% of executive directors	0
% of proprietary directors	0
% of independent directors	75.00
% of other external directors	15.00

Responsible banking, sustainability and culture committee

Name	Position	Type
Ramiro Mato García-Ansorena	Chair	Independent director
Homaira Akbari	Member	Independent director
Sol Daurella Comadrán	Member	Independent director
Belén Romana García	Member	Independent director

% of executive directors	0
% of proprietary directors	0
% of independent directors	100
% of other external directors	0

Innovation and technology committee

Name	Position	Type
Ana Botín-Sanz de Sautuola y O'Shea	Chair	Executive director
José Antonio Álvarez Álvarez	Member	Executive director
Bruce Carnegie-Brown	Member	Independent director
Homaira Akbari	Member	Independent director
Henrique de Castro	Member	Independent director
Glenn Hutchins	Member	Independent director
Belén Romana García	Member	Independent director

% of executive directors	28.57
% of proprietary directors	0.00
% of independent directors	71.43
% of other external directors	0.00

C.2.2 Complete the following table on the number of female directors on the various board committees over the past four years.

	Number of female directors							
	FY 2022		FY 2021		FY 2020		FY 2019	
	Number	%	Number	%	Number	%	Number	%
Audit committee	3	50.00	3	60.00	3	60.00	3	60.00
Responsible banking, sustainability and culture committee	3	75.00	3	60.00	3	60.00	5	62.50
Innovation and technology committee	3	42.86	3	—	3	42.85	3	37.50
Nomination committee	2	50.00	2	50.00	1	33.33	2	40.00
Remuneration committee	1	20.00	1	20.00	1	20.00	1	20.00
Risk supervision, regulation and compliance committee	2	50.00	2	40.00	1	20.00	2	40.00
Executive committee	2	33.33	2	33.33	2	33.33	2	28.50

D. RELATED-PARTY AND INTRAGROUP TRANSACTIONS

D.2 Give individual details of operations that are significant due to their amount or of importance due to their subject matter carried out between the company or its subsidiaries and shareholders holding 10% or more of the voting rights or who are represented on the board of directors of the company, indicating which has been the competent body for its approval and if any affected shareholder or director has abstained. In the event that the board of directors has responsibility, indicate if the proposed resolution has been approved by the board without a vote against the majority of the independents:

Not applicable.

D.3 Give individual details of the operations that are significant due to their amount or relevant due to their subject matter carried out by the company or its subsidiaries with the administrators or managers of the company, including those operations carried out with entities that the administrator or manager controls or controls jointly, indicating the competent body for its approval and if any affected shareholder or director has abstained. In the event that the board of directors has responsibility, indicate if the proposed resolution has been approved by the board without a vote against the majority of the independents:

Not applicable.

D.4 Report individually on intra-group transactions that are significant due to their amount or relevant due to their subject matter that have been undertaken by the company with its parent company or with other entities belonging to the parent's group, including subsidiaries of the listed company, except where no other related party of the listed company has interests in these subsidiaries or that they are fully owned, directly or indirectly, by the listed company.

In any case, report any intragroup transactions carried out with entities in countries or territories considered to be tax havens.

Corporate name of the group company	Brief description of the transaction and any other information necessary for its evaluation	Amount (EUR thousand)
Banco Santander (Brasil) S.A. (Cayman Islands Branch)	This chart shows the transactions and the results obtained by the Bank at 31 December 2022 with Group entities resident in countries or territories that were considered non-cooperative jurisdictions pursuant to Spanish legislation, at such date (Law 11/2021 on measures to prevent and fight against tax fraud). These results, and the balances indicated below, were eliminated in the consolidation process. See note 3 to the 2022 Consolidated financial statements for more information on offshore entities. The amount shown on the right corresponds to negative results relating to contracting of derivatives (includes branches in New York and London of Banco Santander, S.A.). The referred derivatives had a net negative market value of EUR 328 million in the Bank and covered the following transactions: - 104 Non Delivery Forwards. - 341 Swaps. - 50 Cross Currency Swaps. - 9 Options. - 58 Forex	526,245
	The amount shown on the right corresponds to negative results relating to term deposits with the New York branch of Banco Santander, S.A. (liability). These deposits had a nominal value of EUR 1,227 million at 31 December 2022.	8,669
	The amount shown on the right corresponds to positive results relating to deposits with the Hong Kong branch of Banco Santander, S.A. (asset), all of them expired before 31 December 2022.	5
	The amount shown on the right corresponds to positive results relating to fixed income securities-subordinated instruments (asset). This relates to the investment in November 2018 in two subordinated instruments (Tier I Subordinated Perpetual Notes and Tier II Subordinated Notes due 2028) with an amortised cost of EUR 2,363 million as at 31 December 2022.	158,620
	The amount shown on the right corresponds to negative results relating to interests and commissions concerning correspondent accounts (includes Hong Kong branch of Banco Santander, S.A.) (liability). This relates to correspondent accounts with a credit balance of EUR 36 million at 31 December 2022.	217
	The amount shown on the right corresponds to positive results relating to commissions received mainly for operations with the London and Hong Kong branches of Banco Santander, S.A.	411

D.5 Give individual details of the operations that are significant due to their amount or relevant due to their subject matter carried out by the company or its subsidiaries with other related parties pursuant to the international accounting standards adopted by the EU, which have not been reported in previous sections.

Not applicable.

G. DEGREE OF COMPLIANCE WITH THE CORPORATE GOVERNANCE RECOMMENDATIONS

Indicate the degree of the company's compliance with the recommendations of the good governance code for listed companies.

Should the company not comply with any of the recommendations or comply only in part, include a detailed explanation of the reasons so that shareholders, investors and the market in general have enough information to assess the company's behaviour. General explanations are not acceptable.

1. The bylaws of listed companies should not place an upper limit on the votes that can be cast by a single shareholder, or impose other obstacles to the takeover of the company by means of share purchases on the market.

Complies ☑ Explain ☐

2. When the listed company is controlled, pursuant to the meaning established in Article 42 of the Commercial Code, by another listed or non-listed entity, and has, directly or through its subsidiaries, business relationships with that entity or any of its subsidiaries (other than those of the listed company) or carries out activities related to the activities of any of them, this is reported publicly, with specific information about:

a) The respective areas of activity and possible business relationships between, on the one hand, the listed company or its subsidiaries and, on the other, the parent company or its subsidiaries.

b) The mechanisms established to resolve any conflicts of interest that may arise.

Complies ☐ Partially complies ☐ Explain ☐ Not applicable ☑

3. During the AGM the chair of the board should verbally inform shareholders in sufficient detail of the most relevant aspects of the company's corporate governance, supplementing the written information circulated in the annual corporate governance report. In particular:

a) Changes taking place since the previous annual general meeting.

b) The specific reasons for the company not following a given Good Governance Code recommendation, and any alternative procedures followed in its stead.

Complies ☑ Partially complies ☐ Explain ☐

4. The company should define and promote a policy for communication and contact with shareholders and institutional investors within the framework of their involvement in the

company, as well as with proxy advisors, that complies in full with the rules on market abuse and gives equal treatment to shareholders who are in the same position. The company should make said policy public through its website, including information regarding the way in which it has been implemented and the parties involved or those responsible its implementation.

Further, without prejudice to the legal obligations of disclosure of inside information and other regulated information, the company should also have a general policy for the communication of economic-financial, non-financial and corporate information through the channels it considers appropriate (media, social media or other channels) that helps maximise the dissemination and quality of the information available to the market, investors and other stakeholders.

Complies ☑ Partially complies ☐ Explain ☐

5. The board of directors should not make a proposal to the general meeting for the delegation of powers to issue shares or convertible securities without pre-emptive subscription rights for an amount exceeding 20% of capital at the time of such delegation.

And that whenever the board of directors approves an issuance of shares or convertible securities without pre-emptive rights the company immediately publishes reports on its web page regarding said exclusions as referenced in applicable mercantile law.

Complies ☑ Partially complies ☐ Explain ☐

6. Listed companies drawing up the following reports on a voluntary or compulsory basis should publish them on their website well in advance of the AGM, even if their distribution is not obligatory:

a) Report on auditor independence.

b) Reviews of the operation of the audit committee and the nomination and remuneration committees.

c) Audit committee report on third-party transactions.

Complies ☑ Partially complies ☐ Explain ☐

7. The company should broadcast its general meetings live on the corporate website.

The company should have mechanisms that allow the delegation and exercise of votes by electronic means and even, in the case of large-cap companies and, to the extent that it is proportionate, attendance and active participation in the general shareholders' meeting.

Complies ☑ Explain ☐

8. The audit committee should strive to ensure that the financial statements that the board of directors presents to the general shareholders' meeting are drawn up in accordance to accounting legislation. And in those cases where the auditors includes any qualification in its report, the chair of the audit committee should give a clear explanation at the general meeting of their opinion regarding the scope and content, making a summary of that opinion available to the shareholders at the time of the publication of the notice of the meeting, along with the rest of proposals and reports of the board.

Complies ☑ Partially complies ☐ Explain ☐

9. The company should disclose its conditions and procedures for admitting share ownership, the right to attend general meetings and the exercise or delegation of voting rights, and display them permanently on its website.

Such conditions and procedures should encourage shareholders to attend and exercise their rights and be applied in a non-discriminatory manner.

Complies ☑ Partially complies ☐ Explain ☐

10. When a shareholder so entitled exercises the right to supplement the agenda or submit new proposals prior to the general meeting, the company should:

a) Immediately circulate the supplementary items and new proposals.

b) Disclose the standard attendance card or proxy appointment or remote voting form, duly modified so that new agenda items and alternative proposals can be voted on in the same terms as those submitted by the board of directors.

c) Put all these items or alternative proposals to the vote applying the same voting rules as for those submitted by the board of directors, with particular regard to presumptions or deductions about the direction of votes.

d) After the general meeting, disclose the breakdown of votes on such supplementary items or alternative proposals.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

11. In the event that a company plans to pay for attendance at the general meeting, it should first establish a general, long-term policy in this respect.

Complies ☐ Partially complies ☐ Explain ☐ Not applicable ☑

12. The board of directors should perform its duties with unity of purpose and independent judgement, according the same treatment to all shareholders in the same position. It should be guided at all times by the company's best interest, understood as the creation of a profitable business that promotes its sustainable success over time, while maximising its economic value.

In pursuing the corporate interest, it should not only abide by laws and regulations and conduct itself according to principles of good faith, ethics and respect for commonly accepted customs and good practices, but also strive to reconcile its own interests with the legitimate interests of its employees, suppliers, clients and other stakeholders, as well as with the impact of its activities on the broader community and the natural environment.

Complies ☑ Partially complies ☐ Explain ☐

13. The board of directors should have an optimal size to promote its efficient functioning and maximise participation. The recommended range is accordingly between five and fifteen members.

Complies ☑ Explain ☐

14. The board of directors should approve a policy aimed at promoting an appro-priate composition of the board that:

a) is concrete and verifiable;

b) ensures that appointment or re-election proposals are based on a prior analysis of the competences required by the board; and

c) favours diversity of knowledge, experience, age and gender. Therefore, measures that encourage the company to have a significant number of female senior managers are considered to favour gender diversity.

The results of the prior analysis of competences required by the board should be written up in the nomination committee's explanatory report, to be pub-lished when the general shareholders' meeting is convened that will ratify the appointment and re-election of each director.

The nomination committee should run an annual check on compliance with this policy and set out its findings in the annual corporate governance report.

Complies ☑ Partially complies ☐ Explain ☐

15. Proprietary and independent directors should constitute an ample majority on the board of directors, while the number of executive directors should be the minimum practical bearing in mind the complexity of the corporate group and the ownership interests they control.

Further, the number of female directors should account for at least 40% of the members of the board of directors before the end of 2022 and thereafter, and not less than 30% previous to that.

Complies ☑ Partially complies ☐ Explain ☐

16. The percentage of proprietary directors out of all non-executive directors should be no greater than the proportion between the ownership stake of the shareholders they represent and the remainder of the company's capital.

This criterion can be relaxed:

a) In large cap companies where few or no equity stakes attain the legal threshold for significant shareholdings.

b) In companies with a plurality of shareholders represented on the board but not otherwise related.

Complies ☑ Explain ☐

17. Independent directors should be at least half of all board members.

However, when the company does not have a large market capitalisation, or when a large cap company has shareholders individually or concertedly controlling over 30 percent of capital, independent directors should occupy, at least, a third of board places.

Complies ☑ Explain ☐

18. Companies should disclose the following director particulars on their websites and keep them regularly updated:

a) Background and professional experience.

b) Directorships held in other companies, listed or otherwise, and other paid activities they engage in, of whatever nature.

c) Statement of the director class to which they belong, in the case of proprietary directors indicating the shareholder they represent or have links with.

d) Dates of their first appointment as a board member and subsequent re-elections.

e) Shares held in the company, and any options on the same.

Complies ☑ Partially complies ☐ Explain ☐

19. Following verification by the nomination committee, the annual corporate governance report should disclose the reasons for the appointment of proprietary directors at the urging of shareholders controlling less than 3 percent of capital; and explain any rejection of a formal request for a board place from shareholders whose equity stake is equal to or greater than that of others applying successfully for a proprietary directorship.

Complies ☐ Partially complies ☐ Explain ☐ Not applicable ☑

20. Proprietary directors should resign when the shareholders they represent dispose of their ownership interest in its entirety. If such shareholders reduce their stakes, thereby losing some of their entitlement to proprietary directors, the number of the latter should be reduced accordingly.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

21. The board of directors should not propose the removal of independent directors before the expiry of their tenure as mandated by the bylaws, except where they find just cause, based on a proposal from the nomination committee. In particular, just cause will be presumed when directors take up new posts or responsibilities that prevent them allocating sufficient time to the work of a board member, or are in breach of their fiduciary duties or come under one of the disqualifying grounds for classification as independent enumerated in the applicable legislation.

The removal of independent directors may also be proposed when a takeover bid, merger or similar corporate transaction alters the company's capital structure, provided the changes in board membership ensue from the proportionality criterion set out in recommendation 16.

Complies ☑ Explain ☐

22. Companies should establish rules obliging directors to disclose any circum-stance that might harm the organisation's name or reputation, related or not to their actions within the company, and tendering their resignation as the case may be, and, in particular, to inform the board of any criminal charges brought against them and the progress of any subsequent trial.

When the board is informed or becomes aware of any of the situations men-tioned in the previous paragraph, the board of directors should examine the case as soon as possible and, attending to the particular circumstances, de-cide, based on a report from the nomination and remuneration committee, whether or not to adopt any measures such as opening of an internal investigation, calling on the director to resign or proposing his or her dismissal. The board should give a reasoned account of all such determinations in the annual corporate governance report, unless there are special circumstances that justify otherwise, which must be recorded in the minutes. This is without prejudice to the information that the company must disclose, if appropriate, at the time it adopts the corresponding measures.

Complies ☑ Partially complies ☐ Explain ☐

23. Directors should express their clear opposition when they feel a proposal submitted for the board's approval might damage the corporate interest. In particular, independents and other directors not subject to potential conflicts of interest should strenuously challenge any decision that could harm the interests of shareholders lacking board representation.

When the board makes material or reiterated decisions about which a director has expressed serious reservations, then he or she must draw the pertinent conclusions. Directors resigning for such causes should set out their reasons in the letter referred to in the next recommendation.

The terms of this recommendation also apply to the secretary of the board, even if he or she is not a director.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

24. Directors who give up their position before their tenure expires, through resignation or resolution of the general meeting, should state the reasons for this decision, or in the case of non-executive directors, their opinion of the reasons for the general meeting resolution, in a letter to be sent to all members of the board.

This should all be reported in the annual corporate governance report, and if it is relevant for investors, the company should publish an announcement of the departure as rapidly as possible, with sufficient reference to the reasons or circumstances provided by the director.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

25. The nomination committee should ensure that non-executive directors have sufficient time available to discharge their responsibilities effectively.

The board rules and regulations should lay down the maximum number of company boards on which directors can serve.

Complies ☑ Partially complies ☐ Explain ☐

26. The board should meet with the necessary frequency to properly perform its functions, eight times a year at least, in accordance with a calendar and agendas set at the start of the year, to which each director may propose the addition of initially unscheduled items.

Complies ☑ Partially complies ☐ Explain ☐

27. Director absences should be kept to a strict minimum and quantified in the annual corporate governance report. In the event of absence, directors should delegate their powers of representation with the appropriate instructions.

Complies ☑ Partially complies ☐ Explain ☐

28. When directors or the secretary express concerns about some proposal or, in the case of directors, about the company's performance, and such concerns are not resolved at the meeting, they should be recorded in the minutes book if the person expressing them so requests.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

29. The company should provide suitable channels for directors to obtain the advice they need to carry out their duties, extending if necessary to external assistance at the company's expense.

Complies ☑ Partially complies ☐ Explain ☐

30. Regardless of the knowledge directors must possess to carry out their duties, they should also be offered refresher programmes when circumstances so advise.

Complies ☑ Explain ☐ Not applicable ☐

31. The agendas of board meetings should clearly indicate on which points directors must arrive at a decision, so they can study the matter beforehand or obtain the information they consider appropriate.

For reasons of urgency, the chair may wish to present decisions or resolutions for board approval that were not on the meeting agenda. In such exceptional circumstances, their inclusion will require the express prior consent, duly minuted, of the majority of directors present.

Complies ☑ Partially complies ☐ Explain ☐

32. Directors should be regularly informed of movements in share ownership and of the views of major shareholders, investors and rating agencies on the company and its group.

Complies ☑ Partially complies ☐ Explain ☐

33. The chair, as the person responsible for the efficient functioning of the board of directors, in addition to the functions assigned by law and the company's bylaws, should prepare and submit to the board a schedule of meeting dates and agendas; organise and coordinate regular evaluations of the board and, where appropriate, of the company's chief executive officer; exercise leadership of the board and be accountable for its proper functioning; ensure that sufficient time is given to the discussion of strategic issues, and approve and review refresher courses for each director, when circumstances so advise.

Complies ☑ Partially complies ☐ Explain ☐

34. When a lead independent director has been appointed, the bylaws or the Rules and regulations of the board of directors should grant him or her the following powers over and above those conferred by law: to chair the board of directors in the absence of the chair or vice chair; to give voice to the concerns of non-executive directors; to maintain contact with investors and shareholders to hear their views and develop a balanced understanding of their concerns, especially those to do with the company's corporate governance; and to coordinate the chair's succession plan.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

35. The board secretary should strive to ensure that the board's actions and decisions are informed by the governance recommendations of the Good Governance Code of relevance to the company.

Complies ☑ Explain ☐

36. The board in full should conduct an annual evaluation, adopting, where necessary, an action plan to correct weakness detected in:

a) The quality and efficiency of the board's operation.

b) The performance and membership of its committees.

c) The diversity of board membership and competencies.

d) The performance of the chair of the board of directors and the company's chief executive.

e) The performance and contribution of individual directors, with particular attention to the chair of board committees.

The evaluation of board committees should start from the reports they send to the board of directors, while that of the board itself should start from the report of the nomination committee.

Every three years, the board of directors should engage an external facilitator to aid in the evaluation process. This facilitator's independence should be verified by the nomination committee.

Any business dealings that the facilitator or members of its corporate group maintain with the company or members of its corporate group should be detailed in the annual corporate governance report.

The process followed and areas evaluated should be detailed in the annual corporate governance report.

Complies ☑ Partially complies ☐ Explain ☐

37. When there is an executive committee, there should be at least two non-executive members, at least one of whom should be independent; and its secretary should be the secretary of the board of directors.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

38. The board should be kept fully informed of the matters discussed and decisions made by the executive committee. To this end, all board members should receive a copy of the committee's minutes.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

39. All members of the audit committee, particularly its chair, should be appointed with regard to their knowledge and experience in accounting, auditing and risk management matters, both financial and non-financial.

Complies ☑ Partially complies ☐ Explain ☐

40. Listed companies should have a unit in charge of the internal audit function, under the supervision of the audit committee, to monitor the effectiveness of reporting and control systems. This unit should report functionally to the board's non-executive chair or the chair of the audit committee.

Complies ☑ Partially complies ☐ Explain ☐

41. The head of the unit handling the internal audit function should present an annual work programme to the audit committee, for approval by this committee or the board, inform it directly of any incidents or scope limitations arising during its implementation, the results and monitoring of its recommendations, and submit an activities report at the end of each year.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

42. The audit committee should have the following functions over and above those legally assigned:

1. With respect to internal control and reporting systems:

a) Monitor and evaluate the preparation process and the integrity of the financial and non-financial information, as well as the con-trol and management systems for financial and non-financial risks related to the company and, where appropriate, to the group – including operating, technological, legal, social, environmental, political and reputational risks or those related to corruption – reviewing compliance with regulatory requirements, the accurate demarcation of the consolidation perimeter, and the correct ap-plication of accounting principles.

b) Monitor the independence of the unit handling the internal audit function; propose the selection, appointment and removal of the head of the internal audit service; propose the service's budget; approve or make a proposal for approval to the board of the prior-ities and annual work programme of the internal audit unit, ensur-ing that it focuses primarily on the main risks the company is ex-posed to (including reputational risk); receive regular report-backs on its activities; and verify that senior management are acting on the findings and recommendations of its reports.

c) Establish and supervise a mechanism that allows employees and other persons related to the company, such as directors, sharehold-ers, suppliers, contractors or subcontractors, to report irregulari-ties of potential significance, including financial and accounting irregularities, or those of any other nature, related to the company, that they notice within the company or its group. This mechanism must guarantee confidentiality and enable communications to be made anonymously, respecting the rights of both the complainant and the accused party.

d) In general, ensure that the internal control policies and systems established are applied effectively in practice.

2. With regard to the external auditor:

a) Investigate the issues giving rise to the resignation of the external auditor, should this come about.

b) Ensure that the remuneration of the external auditor, does not compromise its quality or independence.

c) Ensure that the company notifies any change of external auditor through the CNMV, accompanied by a statement of any disagreements arising with the outgoing auditor and the reasons for the same.

d) Ensure that the external auditor has a yearly meeting with the board in full to inform it of the work undertaken and developments in the company's risk and accounting positions.

e) Ensure that the company and the external auditor adhere to current regulations on the provisions of non-audit services, limits on the concentration of the auditor's business and other requirements concerning auditor independence.

Complies ☑ Partially complies ☐ Explain ☐

43. The audit committee should be empowered to meet with any company employee or manager, even ordering their appearance without the presence of another manager.

Complies ☑ Partially complies ☐ Explain ☐

44. The audit committee should be informed of any structural changes or corporate transactions the company is planning, so the committee can analyse the operation and report to the board beforehand on its economic conditions and accounting impact and, when applicable, the exchange ratio proposed.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

45. Risk control and management policy should identify or establish at least:

a) The different types of financial and non-financial risk the company is exposed to (including operational, technological, financial, legal, social, environmental, political and reputational risks, and risks relating to corruption), with the inclusion under financial or economic risks of con-tingent liabilities and other off-balance-sheet risks.

b) A risk control and management model based on different levels, of which a specialised risk committee will form part when sector regula-tions provide or the company deems it appropriate.

c) The level of risk that the company considers acceptable.

d) The measures in place to mitigate the impact of identified risk events should they occur.

e) The internal control and reporting systems to be used to control and manage the above risks, including contingent liabilities and off-balance-sheet risks.

Complies ☑ Partially complies ☐ Explain ☐

46. Companies should establish a risk control and management function in the charge of one of the company's internal department or units and under the direct supervision of the audit committee or some other specialised board committee. This internal department or unit should be expressly charged with the following responsibilities:

a) Ensure that risk control and management systems are functioning correctly and, specifically, that major risks the company is exposed to are correctly identified, managed and quantified.

b) Participate actively in the preparation of risk strategies and in key decisions about their management.

c) Ensure that risk control and management systems are mitigating risks effectively in the frame of the policy drawn up by the board of directors.

Complies ☑ Partially complies ☐ Explain ☐

47. Members of the nomination and remuneration committee-or of the nomination committee and remuneration committee, if separately constituted - should be chosen procuring they have the right balance of knowledge, skills and experience for the functions they are called on to discharge. The majority of their members should be independent directors.

Complies ☑ Partially complies ☐ Explain ☐

48. Large cap companies should have formed separate nomination and remuneration committees.

Complies ☑ Explain ☐ Not applicable ☐

49. The nomination committee should consult with the company's chair and chief executive, especially on matters relating to executive directors.

When there are vacancies on the board, any director may approach the nomination committee to propose candidates that it might consider suitable.

Complies ☑ Partially complies ☐ Explain ☐

50. The remuneration committee should operate independently and have the following functions in addition to those assigned by law:

a) Propose to the board the standard conditions for senior officer contracts.

b) Monitor compliance with the remuneration policy set by the company.

c) Periodically review the remuneration policy for directors and senior officers, including share-based remuneration systems and their application, and ensure that their individual compensation is proportionate to the amounts paid to other directors and senior officers in the company.

d) Ensure that conflicts of interest do not undermine the independence of any external advice the committee engages.

e) Verify the information on director and senior officers' pay contained in corporate documents, including the annual directors' remuneration statement.

Complies ☑ Partially complies ☐ Explain ☐

51. The remuneration committee should consult with the company's chair and chief executive, especially on matters relating to executive directors and senior officers.

Complies ☑ Partially complies ☐ Explain ☐

52. The rules regarding composition and functioning of supervision and control committees should be set out in the regulations of the board of directors and aligned with those governing legally mandatory board committees as specified in the preceding sets of recommendations. They should include at least the following terms:

a) Committees should be formed exclusively by non-executive directors, with a majority of independents.

b) They should be chaired by independent directors.

c) The board should appoint the members of such committees with regard to the knowledge, skills and experience of its directors and each committee's terms of reference; discuss their proposals and reports; and provide report-backs on their activities and work at the first board plenary following each committee meeting.

d) They may engage external advice, when they feel it necessary for the discharge of their functions.

e) Meeting proceedings should be minuted and a copy made available to all board members.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

53. The task of supervising compliance with the policies and rules of the company in the environmental, social and corporate governance areas, and internal rules of conduct, should be assigned to one board committee or split between several, which could be the audit committee, the nomination committee, a committee specialised in sustainability or corporate social responsibility, or a dedicated committee established by the board under its powers of self-organisation. Such a committee should be made up solely of non-executive directors, the majority being independent and specifically assigned the following minimum functions.

Complies ☑ Partially complies ☐ Explain ☐

54. The minimum functions referred to in the previous recommendation are as follows:

a) Monitor compliance with the company's internal codes of conduct and corporate governance rules, and ensure that the corporate culture is aligned with its purpose and values.

b) Monitor the implementation of the general policy regarding the disclosure of economic-financial, non-financial and corporate information, as well as communication with shareholders and investors, proxy advisors and other stakeholders. Similarly, the way in which the entity communicates and relates with small and medium-sized shareholders should be monitored.

c) Periodically evaluate the effectiveness of the company's corporate governance system and environmental and social policy, to confirm that it is fulfilling its mission to promote the corporate interest and catering, as appropriate, to the legitimate interests of remaining stakeholders.

d) Ensure the company's environmental and social practices are in accordance with the established strategy and policy.

e) Monitor and evaluate the company's interaction with its stakeholder groups.

Complies ☑ Partially complies ☐ Explain ☐

55. Environmental and social sustainability policies should identify and include at least:

a) The principles, commitments, objectives and strategy regarding shareholders, employees, clients, suppliers, social welfare issues, the environment, diversity, fiscal responsibility, respect for human rights and the prevention of corruption and other illegal conducts.

b) The methods or systems for monitoring compliance with policies, associated risks and their management.

c) The mechanisms for supervising non-financial risk, including that related to ethical aspects and business conduct.

d) Channels for stakeholder communication, participation and dialogue.

e) Responsible communication practices that prevent the manipulation of information and protect the company's honour and integrity.

Complies ☑ Partially complies ☐ Explain ☐

56. Director remuneration should be sufficient to attract and retain directors with the desired profile and compensate the commitment, abilities and responsibility that the post demands, but not so high as to compromise the independent judgement of non-executive directors.

Complies ☑ Explain ☐

57. Variable remuneration linked to the company and the director's performance, the award of shares, options or any other right to acquire shares or to be remunerated on the basis of share price movements, and membership of long-term savings schemes such as pension plans, retirement accounts or any other retirement plan should be confined to executive directors.

The company may consider the share-based remuneration of non-executive directors provided they retain such shares until the end of their mandate. The above condition will not apply to any shares that the director must dispose of to defray costs related to their acquisition.

Complies ☑ Partially complies ☐ Explain ☐

58. In the case of variable awards, remuneration policies should include limits and technical safeguards to ensure they reflect the professional performance of the beneficiaries and not simply the general progress of the markets or the company's sector, or circumstances of that kind.

In particular, variable remuneration items should meet the following conditions:

a) Be subject to predetermined and measurable performance criteria that factor the risk assumed to obtain a given outcome.

b) Promote the long-term sustainability of the company and include non-financial criteria that are relevant for the company's long-term value, such as compliance with its internal rules and procedures and its risk control and management policies.

c) Be focused on achieving a balance between the achievement of short, medium and long-term targets, such that performance-related pay rewards ongoing achievement, maintained over sufficient time to appreciate its contribution to long-term value creation. This will ensure that performance measurement is not based solely on one off, occasional or extraordinary events.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

59. The payment of the variable components of remuneration is subject to sufficient verification that previously established performance, or other, conditions have been effectively met. Entities should include in their annual directors' remuneration report the criteria relating to the time required and methods for such verification, depending on the nature and characteristics of each variable component.

Additionally, entities should consider establishing a reduction clause ('malus') based on deferral for a sufficient period of the payment of part of the variable components that implies total or partial loss of this remuneration in the event that prior to the time of payment an event occurs that makes this advisable.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

60. Remuneration linked to company earnings should bear in mind any qualifications stated in the external auditor's report that reduce their amount.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

61. A major part of executive directors' variable remuneration should be linked to the award of shares or financial instruments whose value is linked to the share price.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

62. Following the award of shares, options or financial instruments corresponding to the remuneration schemes, executive directors should not be able to transfer their ownership or exercise them until a period of at least three years has elapsed.

Except for the case in which the director maintains, at the time of the transfer or exercise, a net economic exposure to the variation in the price of the shares for a market value equivalent to an amount of at least twice his or her fixed annual remuneration through the ownership of shares, options or other financial instruments.

The foregoing shall not apply to the shares that the director needs to dispose of to meet the costs related to their acquisition or, upon favourable assessment of the nomination and remuneration committee to address an extraordinary situation.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

63. Contractual arrangements should include provisions that permit the company to reclaim variable components of remuneration when payment was out of step with the director's actual performance or based on data subsequently found to be misstated.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

64. Termination payments should not exceed a fixed amount equivalent to two years of the director's total annual remuneration and should not be paid until the company confirms that he or she has met the predetermined performance criteria.

For the purposes of this recommendation, payments for contractual termination include any payments whose accrual or payment obligation arises as a consequence of or on the occasion of the termination of the contractual relationship that linked the director with the company, including previously unconsolidated amounts for long-term savings schemes and the amounts paid under post-contractual non-compete agreements.

Complies ☑ Partially complies ☐ Explain ☐ Not applicable ☐

List whether any directors voted against or abstained from voting on the approval of this Report.

Yes ☐ No ☑

I declare that the information included in this statistical annex are the same and are consistent with the descriptions and information included in the annual corporate governance report published by the company.

9.3 Table on compliance with or explanations of recommendations on corporate governance

Recommendation	Comply / Explain	Information
1	Comply	See section 3.2 'Shareholder rights'.
2	Not applicable	See 'Other conflicts of interest' in section 4.12 and section 2.3 'Significant shareholders'.
3	Comply	See section 3.1 'Shareholder communication and engagement'.
4	Comply	See section 3.1 'Shareholder communication and engagement'.
5	Comply	See section 2.2 'Authority to increase capital'.
6	Comply	See sections 4.5 'Audit committee activities in 2022', 4.6 'Nomination committee activities in 2022', 4.7 'Remuneration committee activities in 2022', 4.8 'Risk supervision, regulation and compliance committee activities in 2022', 4.9 'Responsible banking, sustainability and culture committee activities in 2022', 4.10 'Innovation and technology committee activities in 2022' and 4.12 'Related-party transactions and conflicts of interest'.
7	Comply	See 'Engagement with shareholders in 2022' in section 3.1, 'Shareholder participation at general meetings' in section 3.2 and section 3.5 'Our next AGM in 2023'.
8	Comply	See 'Board's regulation' in section 4.3 and section 4.5 'Audit committee activities in 2022'.
9	Comply	See 'Shareholder participation at general meetings' in section 3.2.
10	Comply	See 'Supplement to the annual general meeting notice' in section 3.2.
11	Not applicable	See section 3.5 'Our next AGM in 2023'.
12	Comply	See section 4.3 'Board functioning and effectiveness'.
13	Comply	See 'Size' in section 4.2.
14	Comply	See 'Diversity' and 'Election, renewal and succession of directors' in section 4.2, 'Board's regulation' in section 4.3, 'Duties and activities in 2022' in section 4.6, section 5 'Management team' and 'Responsible banking' chapter.
15	Comply	See section 4.2 'Board composition'.
16	Comply	See 'Composition by director type' in section 4.2.
17	Comply	See 'Composition by director type' and 'Election, renewal and succession of directors' in section 4.2.
18	Comply	See 'Corporate website' in section 3.1, section 4.1 'Our directors' and 'Tenure and equity ownership' in section 4.2.
19	Not applicable	See 'Composition by director type' in section 4.2.
20	Comply	See 'Election, renewal and succession of directors' in section 4.2.
21	Comply	See 'Election, renewal and succession of directors' in section 4.2.
22	Comply	See 'Election, renewal and succession of directors' in section 4.2, 'Board's regulation' in section 4.3 and 'Duties and activities in 2022' in section 4.6.
23	Comply	See 'Election, renewal and succession of directors' in section 4.2.
24	Comply	See 'Election, renewal and succession of directors' in section 4.2, 'Board's regulation' in section 4.3 and 'Duties and activities in 2022' in section 4.6.
25	Comply	See 'Board and committee preparation and attendance' in section 4.3 and 'Duties and activities in 2022' in section 4.6.
26	Comply	See 'Board operation' and 'Board and committee preparation and attendance' in section 4.3.
27	Comply	See 'Board operation' and 'Board and committee preparation and attendance' in section 4.3.
28	Comply	See 'Board operation' in section 4.3.
29	Comply	See 'Board operation' and 'Committee operation' in section 4.3.
30	Comply	See 'Director training and induction programmes' in section 4.3.
31	Comply	See 'Board operation' in section 4.3.
32	Comply	See section 3.1 'Shareholder communication and engagement' and 'Duties and activities in 2022' in section 4.6.
33	Comply	See section 4.3 'Board functioning and effectiveness'.
34	Comply	See 'Lead independent director' in section 4.3.
35	Comply	See 'Secretary of the board' in section 4.3.
36	Comply	See 'Board effectiveness review in 2022' in section 4.3.
37	Comply	See 'Board's regulation' in section 4.3 and 'Composition' in section 4.4.
38	Comply	See 'Committee operation' in section 4.3 and section 4.4 'Executive committee activities in 2022'.
39	Comply	See 'Board's regulation' in section 4.3 and 'Composition' in section 4.5.
40	Comply	See 'Duties and activities in 2022' in section 4.5 and section 8.5 'Monitoring'.
41	Comply	See 'Board's regulation' in section 4.3 and 'Duties and activities in 2022' in section 4.5.
42	Comply	See 'Board's regulation' in section 4.3 and 'Duties and activities in 2022' in section 4.5.
43	Comply	See 'Committee operation' in section 4.3.
44	Comply	See 'Duties and activities in 2022' in section 4.5.

Recommendation	Comply / Explain	Information
45	Comply	See 'Board's regulation' in section 4.3, 'Duties and activities in 2022' in section 4.5, 'Duties and activities in 2022' in section 4.8 and the 'Risk management and compliance' chapter.
46	Comply	See 'Duties and activities in 2022' in section 4.5,'Duties and activities in 2022' in section 4.8 and the 'Risk management and compliance' chapter.
47	Comply	See 'Composition' in section 4.6 and 'Composition' in section 4.7.
48	Comply	See 'Structure of board's committees' in section 4.3.
49	Comply	See 'Duties and activities in 2022' in section 4.6.
50	Comply	See 'Duties and activities in 2022' in section 4.7.
51	Comply	See 'Duties and activities in 2022' in section 4.7.
52	Comply	See 'Board's regulation' and 'Committee operation' in section 4.3 and sections 4.8 'Risk supervision, regulation and compliance committee activities in 2022' and 4.9 'Responsible banking, sustainability and culture committee activities in 2022'.
53	Comply	See 'Board's regulation' in section 4.3, 'Duties and activities in 2022' in section 4.6, 'Duties and activities in 2022' in section 4.8 and 'Duties and activities in 2022' in section 4.9.
54	Comply	See 'Board's regulation' in section 4.3, 'Duties and activities in 2022' in section 4.6, 'Duties and activities in 2022' in section 4.8 and 'Duties and activities in 2022' in section 4.9.
55	Comply	See 'Duties and activities in 2022' in section 4.9 and 'Responsible banking' chapter.
56	Comply	See sections 6.2 'Remuneration of directors for supervisory and collective decision-making duties: policy applied in 2022', 6.3 'Remuneration of directors for executive duties' and 6.4 'Directors' remuneration policy for 2023, 2024 and 2025 submitted to a binding shareholder vote'.
57	Comply	See sections 6.2 'Remuneration of directors for supervisory and collective decision-making duties: policy applied in 2022', 6.3 'Remuneration of directors for executive duties' and 6.4 'Directors' remuneration policy for 2023, 2024 and 2025 submitted to a binding shareholder vote'.
58	Comply	See section 6.3 'Remuneration of directors for executive duties' and 6.4 'Directors' remuneration policy for 2023, 2024 and 2025 submitted to a binding shareholder vote'.
59	Comply	See section 6.3 'Remuneration of directors for executive duties'.
60	Comply	See section 6.3 'Remuneration of directors for executive duties'.
61	Comply	See section 6.3 'Remuneration of directors for executive duties' and 6.4 'Directors' remuneration policy for 2023, 2024 and 2025 submitted to a binding shareholder vote'.
62	Comply	See 'Duties and activities in 2022' in section 4.7, section 6.3 'Remuneration of directors for executive duties' and 6.4 'Directors' remuneration policy for 2023, 2024 and 2025 submitted to a binding shareholder vote'.
63	Comply	See section 6.3 'Remuneration of directors for executive duties' and 6.4 'Directors' remuneration policy for 2023, 2024 and 2025 submitted to a binding shareholder vote'.
64	Comply	See sections 6.1 'Principles of the remuneration policy' and 6.3 'Remuneration of directors for executive duties' and 6.4 'Directors' remuneration policy for 2023, 2024 and 2025 submitted to a binding shareholder vote'.

9.4 Reconciliation to the CNMV's remuneration report model

Section in the CNMV model	Included in statistical report	Further information elsewhere and comments
A. Remuneration policy for the present fiscal year		
A.1	No	• See section 6.4: A.1.1, A.1.2, A.1.3, A.1.4, A.1.5, A.1.6, A.1.7, A.1.8, A.1.9, A.1.10, A.1.11 (note 5), A.1.12. • See also sections 4.7 and 6.5 for A.1.1 y A.1.6. • See 'Summary of link between risk, performance and reward' in section 6.3.
A.2	No	See section 6.4.
A.3	No	See section 6.4. See Introduction.
A.4	No	See section 6.5.
B. Overall summary of application of the remuneration policy over the last fiscal year		
B.1	No	For B.1.1, see sections 6.1, 6.2. and 6.3. For B.1.2 y B.1.3 (not applicable) see section 6.5
B.2	No	See 'Summary of link between risk, performance and reward' in section 6.3.
B.3	No	See sections 6.1, 6.2 and 6.3.
B.4	No	See section 6.5.
B.5	No	See section 6.2 and 6.3
B.6	No	See 'Gross annual salary' in section 6.3.
B.7	No	See 'Variable remuneration' in section 6.1, 6.2 and 6.3.
B.8	No	Not applicable.
B.9	No	See 'Main features of the benefit plans' in section 6.3.
B.10	No	See 'Other remuneration' in section 6.3.
B.11	No	See 'Terms and conditions of executive directors´ contracts' in section 6.4.
B.12	No	See section 6.3: "Remuneration of board members as representatives of Banco Santander"
B.13	No	See note 5 to the consolidated financial statements.
B.14	No	See 'Insurance and other remuneration and benefits in kind' in section 6.4.
B.15	No	See 'Remuneration of board members as representatives of the Bank' in section 6.3.
B.16	No	No remuneration for this component.
C. Breakdown of the individual remuneration of directors		
C	Yes	See section 9.5.
C.1 a) i)	Yes	See section 9.5.
C.1 a) ii)	Yes	See section 9.5.
C.1 a) iii)	Yes	See section 9.5.
C.1 a) iii)	Yes	See section 9.5.
C.1 b) i)	Yes	See section 9.5.
C.1 b) ii)	No	No remuneration for this component.
C.1 b) iii)	Yes	See section 9.5.
C.1 b) iv)	No	No remuneration for this component.
C.1 c)	Yes	See section 9.5.
C.2	Yes	See section 9.5.
D. Other information of interest		
D	No	See section 4.7

9.5 Statistical information on remuneration required by the CNMV

B. OVERALL SUMMARY OF HOW REMUNERATION POLICY WAS APPLIED DURING THE YEAR ENDED

B.4 Report on the result of the consultative vote at the general shareholders' meeting on remuneration in the previous year, indicating the number of votes in favour, votes against, abstentions and blank ballots:

	Number	% of total
Votes cast	11,926,199,198	100.00 %

	Number	% of votes cast
Votes in favour	10,193,385,775	85.47 %
Votes against	1,389,271,674	11.65 %
Blank	7,151,848	0.06 %
Abstentions	336,389,901	2.82 %

C. ITEMISED INDIVIDUAL REMUNERATION ACCRUED BY EACH DIRECTOR

Directors	Type	Period of accrual in year 2022
Ana Botín-Sanz de Sautuola y O'Shea	Executive Chair	From 01/01/2022 to 31/12/2022
José Antonio Álvarez Álvarez	CEO	From 01/01/2022 to 31/12/2022
Bruce Carnegie-Brown	Lead independent director	From 01/01/2022 to 31/12/2022
Homaira Akbari	Independent	From 01/01/2022 to 31/12/2022
Javier Botín-Sanz de Sautuola y O'Shea	Other external	From 01/01/2022 to 31/12/2022
Álvaro Cardoso de Souza	Independent	From 01/01/2022 to 01/04/2022
R. Martín Chávez Márquez	Independent	From 01/01/2022 to 01/07/2022
Sol Daurella Comadrán	Independent	From 01/01/2022 to 31/12/2022
Henrique de Castro	Independent	From 01/01/2022 to 31/12/2022
Gina Díez Barroso	Independent	From 01/01/2022 to 31/12/2022
Luis Isasi Fernández de Bobadilla	Other External	From 01/01/2022 to 31/12/2022
Ramiro Mato García-Ansorena	Independent	From 01/01/2022 to 31/12/2022
Sergio Rial	Other External	From 01/01/2022 to 31/12/2022
Belén Romana García	Independent	From 01/01/2022 to 31/12/2022
Pamela Walkden	Independent	From 01/01/2022 to 31/12/2022
Germán de la Fuente	Independent	From 01/04/2022 to 31/12/2022
Glenn Hutchins	Independent	From 20/12/2022 to 31/12/2022

C.1 Complete the following tables on individual remuneration of each director (including the remuneration for exercising executive functions) accrued during the year.

a) Remuneration from the reporting company:

i) Remuneration in cash (thousand euros)

Name	Fixed remuneration	Per diem allowances	Remuneration for membership of Board's committees	Salary	Short-term variable remuneration	Long-term variable remuneration[1]	Severance pay	Other grounds	Total year 2022	Total year 2021
Ana Botín-Sanz de Sautuola y O'Shea	95	41	244	3,176	2,702	444	—	525	7,227	7,533
José Antonio Álvarez Álvarez	95	39	195	2,541	1,823	297	—	710	5,700	5,941
Bruce Carnegie-Brown	280	75	345	—	—	—	—	—	700	700
Homaira Akbari	95	69	80	—	—	—	—	—	244	248
Francisco Javier Botín-Sanz de Sautuola y O'Shea	95	34	—	—	—	—	—	—	129	129
Álvaro Cardoso de Souza	24	11	4	—	—	—	—	—	39	183
R. Martín Chávez Márquez	48	40	59	—	—	—	—	—	147	374
Sol Daurella Comadrán	95	70	65	—	—	—	—	—	230	239
Henrique de Castro	95	76	90	—	—	—	—	—	261	267
Gina Díez Barroso	95	52	25	—	—	—	—	—	172	130
Luis Isasi Fernández de Bobadilla[2]	95	82	235	—	—	—	—	1,000	1,412	1,406
Ramiro Mato García-Ansorena	95	90	315	—	—	—	—	—	500	499
Sergio Rial	95	36	—	—	—	—	—	—	131	879
Belén Romana García	95	94	360	—	—	—	—	—	549	533
Pamela Walkden	95	78	150	—	—	—	—	—	323	303
Rodrigo Echenique Gordillo	—	—	—	—	—	236	—	—	236	292
Germán de la Fuente	66	40	31	—	—	—	—	—	137	—
Glenn Hutchins	3	4	3	—	—	—	—	—	10	—

Comments *(Not included in the electronic submission to the CNMV)*

1. Includes deferred amounts from the 2018 deferred and conditional variable remuneration plan subject to long term metrics for Ana Botín, José Antonio Álvarez and Rodrigo Echenique.
2. The remuneration of Luis Isasi includes EUR 1,000 thousand for his role as non-executive Chair of Santander España and for Santander España board and committees meetings.

ii) Table of changes in share-based remuneration schemes and gross profit from consolidated shares or financial instruments

		Financial instruments at start of year 2022		Financial instruments granted during 2022 year		Financial instruments consolidated during 2022				Instruments matured but not exercised[4]	Financial instruments at end of year 2022	
Name	Name of Plan	No. of instruments	No. of equivalent shares	No. of instruments	No. of equivalent shares	No. of instruments	No. of equivalent shares / handed over	Price of the consolidated shares	Net profit from shares handed over or consolidated financial instruments (EUR thousand)	No. of instruments	No. of instruments	No. of equivalent shares
Ana Botín Sanz de Sautuola y O'Shea	3rd cycle of deferred variable remuneration plan linked to multi-year targets (2018)	309,911	309,911	—	—	103,303	103,303	'2.80[3]	289	206,608	—	—
	4th cycle of deferred variable remuneration plan linked to multi-year targets (2019)	319,390	319,390	—	—	—	—	—	—	—	319,390	319,390
	5th cycle of deferred variable remuneration plan linked to multi-year targets (2020)	111,823	111,823	—	—	—	—	—	—	—	111,823	111,823
	6th cycle of deferred variable remuneration plan linked to multi-year targets (2021)	533,024	533,024	—	—	—	—	—	—	—	533,024	533,024
	7th cycle of deferred variable remuneration plan linked to multi-year targets (2022) in shares	—	—	585,079	585,079	398,078	398,078	3.088	1,229	—	187,002	187,002
	7th cycle (bis) of deferred variable remuneration plan linked to multi-year targets (2022) in option shares[2].	—	—	1,575,335	585,079	1,071,830	398,078	3.088	1,229	—	503,505	187,002
	7th cycle (bis) of deferred variable remuneration plan linked to multi-year targets (2022) in RSU[2] of PagoNxt S.L.	—	—	12,646	196,891	5,058	78,756	3.088	243	—	7,587	118,135

Name	Name of Plan	Financial instruments at start of year 2022		Financial instruments granted during 2022 year		Financial instruments consolidated during 2022				Instruments matured but not exercised[4]	Financial instruments at end of year 2022	
		No. of instruments	No. of equivalent shares	No. of instruments	No. of equivalent shares	No. of instruments	No. of equivalent shares / handed over	Price of the consolidated shares	Net profit from shares handed over or consolidated financial instruments (EUR thousand)	No. of instruments	No. of instruments	No. of equivalent shares
José Antonio Álvarez Álvarez	3rd cycle of deferred variable remuneration plan linked to multi-year targets (2018)	207,097	207,097	—	—	69,032	69,032	'2.80[3]	193	138,065	—	—
	4th cycle of deferred variable remuneration plan linked to multi-year targets (2019)	213,449	213,449	—	—	—	—	—	—	—	213,449	213,449
	5th cycle of deferred variable remuneration plan linked to multi-year targets (2020)	60,739	60,739	—	—	—	—	—	—	—	60,739	60,739
	6th cycle of deferred variable remuneration plan linked to multi-year targets (2021)	359,733	359,733	—	—	—	—	—	—	—	359,733	359,733
	7th cycle of deferred variable remuneration plan linked to multi-year targets (2022) in shares	—	—	394,916	394,916	268,679	268,679	3.088	830	—	126,237	126,237
	7th cycle (bis) of deferred variable remuneration plan linked to multi-year targets (2022) in option shares[2]	—	—	1,063,316	394,916	723,421	268,679	3.088	830	—	339,895	126,237
	7th cycle (bis) of deferred variable remuneration plan linked to multi-year targets (2022) in RSU[2] of PagoNxt S.L.	—	—	8,527	132,772	3,411	53,109	3.088	164	—	5,116	79,663

Name	Name of Plan	Financial instruments at start of year 2022		Financial instruments granted during 2022 year		Financial instruments consolidated during 2022				Instruments matured but not exercised[4]	Financial instruments at end of year 2022	
		No. of instruments	No. of equivalent shares	No. of instruments	No. of equivalent shares	No. of instruments	No. of equivalent shares / handed over	Price of the consolidated shares	Net profit from shares handed over or consolidated financial instruments (EUR thousand)	No. of instruments	No. of instruments	No of equivalent shares
Rodrigo Echenique Gordillo	3rd cycle of deferred variable remuneration plan linked to multi-year targets (2018)	164,462	164,462	—	—	54,820	54,820	'2.80[3]	153	109,642	—	—
	4th cycle of deferred variable remuneration plan linked to multi-year targets (2019)	98,092	98,092	—	—	—	—	—	—	—	98,092	98,092

Comments *(Not included in the electronic submission to the CNMV)*

1.After reviewing the results of the 3rd cycle of the deferred variable remuneration plan linked to multi-year targets (2018), the board of directors confirmed in 2022, upon recommendation from the remuneration committee, a 33.3% achievement of the long-term metrics of the plan (as the following level of achievement was met during 2018-2020 period: CET1 at 100% at 2020 year-end (the target was 11.30%); underlying EPS growth at 0% (the target was a 25% growth); and TSR metric at 0% (33% minimum target not reach), with a 33% weight each one) and the amounts of the pending deliveries for each executive director, payable in February 2022, 2023 and 2024 in connection with this plan. This applies to all persons under this plan.

2.Santander share price: EUR 3.088; Santander share option price: EUR 1.147 (Santander share option price is 37.14% of Santander share price); and restricted stock unit (RSU) of PagoNxt S.L. price: EUR 48.08 (equivalent just for this table calculation purposes, the conversion rate of Santander share/PagoNxt RSU is 0.064 times).

3. The share price as of 31 December 2022 closing (EUR 2.80) has been taken into account as a value for the calculation process of this plan. This value may be different to the share price in the moment or date of the respective deliveries and the cost for the Bank, which will depend on the purchase price of the shares or the share hedging that may be exist.

4. These instruments were initially assigned and due to the level of achievement of the metrics of this plan will not be delivered and the beneficiaries will not receive them.

iii) Long-term saving systems (thousand EUR)

Name	Remuneration from consolidation of rights to savings system
Ana Botín-Sanz de Sautuola y O'Shea	1,081
José Antonio Álvarez Álvarez	811

Name	Contribution over the year from the company (EUR thousand)				Amount of accumulated funds (EUR thousand)			
	Savings systems with consolidated economic rights		Savings systems with unconsolidated economic rights		2022		2021	
	2022	2021	2022	2021	Systems with consolidated economic rights	Systems with unconsolidated economic rights	Systems with consolidated economic rights	Systems with unconsolidated economic rights
Ana Botín-Sanz de Sautuola y O'Shea	1,081	1,041	—	—	46,725	—	48,075	—
José Antonio Álvarez Álvarez	811	783	—	—	18,958	—	18,821	—

iv) Details of other items (thousands of EUR)

Name	Item	Amount remunerated
Ana Botín-Sanz de Sautuola y O'Shea	Life and accident insurance and fixed remuneration supplement	412
	Other remuneration	25

Name	Item	Amount remunerated
José Antonio Álvarez Álvarez	Life and accident insurance and fixed remuneration supplement	1,040
	Other remuneration	7

b) Remuneration of the company directors for seats on the boards of other group companies:

i) Remuneration in cash (thousands of EUR)

Name	Fixed remuneration	Per diem allowances	Remuneration for membership of Board's committees	Salary	Short-term variable remuneration	Long-term variable remuneration	Severance pay	Other grounds	Total year 2022	Total year 2021
Homaira Akbari	361	—	—	—	—	—	—	—	361	213
Álvaro Cardoso de Souza	28	—	—	—	—	—	—	—	28	334
R. Martín Chávez Márquez	200	—	—	—	—	—	—	—	200	52
Henrique de Castro	200	—	—	—	—	—	—	—	200	52
Pamela Walkden	147	—	—	—	—	—	—	—	147	36
Sergio Rial[1]	117	—	—	2,000	167	—	—	1	2,286	4,001

Comments *(Not included in the electronic submission to the CNMV)*

1. Long-term variable remuneration only includes amounts since the appointment as director.

ii) Table of changes in share/based remunerations schemes and gross profit from consolidated shares of financial instruments

Not applicable

iii) Long term saving systems (thousand EUR)

Name	Remuneration from consolidation of rights to savings system
Sergio Rial	162

Name	Contribution over the year from the company (EUR thousand): Savings systems with consolidated economic rights 2022	Savings systems with consolidated economic rights 2021	Savings systems with unconsolidated economic rights 2022	Savings systems with unconsolidated economic rights 2021	Amount of accumulated funds (EUR thousand) 2022: Systems with consolidated economic rights	2022: Systems with unconsolidated economic rights	2021: Systems with consolidated economic rights	2021: Systems with unconsolidated economic rights
Sergio Rial	162	1,153	—	—	6,276	—	5,202	—

Comments *(Not included in the electronic submission to the CNMV)*
Saving system from Banco Santander Brasil S.A.

iv) Detail of other items (thousands of EUR)

Not applicable

c) Summary of remuneration (thousands of EUR)

The summary should include the amounts corresponding to all the items of remuneration included in this report that have been accrued by the director, in thousand euros.

	Remuneration accrued in the company						Remuneration accrued in group companies					
Name	Total cash remuneration[1]	Gross profit on consolidated shares or financial instruments[1]	Contributions to the long-term savings plan	Remuneration for other items	Total 2022	Total 2021	Total cash remuneration	Gross profit on consolidated shares or financial instruments	Contributions to the long-term savings plan	Remuneration for other items	Total 2022	Total 2021
Ana Botín-Sanz de Sautuola y O'Shea	7,227	2,990	1,081	437	11,735	12,288	—	—	—	—	—	—
José Antonio Álvarez Álvarez	5,700	2,017	811	1,047	9,575	9,728	—	—	—	—	—	—
Bruce Carnegie-Brown	700	—	—	—	700	700	—	—	—	—	—	—
Homaira Akbari	244	—	—	—	244	248	361	—	—	—	361	213
Javier Botín-Sanz de Sautuola y O'Shea	129	—	—	—	129	129	—	—	—	—	—	—
Álvaro Cardoso de Souza	39	—	—	—	39	183	28	—	—	—	28	334
R. Martín Chávez Márquez	147	—	—	—	147	374	200	—	—	—	200	52
Sol Daurella Comadrán	230	—	—	—	230	239	—	—	—	—	—	—
Henrique de Castro	261	—	—	—	261	267	200	—	—	—	200	52
Gina Díez Barroso	172	—	—	—	172	130	—	—	—	—	—	—
Luis Isasi Fernández de Bobadilla[2]	1,412	—	—	—	1,412	1,406	—	—	—	—	—	—
Ramiro Mato García-Ansorena	500	—	—	—	500	499	—	—	—	—	—	—
Sergio Rial	131	—	—	—	131	879	2,286	—	162	—	2,448	7,170
Belén Romana García	549	—	—	—	549	533	—	—	—	—	—	—
Pamela Walkden	323	—	—	—	323	303	147	—	—	—	147	36
Rodrigo Echenique Gordillo	236	153	—	—	389	444	—	—	—	—	—	—
Germán de la Fuente	137	—	—	—	137	—	—	—	—	—	—	—
Glenn Hutchins	10	—	—	—	10	—	—	—	—	—	—	—
Total	**18,147**	**5,160**	**1,892**	**1,484**	**26,683**	**28,350**	**3,222**	**—**	**162**	**—**	**3,384**	**7,857**

Comments *(Not included in the electronic submission to the CNMV)*

1. Includes deferred amounts from the 2018 deferred and conditional variable remuneration plan subject to long term metrics for Ana Botín, José Antonio Álvarez and Rodrigo Echenique.
2. The remuneration of Luis Isasi includes EUR 1,000 thousand for his role as non-executive Chair of Santander España and for Santander España board and committees meetings.

C.2 Indicate the evolution in the last five years of the amount and percentage variation of the remuneration accrued by each of the directors of the listed company who have held this position during the year, the consolidated results the company and the average remuneration on an equivalent basis with regard to full-time employees of the company and its subsidiaries that are not directors of the listed company.

Directors' remuneration (EUR thousand)	2022	% var. 22/21	2021	% var. 21/20	2020	% var. 20/19	2019	% var. 19/18	2018
• Executive Directors									
Ana Botín-Sanz de Sautuola y O'Shea	11,735	(5)%	12,288	52%	8,090	(19)%	9,954	(10)%	11,011
José Antonio Álvarez Álvarez	9,575	(2)%	9,728	41%	6,877	(17)%	8,270	(8)%	9,001
• External Directors[1]									
Bruce Carnegie-Brown	700	—	700	18%	595	(15)%	700	(4)%	732
Javier Botín-Sanz de Sautuola y O'Shea	129	—	129	6%	122	(11)%	137	13%	121
Sergio Rial	2,579	(68)%	8,049	22%	6,621	—	—	—	—
Sol Daurella Comadrán	230	(4)%	239	12%	214	(11)%	240	12%	215
Belén Romana García	549	3%	533	28%	417	(21)%	525	27%	414
Homaira Akbari	605	31%	461	19%	386	71%	226	14%	199
Ramiro Mato García Ansorena	500	—	499	16%	430	(14)%	500	11%	450
Álvaro Cardoso de Souza	67	(87)%	517	(11)%	578	(14)%	673	355%	148
Henrique de Castro	461	45%	319	36%	234	172%	86	—	—
Pamela Walkden	470	38%	339	59%	214	529%	34	—	—
Luis Isasi Fernández de Bobadilla[2]	1,412	—	1,406	49%	943	—	—	—	—
R.Martín Chávez Márquez	347	(19)%	426	689%	54	—	—	—	—
Gina Díez Barroso	172	32%	130	622%	18	—	—	—	—
Germán de la Fuente	137	—	—	—	—	—	—	—	—
Glenn Hutchins	10	—	—	—	—	—	—	—	—
Company's performance									
Underlying profit attributable to the Group (EUR mn)	9,605	11%	8,654	70%	5,081	(38)%	8,252	2%	8,064
Consolidated results of the Group[3] (EUR mn)	15,250	5%	14,547	—	(2,076)	—%	12,543	(12)%	14,201
Ordinary RoTE	13.37%	5%	12.73%	71%	7.44%	(37)%	11.79%	(2)%	12.08%
Employees' average remuneration[4] (EUR)	**56,262**	**1%**	**55,673**	**18%**	**47,130**	**(12)%**	**53,832**	**2%**	**52,941**

1.Non-executive directors' remuneration fluctuations are caused by joining or leaving the Board of Directors and the difference in the amount of meetings they assist during the year. Hence there is no correlation between their remuneration and the company performance.
2.The remuneration of Luis Isasi includes EUR 1,000 thousand for his role as non-executive Chair of Santander España and for Santander España board and committees meetings.
3. Group operating profit/(loss) before tax.
4.Employee average remuneration includes all concepts. Full-time equivalent data. The percentage of variable remuneration over fixed remuneration in an average employee is lower than that of the executive directors. Variable remuneration data accrued in the current year. Evolutive data impacted by exchange rate performance in the group's geographies.
(Notes not included in the electronic submission to the CNMV)

This annual report on remuneration has been approved by the board of directors of the company, at its meeting on 27 February 2023.

State if any directors have voted against or abstained from approving this report.

Yes ☐ No ☑

Economic and financial review

1. Economy, regulation and competition

Economy

In 2022, Santander operated in an environment marked by global inflation picking up to levels not seen in decades. The war in Ukraine fanned geopolitical tensions and global supply chain bottlenecks and disruptions stemming from the covid-19 pandemic and geopolitical situation waned but, nonetheless, persisted.

In response, the major central banks raised interest rates to try to contain inflationary pressures; some countries are expected to consolidate monetary policy in 2023, which may lead to a gradual slowdown in global economic activity.

Our core regions' economies performed as follows:

- **Eurozone** (GDP: +3.5% in 2022). The end of pandemic restrictions in Q2'22 boosted services sector activity, but the war in Ukraine, which caused energy and basic food prices to rise, hampered post-pandemic recovery and created a recession risk. The labour market was resilient, as the unemployment rate continued to fall to historical lows (6.6%). Inflation rose steadily to above 10% after the summer, although ended the year at 9.2%. The European Central Bank (ECB) responded by beginning to raise interest rates in July, increasing the official interest rate from -0.50% to 2% at year end.

- **Spain** (GDP: +5.5% in 2022). Normalization of the service sector and tourism activity following the pandemic boosted growth in 2022. Despite economic deceleration, the labour market remained robust and the number of part-time contracts fell. Inflation peaked above 10% but declined to 5.8% in December, due to falls in energy prices. However, core inflation continued to rise (7.5% in December).

- **United Kingdom** (GDP: +4.1% in 2022). Accelerated inflation caused real income and domestic demand to fall as the year went on, ending with a significant slowdown. The labour market, with little idle capacity, was another factor pressuring inflation. As a result, the Bank of England raised interest rates to 3.5%.

- **Portugal** (GDP: +6.7% in 2022). Synchronized external and internal demand due to rapid and intense post-pandemic recovery helped keep Portugal at almost full employment (average unemployment rate at 6%). Stronger demand when supply was unable to respond and the effects of the war in Ukraine accelerated inflation to double digits.

- **Poland** (GDP: +4.9% in 2022). The economy was resilient despite headwinds: the war in Ukraine, the spike in energy costs and tighter financial conditions. A strong increase in wages put further pressure on already high inflation. In response, the central bank raised the official interest rate to 6.75%.

- **United States** (GDP: +2.1% in 2022). Economic growth slowed following the high growth rates in 2021. The labour market remained solid, as the unemployment rate was close to historical lows. Inflation shows signs of falling back from mid-year highs but remains elevated (6.5% in December). The Federal Reserve raised interest rates by 425 bps in 2022 up to a range of 4.25%-4.5%.

- **Mexico** (GDP: preliminary +2.8% in 2022). Economic growth was surprisingly robust, on the back of expansion of services, manufacturing and agriculture plus an active export market. Inflation continued to pick up though at a slower pace in Q4'22 (7.8% in December). The central bank continued to raise the official rate, reaching 10.5% (5.5% at the end of 2021).

- **Brazil** (GDP: estimated +3.0% in 2022). The economy grew well but showed signs of a slowdown in the second half of the year, particularly in terms of private consumption. Inflation peaked in April but quickly fell back (5.8% in December). The central bank raised the official rate by 450 bps to 13.75% in August with no further rate increases in the rest of the year.

- **Chile** (GDP: 2.7% estimated in 2022). The economy adjusted after growing intensely in 2021. GDP contracted in the second half of the year, due to fiscal stimulus withdrawal and tighter monetary policy. Chile's central bank raised interest rates by 725 bps to 11.25% to combat high inflation (12.8%).

- **Argentina** (GDP: estimated +5.5% in 2022). Economic recovery continued despite high inflation (average monthly inflation rates of 5.7%). The IMF reached an agreement with the government to refinance debt maturities with the organization, backed by a programme focused on addressing macro imbalances.

The exchange rates of our main currencies against the euro in 2022 and 2021 were:

Exchange rates: 1 euro/currency parity

	Average		Period-end	
	2022	2021	2022	2021
US dollar	1.051	1.182	1.068	1.133
Pound sterling	0.853	0.859	0.887	0.840
Brazilian real	5.421	6.372	5.650	6.319
Mexican peso	21.131	23.980	20.805	23.152
Chilean peso	916.688	897.123	909.200	964.502
Argentine peso	134.786	112.383	189.116	116.302
Polish zloty	4.683	4.564	4.684	4.597

Geopolitical risk, lower growth forecasts amid considerable uncertainty, inflationary pressures and tighter monetary policy led to a tumultuous year in financial markets.

Government bond yields trended up as central banks raised interest rates. Short-term rates rebounded more strongly than long-term rates, inverting yield curves. In the UK, tensions warned that fiscal policy should accompany monetary policy to avoid undermining fiscal sustainability. Euro periphery spreads, especially Italian bonds, widened against German debt, due to initial doubts cast on the new Italian government and on the ECB's monetary policy shift.

Stock markets experienced episodes of instability and a decline due to rising interest rates, central banks' uncertainty about terminal interest rates and lower visibility on earnings estimates. In this lower risk appetite environment, the US dollar appreciated against most currencies, and fell below parity against a euro penalized by the ECB's slower reaction in raising interest rates and by the possibility of a recession in Europe caused by a potential energy crisis.

Latin American markets performed well in this volatile environment, helped by high commodity prices, lower current account imbalances, strong reserve buffers, lower currency mismatches, and the swift action by central banks in the region, which moved quickly to preserve their credibility.

Monetary policy tightening puts an end to the distortions created by very low or negative interest rates, and will have a positive impact on banks' margins. The speed and intensity of the interest rate rises, the ensuing economic slowdown and the effect of prices on private sector income, may impact on banks' credit quality, especially in highly indebted segments that were already vulnerable after the pandemic.

Loan delinquency was better than expected, due to the effective income support measures offered during the pandemic as well as economic recovery following it. Banks should monitor portfolio credit quality performance.

Banks faced the economic environment from an initial position of solid solvency, as demonstrated in the stress tests carried out by the main central banks and multilateral organizations. This indicates that banks were in a good position to face a potential further economic deterioration. Moreover, banks had ample initial liquidity, boosted by central bank covid-19-pandemic support measures and by savings that households and corporates had accumulated during lockdowns. However, monetary policy tightening withdrew excess liquidity and credit institutions' wholesale funding costs increased.

The medium-term challenges that banks face remain unchanged. Digital transformation accelerated during the pandemic, forcing entities to offer customers better digital experience in the wake of a surge in new competitors. Climate transition also requires a significant effort as institutions must develop new portfolio classification models and risk scenarios to assess the potential balance sheet impacts and understand exposure to transitional and physical risks to companies and households owing to climate change in the coming years.

Regulatory and competitive environment

The 2022 regulatory agenda was once again marked by discussions around three main areas: prudential and resolution, sustainability and digital. The outbreak of the war in Ukraine at the beginning of the year influenced regulatory debates: generally, on the need to ensure banks can continue to play a key role in financing the economy (as they did during covid-19) and specifically, on energy sources and sustainability.

Main regulatory actions in these three areas in 2022 were:

- **Prudential and resolution:** most discussions focused on the European Commission's (EC) proposal to implement Basel III in Europe, a reform aimed at reducing the variability of risk-weighted assets and favouring comparability between institutions. In view of the war in Ukraine, the Eurogroup unsuccessfully pushed for an agreement to set up a Deposit Guarantee Fund. International debate focused on the Basel Committee's new consultation on the prudential treatment of financial institutions' exposures to crypto-assets.

- **Sustainability:** Europe continued to lead the way in sustainability talks. The final Pillar 3 disclosure framework defined by the European Banking Authority (EBA) was approved and will apply from 2023. Work continued this year on the green taxonomy, the revision of the non-financial disclosure reporting directive (NFRD), which will define new transparency requirements for financial and non-financial companies, and the development of sustainability reporting standards. The EC published three new proposals: green bonds, due diligence and deforestation. At the international level, the Basel Committee established guidelines on the management and supervision of climate-related financial risks.

- **Digitalization:** the EC finalized key parts of the digital finance plan announced in 2020. The new Markets in cryptoassets (MiCA) regulation establishes a common European framework for the issuance, custody and exchange of cryptoassets. The new Digital Operational Resilience Act (DORA) establishes a harmonized supervisory framework for technology providers that offer services to financial institutions and imposes common cybersecurity requirements. The Digital Markets Act (DMA) was also passed. It establishes obligations and prohibitions for digital platforms considered gatekeepers, in order to ensure competition in the EU digital market. At the same time, practically all central banks continued to explore the issuance of digital currencies (CBDCs). The ECB in particular stands out as one of the most advanced in its research.

Amid rising inflation and cost of living, some national governments adopted mortgage payment regulations for vulnerable groups and, in general, for others struggling to meet their financial obligations. Entities adopted additional measures individually and collectively.

For more details, see note 1.e to the consolidated financial statements.

Santander and public policy

Santander has always defended the need for robust, high-quality regulation that supports bank strength and solvency, establishes strong consumer protection and market stability standards, and favours transparency regarding risk and resilience for investors and supervisors. We are committed to engaging constructively and transparently with public policy makers and regulators on the aims, design and implementation of banking rules and policy frameworks that impact our banks' or our customers' interests.

1

Capital and bank resilience

We believe that the reforms of the last decade have made financial institutions more robust in terms of capital. However, the covid-19 crisis raised some issues regarding the functioning of the regulatory framework that need to be carefully assessed. Additionally, the EU still has work to do to build the foundations of a true banking union. We continue to advocate for:

- An approach to continue working on the implementation of Basel III standards that does not materially increase new post-crisis capital requirements and takes into account the demands of digitalization, the green transformation and the post-covid recovery.
- The need for a stable and predictable framework to facilitate management by institutions and investors' understanding of this agenda.
- Banking regulation needs to recognize some of the realities of banks with a global footprint, such as the recognition of the Multiple Point of Entry resolution framework.
- A common deposit insurance scheme for EU banks that breaks the bank/sovereign loop.

2

Sustainability and sustainable finance

We believe that decarbonization is a first order social and environmental challenge in which banks have an important role to play and we are fully committed to the objectives. We continue to advocate for regulation that:

- Ensures business competitiveness and avoids fragmentation to promote economic growth. Encourages harmonization across jurisdictions by agreeing on a global, principle-based sustainability regulatory framework.
- Does not restrict banks' ability to support their customers' transitions. It is not only important to finance companies that are already green, but to help those in carbon-intensive sectors develop more sustainable models.
- Supports governments with their responsibility to define transition paths for the different economic sectors, along with implementation tools and policies, with banks as a major player in supporting individuals and companies in their transitions.

3

The digital landscape

The banking sector is undergoing significant changes during its digital transformation with the aim of leveraging technology and innovation opportunities and improving customer choice. We continue to advocate for:

- Simple, future-proof regulation and supervision that allows the banking sector to innovate and take advantage of the potential benefits of technology and digitalization on an equal basis with other companies.
- A data economy that is fair (level-playing field), competitive (with incentives for innovation) and secure (appropriate distribution of responsibility). Consumers and users must have real control over their data. In addition, a sharing of data across sectors that will really make a difference in better provision of services and products for those consumers and customers.
- Discussions on central bank digital currencies should take into consideration the role the financial system plays in financing the economy.

2. Group selected data

BALANCE SHEET (EUR million)	2022	2021	% 2022 vs. 2021	2020
Total assets	**1,734,659**	1,595,835	8.7	1,508,250
Loans and advances to customers	**1,036,004**	972,682	6.5	916,199
Customer deposits	**1,025,401**	918,344	11.7	849,310
Total funds [A]	**1,255,660**	1,153,656	8.8	1,056,127
Total equity	**97,585**	97,053	0.5	91,322

INCOME STATEMENT (EUR million)	2022	2021	% 2022 vs. 2021 [B]	2020
Net interest income	**38,619**	33,370	15.7	31,994
Total income	**52,117**	46,404	12.3	44,279
Net operating income	**28,214**	24,989	12.9	23,149
Profit before tax	**15,250**	14,547	4.8	(2,076)
Profit attributable to the parent	**9,605**	8,124	18.2	(8,771)

EPS, PROFITABILITY AND EFFICIENCY (%)	2022	2021	% 2022 vs. 2021	2020
EPS (euro)	**0.539**	0.438	23.1	(0.538)
RoE	**10.67**	9.66		(9.80)
RoTE	**13.37**	11.96		1.95
RoA	**0.63**	0.62		(0.50)
RoRWA	**1.77**	1.69		(1.33)
Efficiency ratio [C]	**45.8**	46.2		47.0

UNDERLYING INCOME STATEMENT [C] (EUR million)	2022	2021	% 2022 vs. 2021 [D]	2020
Net interest income	**38,619**	33,370	15.7	31,994
Total income	**52,154**	46,404	12.4	44,600
Net operating income	**28,251**	24,989	13.1	23,633
Profit before tax	**15,250**	15,260	(0.1)	9,674
Attributable profit to the parent	**9,605**	8,654	11.0	5,081

UNDERLYING EPS AND PROFITABILITY [C] (%)	2022	2021	% 2022 vs. 2021	2020
Underlying EPS (euro)	**0.539**	0.468	15.0	0.262
Underlying RoE	**10.67**	10.29		5.68
Underlying RoTE	**13.37**	12.73		7.44
Underlying RoA	**0.63**	0.65		0.40
Underlying RoRWA	**1.77**	1.78		1.06

SOLVENCY (%)	2022	2021	2020
Fully-loaded CET1	**12.04**	12.12	11.89
Fully-loaded total capital ratio	**15.81**	16.41	15.73

CREDIT QUALITY (%)	2022	2021	2020
Cost of risk	**0.99**	0.77	1.28
NPL ratio	**3.08**	3.16	3.21
Total coverage ratio	**68**	71	76

THE SHARE AND MARKET CAPITALIZATION	2022	2021	% 2022 vs. 2021	2020
Number of shareholders	**3,915,388**	3,936,922	(0.5)	4,018,817
Shares (millions)	**16,794**	17,341	(3.2)	17,341
Share price (euro)	**2.803**	2.941	(4.7)	2.538
Market capitalization (EUR million)	**47,066**	50,990	(7.7)	44,011
Tangible book value per share (euro)	**4.26**	4.12		3.79
Price / Tangible book value per share (X)	**0.66**	0.71		0.67

CUSTOMERS (thousands)	2022	2021	% 2022 vs. 2021	2020
Total customers	**159,843**	152,943	4.5	148,256
Loyal customers [E]	**27,490**	25,548	7.6	22,838
Loyal retail customers	**25,298**	23,359	8.3	20,901
Loyal SME & corporate customers	**2,191**	2,189	0.1	1,938
Digital customers [F]	**51,470**	47,489	8.4	42,362
Digital sales / Total sales (%)	**55.1**	54.4		44.3

OPERATING DATA	2022	2021	% 2022 vs. 2021	2020
Number of employees	**206,462**	199,177	3.7	193,226
Number of branches	**9,019**	9,229	(2.3)	10,586

A. Includes customer deposits, mutual funds, pension funds and managed portfolios.

B. In constant euros: Net interest income: +9.0%; Total income: +5.8%; Net operating income: +4.9%; Profit before tax: -3.9%; Attributable profit: +8.5%.

C. In addition to IFRS measures, we present non-IFRS measures including some which we refer to as underlying measures. These non-IFRS measures exclude items outside the ordinary course of business and reclassify certain items under some headings of the underlying income statement as described at the end of section 3.2 'Results' and in section 8 'Alternative Performance Measures' of this chapter. In our view, this provides a better year-on-year comparison.

D. In constant euros: Net interest income: +9.0%; Total income: +5.9%; Net operating income: +5.0%; Profit before tax: -8.0%; Attributable profit: +2.3%.

E. Active customers who receive most of their financial services from the Group according to the commercial segment to which they belong. Various engaged customer levels have been defined taking profitability into account.

F. Every physical or legal person, that, being part of a commercial bank, has logged into its personal area of internet banking or mobile phone or both in the last 30 days.

3. Group financial performance

Santander follows IFRS to report its results (see note 1.b to the consolidated financial statements), which generally inform reporting of our financial situation in this consolidated directors' report. However, we also use non-IFRS measures and Alternative Performance Measures (APMs) to assess our performance (see section 8 'Alternative Performance Measures' of this chapter). Thus, the main adjustments to our IFRS results consist of:

- underlying results measures: we present what we call underlying results measures which exclude items outside the ordinary course of business and reclassify certain items under some headings of the underlying income statement as described at the end of section 3.2 'Results' in this chapter and in note 51.c of the consolidated financial statements. In our view, this provides a better year-on-year comparison.

  In section 4 'Financial information by segment', we present results by business area only in underlying terms in accordance with IFRS 8. We reconcile them in aggregate terms with our IFRS consolidated results in note 51.c to the consolidated financial statements; and

- local currency measures: we use certain non-IFRS financial indicators in local currency to assess our ongoing operating performance. They include the results from our subsidiary banks outside the eurozone excluding the exchange rate impact (i.e. in constant euros). Because changes in exchange rates have a non-operating impact on results, we believe assessing performance in local currency provides management and investors an additional and meaningful assessment of performance. Section 8 'Alternative Performance Measures' of this chapter explains how we exclude the exchange rate impact from financial measures in local currency.

We have rounded certain figures in this consolidated directors' report to present them more clearly. Thus, the amounts given in the totals columns and rows of tables in certain instances may not match the sum of that column or row.

3.1 Situation of Santander

Santander is one of the largest banks in the eurozone. At year-end 2022, we had EUR 1,734,659 million in assets and EUR 1,255,660 million in total customer funds. Santander was the second largest bank by market capitalization (EUR 47,066 million as of 30 December 2022).

Our purpose to help people and businesses prosper by being Simple, Personal and Fair remains the same. We do not merely meet our legal and regulatory obligations but also aim to exceed our stakeholders' expectations. We strive to aid our customers' green transitions, while also promoting financial inclusion.

We engage in all types of typical banking activities, operations and services. Our track record, business model and strategic execution drive our aim to be the best open digital financial services platform, by acting responsibly and earning the lasting loyalty of our stakeholders (people, customers, shareholders and communities).

2022 was another challenging year, as certain adverse social and economic effects of the covid-19 pandemic continued to impact the macroeconomic environment and Santander. Moreover, the current context, in part as a result of the war in Ukraine, is geopolitically and economically more complex, volatile and uncertain. In 2022, we continued to play an active role in economic recovery, supporting our 160 million customers and broader society.

We had 206,462 **employees** at 31 December 2022. We continue to work towards being an employer of choice, chosen for our purpose and culture and for generating profit responsibly. Our strategic priorities centred around talent and culture help us ensure we have the right people, encourage and empower them and develop their skills while providing an excellent employee experience.

In 2022, we launched our new T.E.A.M.S. corporate behaviours and 'Your Voice', our continuous listening tool through which our employees can share their opinions, ideas and experiences. In its first year, 'Your Voice' addressed such issues as engagement, flexibility, co-worker relationships, inclusion, well-being and culture. Santander's global eNPS (employee Net Promoter Score) stood well above the average of all companies in the survey.

We interact with our **customers** through several channels to ensure their access to financial services. At the year end, we had 9,019 branches, which we have improved in recent years. These include WorkCafés, SmartBank and Ágil ('Agile') branches, and other specialist centres for businesses, private banking, universities and other customer segments. We are also promoting new, more digital collaborative spaces.

Additionally, our contact centres, which provide best-in-class service quality, continue to serve our customers.

Amid faster digitalization, our aim, now more than ever, is to continue to offer customers digital products and services that will meet their needs and support them in their digital journey.

Santander continues to invest in ensuring access to financial services for customers who prefer to bank in-person, do not have a branch nearby or do not feel comfortable using mobile banking or digital channels. Our priority is to ensure that no one is left behind and everyone has the opportunity to access our products and services.

Some examples of our commitment to financial inclusion are our initiatives in rural Spain. Through our branches, ATMs and network of financial agents in communities with under 10,000 inhabitants and Correos Cash, we provide access to financial services to customers in these rural areas that might otherwise have been left off the grid. In 2022, we also joined the Asociación Española de Banca's (AEB) agreement to make further headway in financial inclusion. In Mexico, around 80% of our Tuiio (our microfinance programme) customers were able to grow their business through our loans and 48% of them were able to hire more employees.

As another example, Santander has been working on enhancing services for our elderly customers and on preventing digitalization from becoming an obstacle to accessing financial services. Our cross-functional team has put in place measures that include extending the hours of counter/teller services and creating senior ambassadors to make sure senior citizens receive the best possible service.

In addition to these improvements in the way we serve our customers, we are simplifying our retail and commercial banking products and automating processes, while working to lower our cost to serve and increase our local competitiveness.

This is reflected in customer growth and enhanced customer experience and satisfaction. In terms of NPS, we are one of the top three banks in eight markets (including ranking first in Chile and Argentina).

The number of digital and loyal customers as well as digital activity continued to increase. We now have more than 27 million loyal customers (+8% year-on-year), mainly due to the increase in individuals. Digital customers rose 8% to over 51 million. Digital sales accounted for 55% of total sales (54% in 2021, 44% in 2020 and 36% in 2019) and 80% of transactions carried out were digital (+4 pp in 2022).

We promote financial inclusion as part of our ESG strategy, in a society that is increasingly aware of its importance. Because we have an opportunity and a responsibility to do things the right way, we embed ESG factors in all our businesses.

We have a competitive advantage to aid our customers' green transitions. In 2022, we performed these actions:

- in SCIB, we continued to deliver on our green finance target of mobilizing EUR 120 billion by 2025, having so far achieved approximately EUR 94.5 billion since 2019. We remained a leader in renewables financing in Europe and Latin America and ranked second globally (by number of deals and volume).

  We continued to move forward in our Net zero ambition by setting three new interim decarbonization targets for our energy, steel and aviation portfolios;

- in Consumer, we provided over EUR 5 billion in green finance loans, mainly for electric vehicles but also for bicycles, solar panels, electric chargers, green heating systems and others; and

- in WM&I, we achieved EUR 53 billion of the EUR 100 billion we had pledged to hold in Socially Responsible Investment (SRI) assets under management (AuMs) by 2025.

Our ability to attract a diverse and talented workforce, our culture of teamwork and our financial inclusion initiatives drive our success, which is recognized inside and outside the Group.

- Santander employees are highly engaged with a global eNPS score of 54 that falls within the top 10% in the financial sector and is 16 points above the average for all companies in the external benchmark Workday Peakon Employee Voice.

- We addressed the importance of gender equality and pay gap by implementing a diversity and inclusion strategy for remuneration. We are working towards reducing the pay gap to near 0% (already 1%).

- We have increased the number of women in top management, progressing towards our 2025 target of 30%. The greatest gain has been in the past two years from 24% to around 29%.

  These efforts are reflected in our ranking as the world's highest-scoring bank and the second highest scoring company overall worldwide in the 2023 Bloomberg Gender-Equality Index, which recognizes excellence and commitment to equality. Our score of 92.87 was over 2 pp up on the previous year.

- In terms of financial inclusion, we have already exceeded our target to financially empower 10 million people by 2025, and were named The World’s Best Bank for Financial Inclusion by *Euromoney* for our efforts.

- Finally, we continue to be a reference in the sector, as 40% of the Group’s board members are women. We have long ensured that the Group's visions and decisions are informed by diverse views. We expect this diverse vision to also be a reality in each of the countries in which we operate.

In 2022, we delivered solid **financial results**. We achieved record attributable profit of EUR 9,605 million, supported by strong net operating income, translated into higher profitability and **shareholder** remuneration. Our credit quality, liquidity and capital positions were strong.

We reached the targets we had set at the beginning of the year: mid-single digit revenue growth in constant euros (+6% achieved), cost of risk below 1% (0.99%), fully-loaded CET1 ratio over 12% (12.04%) and RoTE over 13% (13.4% achieved). In a year with considerable inflationary pressure, we improved the efficiency ratio and ended the year close to our efficiency target of 45% (45.8%).

Looking ahead, we plan to continue helping companies, businesses and countries prosper making the most of our opportunities and commitments.

Our goal is to build a digital bank with branches for our customers through global technology initiatives to further transform our business and operating model.

In our view, we have built the foundations of a simple, fair and innovative product offering that creates more value for our shareholders, sustains our solid capital position and improves profitability going forward. We will rely on our business model that combines local scale and expertise with our global reach.

Our in-market scale in each of our core markets provides strong support for increased profitability. At the same time, our global reach, backed by our global divisions and leveraging our auto and payments capabilities, generates additional business and revenue opportunities, and supports growth with greater efficiency and profitability.

Our regions' **2022 achievements and strategic priorities** were:

- **Europe**: customers, loans and deposits grew in most of our markets. Underlying attributable profit grew by double-digits, supported by robust NII and cost control and contained cost of risk. We improved our efficiency ratio by 5 pp on the back of structural changes to our operating model.

Our countries are starting from a strong position, but these changes and business transformation will help achieve our objective of greater profitability and contribution to the Group's capital.

- **North America**: we grew our customer base and enhanced customer experience through tailored products and services. Loan growth was driven by most segments in Mexico and by CIB, Commercial Real Estate (CRE) and Auto in the US. North America's profitability remained strong, driven by good results in Mexico and high profit in the US.

  Profitability, transforming our retail business and building on synergies between countries to realize North America's growth and efficiency potential will remain a top priority.

- **South America**: we continued to strengthen ties and share best practices between units, capture new business opportunities and add customers (+7 million). Profit was boosted by revenue and by a lower tax burden, which more than offset inflationary pressures and higher provisions. We closed the year with high profitability (double-digit RoTEs in all our markets).

  Santander is among the most efficient banks in the region, supported by regional and global collaboration opportunities. Our priorities will continue to focus on leveraging the regions' high structural growth and on increasing profitability.

- **Digital Consumer Bank**: we delivered significant market share gains, as new lending rose 10% year-on-year in a shrinking market. Revenue increased, backed by leasing and net fee income, and absorbed negative sensitivity to interest rate increases and new TLTRO conditions. In addition, costs grew well below inflation and credit quality remained solid.

We are the leader in consumer finance in Europe in terms of scale, profitability and digital capabilities. Going forward, we will focus on profitable growth by reinforcing our leadership and leveraging our global OEM and dealer relationships and new business platforms (leasing, subscription, BNPL), which will also enable us to support our businesses in North America and South America in their expansion and revenue growth.

Our **global business' 2022 achievements and strategic priorities** were:

- **Santander Corporate & Investment Banking (SCIB)**: our client-centric transformation from lenders to strategic partners delivered strong results, with double-digit growth in all core businesses.

  We are leaders in Latin America and are strengthening our value proposition in Europe and the US. We have further diversified our business model in terms of clients, countries and products and accelerated capital rotation. Going forward, we will focus on capitalizing on our global coverage and product factories to increase profits both for SCIB and countries.

- **Wealth Management & Insurance (WM&I)**: double-digit increase in WM&I's contribution to the Group's profit, despite a complex landscape. **Private Banking** was recognized as one of the top 3 Best Global Private Banks by *Euromoney* and achieved a record year in results and cross-border business. **Santander Asset Management** showed resilience amid market turmoil maintaining its contribution to profit and **Insurance** sustained growth in gross written premiums (+24%).

  We strive to become the best wealth and insurance manager (asset management, wealth management and insurance businesses) in Europe and the Americas. Going forward, we will focus on boosting network collaboration and capabilities for higher global revenue and efficiency.

- **Payments**: we continued to expand our merchant, payments and cards capabilities across our footprint.

  In **PagoNxt's** second year, we continued our strategy to deliver innovative payments technology, better user experiences and greater efficiency. PagoNxt's revenue rose 72% in constant euros year-on-year, achieving our 2022 target set earlier this year of 50% revenue growth.

  PagoNxt aims to achieve a global leadership position in payments as one-of-a-kind paytech business that provides customers with a wide range of innovative payments and integrated value-added services. We are laying the groundwork for further growth in the coming years by integrating our payments volumes into a global platform to increase efficiency and boost our share in the open market.

  In 2022, our cards business, **Cards & Digital Solutions**, managed 97 million cards globally. Revenue rose 19% in constant euros and we maintained high profitability with an RoTE close to 30%.

Santander IT's global scale enables us to enhance our transformation journey. We focus on increasing our **Technology and Operations** (**T&O)** division's global reach to bolster initiatives and benefit from economies of scale.

To conclude, looking ahead, we believe Grupo Santander is well positioned to drive further growth on the back our customer focus, scale, diversification, disciplined capital allocation and consistent track record of increasing profitability.

3.2 Results

Executive summary

Attributable profit

Strong profit growth underpinned by our geographic and business diversification

EUR 9,605 mn

+18% in euros

+8% in constant euros

Performance (2022 vs. 2021)

Profit supported by growth in revenue, improved efficiency and controlled cost of risk

Total income	Costs	Provisions	
+12.4%	+11.6%	+41.3%	in euros
+5.9%	+7.0%	+31.2%	in constant euros

Efficiency

The Group's efficiency ratio strengthened driven by Europe

Group	Europe
45.8%	47.3%
-0.4 pp	-4.9 pp

Changes 2022 vs. 2021.

Profitability

Strong improvement in our profitability

RoTE	RoRWA
13.4%	1.77%
+1.4 pp / +0.6 pp[1]	+0.08 pp / -0.01 pp[2]

1. vs. underlying RoTE.
2. vs. underlying RoRWA.

Condensed income statement

EUR million

			Change			
	2022	2021	Absolute	%	% excl. FX	2020
Net interest income	38,619	33,370	5,249	15.7	9.0	31,994
Net fee income (commission income minus commission expense)	11,790	10,502	1,288	12.3	6.7	10,015
Gains or losses on financial assets and liabilities and exchange differences (net)	1,653	1,563	90	5.8	2.6	2,187
Dividend income	488	513	(25)	(4.9)	(5.0)	391
Income from companies accounted for using the equity method	702	432	270	62.5	55.8	(96)
Other operating income/expenses	(1,135)	24	(1,159)	—	—	(212)
Total income	**52,117**	**46,404**	**5,713**	**12.3**	**5.8**	**44,279**
Operating expenses	(23,903)	(21,415)	(2,488)	11.6	7.0	(21,130)
Administrative expenses	(20,918)	(18,659)	(2,259)	12.1	7.4	(18,320)
Staff costs	*(12,547)*	*(11,216)*	*(1,331)*	*11.9*	*7.5*	*(10,783)*
Other general administrative expenses	*(8,371)*	*(7,443)*	*(928)*	*12.5*	*7.1*	*(7,537)*
Depreciation and amortization	(2,985)	(2,756)	(229)	8.3	4.7	(2,810)
Provisions or reversal of provisions	(1,881)	(2,814)	933	(33.2)	(33.6)	(2,378)
Impairment or reversal of impairment of financial assets not measured at fair value through profit or loss (net)	(10,863)	(7,407)	(3,456)	46.7	36.1	(12,382)
Impairment of other assets (net)	(239)	(231)	(8)	3.5	0.6	(10,416)
Gains or losses on non-financial assets and investments (net)	12	53	(41)	(77.4)	(81.4)	114
Negative goodwill recognized in results	—	—	—	—	—	8
Gains or losses on non-current assets held for sale not classified as discontinued operations	7	(43)	50	—	—	(171)
Profit or loss before tax from continuing operations	**15,250**	**14,547**	**703**	**4.8**	**(3.9)**	**(2,076)**
Tax expense or income from continuing operations	(4,486)	(4,894)	408	(8.3)	(16.6)	(5,632)
Profit from the period from continuing operations	**10,764**	**9,653**	**1,111**	**11.5**	**2.6**	**(7,708)**
Profit or loss after tax from discontinued operations	—	—	—	—	—	—
Profit for the period	**10,764**	**9,653**	**1,111**	**11.5**	**2.6**	**(7,708)**
Profit attributable to non-controlling interests	(1,159)	(1,529)	370	(24.2)	(29.2)	(1,063)
Profit attributable to the parent	**9,605**	**8,124**	**1,481**	**18.2**	**8.5**	**(8,771)**

Main income statement items

Total income

Total income amounted to EUR 52,117 million in 2022, up 12% year-on-year. In constant euros, it increased 6%. Net interest income and net fee income accounted for 97% of total income. By line:

Net interest income

Net interest income amounted to EUR 38,619 million, 16% higher than 2021.

The tables below show the average balances of each year –calculated as the monthly average over the period, which we believe should not differ materially from using daily balances–, and the generated interest.

The tables also include average balances and interest rates in 2022 and 2021, based on the domicile of the entities at which the relevant assets or liabilities are recorded. Domestic balances relate to our entities domiciled in Spain. International balances relate to entities domiciled outside of Spain (reflecting our foreign activity), and are divided into mature markets (the US and Europe, except Spain and Poland) and developing markets (South America, Mexico and Poland).

Average balance sheet - assets and interest income

EUR million

	2022			2021		
Assets	**Average balance**	**Interest**	**Average rate**	**Average balance**	**Interest**	**Average rate**
Cash and deposits on demand and loans and advances to central banks and credit institutions	**304,935**	**7,139**	**2.34%**	**265,417**	**2,682**	**1.01%**
Domestic	111,697	1,166	1.04%	112,621	809	0.72%
International - Mature markets	139,105	1,971	1.42%	109,672	542	0.49%
International - Developing markets	54,133	4,002	7.39%	43,124	1,331	3.09%
of which:						
Reverse repurchase agreements	*39,572*	*1,862*	*4.71%*	*38,236*	*707*	*1.85%*
Domestic	*19,072*	*146*	*0.77%*	*23,390*	*29*	*0.12%*
International - Mature markets	*4,713*	*55*	*1.17%*	*5,101*	*15*	*0.29%*
International - Developing markets	*15,787*	*1,661*	*10.52%*	*9,745*	*663*	*6.80%*
Loans and advances to customers	**1,031,226**	**54,110**	**5.25%**	**943,071**	**38,649**	**4.10%**
Domestic	272,826	5,929	2.17%	254,232	4,799	1.89%
International - Mature markets	552,674	19,821	3.59%	513,910	16,090	3.13%
International - Developing markets	205,726	28,360	13.79%	174,929	17,760	10.15%
of which:						
Reverse repurchase agreements	*43,505*	*1,026*	*2.36%*	*36,660*	*60*	*0.16%*
Domestic	*9,509*	*42*	*0.44%*	*9,521*	*7*	*0.07%*
International - Mature markets	*33,068*	*919*	*2.78%*	*25,622*	*18*	*0.07%*
International - Developing markets	*928*	*65*	*7.00%*	*1,517*	*35*	*2.31%*
Debt securities	**183,013**	**10,416**	**5.69%**	**168,834**	**5,724**	**3.39%**
Domestic	45,932	809	1.76%	42,740	313	0.73%
International - Mature markets	43,877	803	1.83%	40,579	446	1.10%
International - Developing markets	93,204	8,804	9.45%	85,515	4,965	5.81%
Hedging income		**(236)**			**(723)**	
Domestic		16			20	
International - Mature markets		480			(91)	
International - Developing markets		(732)			(652)	
Other interest		**1**			**131**	
Domestic		(121)			(29)	
International - Mature markets		40			13	
International - Developing markets		82			147	
Total interest-earning assets	**1,519,174**	**71,430**	**4.70%**	**1,377,322**	**46,463**	**3.37%**
Domestic	430,455	7,799	1.81%	409,593	5,912	1.44%
International - Mature markets	735,656	23,115	3.14%	664,161	17,000	2.56%
International - Developing markets	353,063	40,516	11.48%	303,568	23,551	7.76%
Other assets	**201,099**			**186,577**		
Assets from discontinued operations	**—**			**—**		
Average total assets	**1,720,273**	**71,430**		**1,563,899**	**46,463**	

The average balance of interest-earning assets in 2022 was 10% higher than in 2021. Domestic assets grew 5%, international mature markets increased 11% and international developing markets were up 16%, driven by greater loans and advances to customers (which increased in local currency in almost all markets).

The average balance of interest-bearing liabilities in 2022 was 10% higher year-on-year, also spurred by growth in domestic (+3%), mature international (+13%) and developing international (+15%) markets, which were all boosted by customer deposits and deposits from central banks and credit institutions.

Higher interest rates in our markets led to a general increase in asset yields and liability costs.

The average return on interest-earning assets increased from 3.37% in 2021 to 4.70% in 2022, with general rises across our markets (domestic +37 bps, international mature +58 bps, international developing +372 bps). Moreover, returns across all balance sheet items grew: cash, demand deposits and loans and advances to central banks and credit institutions +133 bps, loans and advances to customers +115 bps, debt securities +230 bps.

The average cost of interest-bearing liabilities rose 127 bps to 2.25%, with increases in all markets. Domestic liabilities increased 35 bps, +61 bps in international mature markets and +411 bps in international developing markets. By balance sheet item, average costs increased 81 bps in central banks and credit institution deposits, +112 bps in customer deposits and +125 bps in marketable debt securities.

We calculated the change in interest income/(expense) shown in the tables below by:

- applying the interest rate of the previous period to the difference between the average balances from the current and previous periods to obtain the change in volumes; and
- applying the difference between the rates from the current and previous periods to the average balance from the previous year to obtain the change in interest rate.

Both interest income and costs increased in 2022, mainly due to higher interest rates and to a lesser extent greater volumes.

Net interest income increased 16%, as shown in the table below that summarizes the performance of net interest income by market. In constant euros, growth was 9%.

In constant euros, net interest income increased across Europe: +9% in Spain, +13% in the UK, +99% in Poland and +3% in Portugal. There were also increases in North America: +3% in the US and +13% in Mexico.

The positive effect of higher interest rates is mainly reflected in Poland, the UK and Mexico. However, the full benefit of interest rate rises has not yet passed through to results in Spain, Portugal or the US.

In South America, higher volumes and interest rates did not translate to growth in some countries due to their initial negative sensitivity to increases. Net interest income rose in Argentina (+171%), while it fell in Brazil (-4%) and Chile (-9%).

In DCB, NII was slightly down due to higher funding costs (steep rate rises) and TLTRO changes, partially mitigated by new business repricing initiatives.

Average balance sheet - liabilities and interest expense

EUR million

	2022			2021		
Liabilities and stockholders' equity	**Average balance**	**Interest**	**Average rate**	**Average balance**	**Interest**	**Average rate**
Deposits from central banks and credit institutions [A]	**214,879**	**3,636**	**1.69%**	**197,997**	**1,750**	**0.88%**
Domestic	92,373	560	0.61%	96,209	376	0.39%
International - Mature markets	78,230	972	1.24%	63,047	227	0.36%
International - Developing markets	44,276	2,104	4.75%	38,741	1,147	2.96%
of which:						
Repurchase agreements	*34,298*	*1,349*	*3.93%*	*28,763*	*703*	*2.44%*
Domestic	*17,321*	*186*	*1.07%*	*11,268*	*18*	*0.16%*
International - Mature markets	*2,743*	*50*	*1.82%*	*2,300*	*8*	*0.35%*
International - Developing markets	*14,234*	*1,113*	*7.82%*	*15,195*	*677*	*4.46%*
Customer deposits	**979,840**	**16,994**	**1.73%**	**889,041**	**5,452**	**0.61%**
Domestic	299,046	698	0.23%	287,525	282	0.10%
International - Mature markets	464,054	3,279	0.71%	410,695	706	0.17%
International - Developing markets	216,740	13,017	6.01%	190,821	4,464	2.34%
of which:						
Repurchase agreements	*57,646*	*3,199*	*5.55%*	*41,475*	*520*	*1.25%*
Domestic	*2,327*	*24*	*1.03%*	*7,918*	*—*	*0.00%*
International - Mature markets	*37,380*	*1,099*	*2.94%*	*19,311*	*6*	*0.03%*
International - Developing markets	*17,939*	*2,076*	*11.57%*	*14,246*	*514*	*3.61%*
Marketable debt securities [B]	**255,721**	**8,464**	**3.31%**	**234,887**	**4,838**	**2.06%**
Domestic	111,682	2,262	2.03%	104,602	1,538	1.47%
International - Mature markets	107,374	2,262	2.11%	102,330	1,670	1.63%
International - Developing markets	36,665	3,940	10.75%	27,955	1,630	5.83%
of which:						
Commercial paper	*17,907*	*375*	*2.09%*	*17,794*	*135*	*0.76%*
Domestic	*12,377*	*222*	*1.79%*	*12,247*	*22*	*0.18%*
International - Mature markets	*4,280*	*60*	*1.40%*	*4,582*	*59*	*1.29%*
International - Developing markets	*1,250*	*93*	*7.44%*	*965*	*54*	*5.60%*
Other interest-bearing liabilities	**6,595**	**216**	**3.28%**	**7,944**	**216**	**2.72%**
Domestic	3,131	93	2.97%	4,146	70	1.69%
International - Mature markets	1,649	1	0.06%	1,948	30	1.54%
International - Developing markets	1,815	122	6.72%	1,850	116	6.27%
Hedging expenses		**2,055**			**(368)**	
Domestic		218			(153)	
International - Mature markets		207			(147)	
International - Developing markets		1,630			(68)	
Other interest		**1,446**			**1,205**	
Domestic		435			306	
International - Mature markets		186			109	
International - Developing markets		825			790	
Total interest-bearing liabilities	**1,457,035**	**32,811**	**2.25%**	**1,329,869**	**13,093**	**0.98%**
Domestic	**506,232**	**4,266**	**0.84%**	**492,482**	**2,419**	**0.49%**
International - Mature markets	**651,307**	**6,907**	**1.06%**	**578,020**	**2,595**	**0.45%**
International - Developing markets	**299,496**	**21,638**	**7.22%**	**259,367**	**8,079**	**3.11%**
Other liabilities	**164,617**			**139,757**		
Non-controlling interests	**8,635**			**10,140**		
Shareholders´ equity	**89,986**			**84,133**		
Liabilities from discontinued operations	**—**			**—**		
Average total liabilities and equity	**1,720,273**	**32,811**		**1,563,899**	**13,093**	

A. Interest includes expenses from assets reported in "Cash and deposits on demand and loans and advances to central banks and credit institutions" related to liquidity placed at the European Central Bank.
B. Does not include contingently convertible preference shares and perpetual subordinated notes because they do not accrue interest. We include them under 'Other liabilities'.

Volume and profitability analysis

EUR million

	2022 vs. 2021		
	Increase (decrease) due to changes in		
Interest income	**Volume**	**Rate**	**Net change**
Cash and deposits on demand and loans and advances to central banks and credit institutions	**586**	**3,871**	**4,457**
Domestic	(7)	364	357
International - Mature markets	180	1,249	1,429
International - Developing markets	413	2,258	2,671
of which:			
Reverse repurchase agreements	*523*	*632*	*1,155*
Domestic	*(6)*	*123*	*117*
International - Mature markets	*(1)*	*41*	*40*
International - Developing markets	*530*	*468*	*998*
Loans and advances to customers	**5,138**	**10,323**	**15,461**
Domestic	368	762	1,130
International - Mature markets	1,274	2,457	3,731
International - Developing markets	3,496	7,104	10,600
of which:			
Reverse repurchase agreements	*(11)*	*977*	*966*
Domestic	*—*	*35*	*35*
International - Mature markets	*7*	*894*	*901*
International - Developing markets	*(18)*	*48*	*30*
Debt securities	**546**	**4,146**	**4,692**
Domestic	25	471	496
International - Mature markets	39	318	357
International - Developing markets	482	3,357	3,839
Hedging income	**487**	**—**	**487**
Domestic	(4)	—	(4)
International - Mature markets	571	—	571
International - Developing markets	(80)	—	(80)
Other interest	**(130)**	**—**	**(130)**
Domestic	(92)	—	(92)
International - Mature markets	27	—	27
International - Developing markets	(65)	—	(65)
Total interest-earning assets	**6,627**	**18,340**	**24,967**
Domestic	**290**	**1,597**	**1,887**
International - Mature markets	**2,091**	**4,024**	**6,115**
International - Developing markets	**4,246**	**12,719**	**16,965**

Volume and cost analysis

EUR million

	2022 vs. 2021		
	Increase (decrease) due to changes in		
Interest expense	**Volume**	**Rate**	**Net change**
Deposits from central banks and credit institutions	**234**	**1,652**	**1,886**
Domestic	(16)	200	184
International - Mature markets	67	678	745
International - Developing markets	183	774	957
of which:			
Repurchase agreements	*(29)*	*675*	*646*
Domestic	*14*	*154*	*168*
International - Mature markets	*2*	*40*	*42*
International - Developing markets	*(45)*	*481*	*436*
Customer deposits	**797**	**10,745**	**11,542**
Domestic	12	404	416
International - Mature markets	103	2,470	2,573
International - Developing markets	682	7,871	8,553
of which:			
Repurchase agreements	*175*	*2,504*	*2,679*
Domestic	*—*	*24*	*24*
International - Mature markets	*11*	*1,082*	*1,093*
International - Developing markets	*164*	*1,398*	*1,562*
Marketable debt securities	**819**	**2,807**	**3,626**
Domestic	110	614	724
International - Mature markets	86	506	592
International - Developing markets	623	1,687	2,310
of which:			
Commercial paper	*14*	*226*	*240*
Domestic	*—*	*200*	*200*
International - Mature markets	*(4)*	*5*	*1*
International - Developing markets	*18*	*21*	*39*
Other interest-bearing liabilities	**(26)**	**26**	**0**
Domestic	(20)	43	23
International - Mature markets	(4)	(25)	(29)
International - Developing markets	(2)	8	6
Hedging expenses	**2,423**	**—**	**2,423**
Domestic	371	—	371
International - Mature markets	354	—	354
International - Developing markets	1,698	—	1,698
Other interest	**241**	**—**	**241**
Domestic	129	—	129
International - Mature markets	77	—	77
International - Developing markets	35	—	35
Total interest-bearing liabilities	**4,488**	**15,230**	**19,718**
Domestic	**586**	**1,261**	**1,847**
International - Mature markets	**683**	**3,629**	**4,312**
International - Developing markets	**3,219**	**10,340**	**13,559**

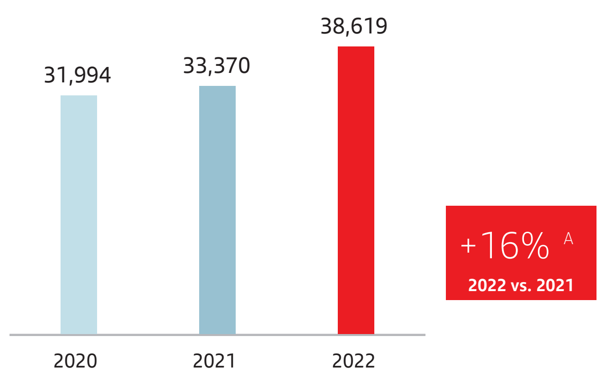
Net interest income. Volume, profitability and cost analysis summary

EUR million

	2022 vs. 2021		
	Increase (decrease) due to changes in		
	Volume	Rate	Net change
Interest income	**6,627**	**18,340**	**24,967**
Domestic	290	1,597	1,887
International - Mature markets	2,091	4,024	6,115
International - Developing markets	4,246	12,719	16,965
Interest expense	**4,488**	**15,230**	**19,718**
Domestic	586	1,261	1,847
International - Mature markets	683	3,629	4,312
International - Developing markets	3,219	10,340	13,559
Net interest income	**2,139**	**3,110**	**5,249**
Domestic	**(296)**	**336**	**40**
International - Mature markets	**1,408**	**395**	**1,803**
International - Developing markets	**1,027**	**2,379**	**3,406**

Net interest income

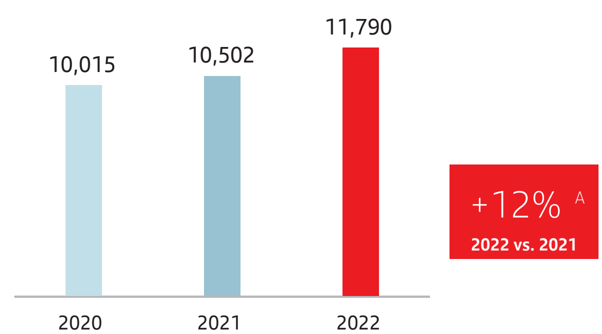
EUR million



A. In constant euros: +9%.

Net fee income

EUR million



A. In constant euros: +7%.

Net fee income

EUR million

			Change			
	2022	2021	Absolute	%	% excl. FX	2020
Asset management business, funds and insurance	4,032	3,649	383	10.5	6.9	3,416
Credit and debit cards	2,139	1,782	357	20.0	12.9	1,737
Securities and custody services	986	1,035	(49)	(4.7)	(12.0)	951
Account management and availability fees	2,032	1,850	182	9.8	11.8	1,649
Cheques and payment orders	797	642	155	24.1	31.5	594
Foreign exchange	788	522	266	51.0	44.3	500
Charges for past-due/unpaid balances and guarantees	277	266	11	4.1	1.9	295
Bill discounting	227	199	28	14.1	2.0	253
Other	512	557	(45)	(8.1)	(17.4)	620
Net fee income	**11,790**	**10,502**	**1,288**	**12.3**	**6.7**	**10,015**

Net fee income

Net fee income increased 12% year-on-year to EUR 11,790 million. In constant euros, it was 7% higher, driven by higher volumes and improved activity.

We had strong growth in high value-added products and services, with card and point of sale turnover increasing 14% and 21%, respectively. Transactional fees rose 8%.

In Wealth Management & Insurance (WM&I), and despite lower volumes than 2021, total fee income generated (including fees ceded to the commercial network) increased 3% year-on-year, supported by the growth in insurance premiums (+24%). In Santander Corporate & Investment Banking (SCIB), net fee income increased 9%, with widespread growth across its core businesses.

Together, the two businesses accounted for close to 50% of the Group's total fee income (SCIB: 17%; WM&I: 31%).

By region, net fee income in Europe was up 3%, supported by growth in all markets except the UK due to the transfer of its SCIB business to the London branch in Q4 2021. There was a 6% increase in North America, though the US was affected by the Bluestem portfolio disposal in 2021. Excluding the effect of the Bluestem portfolio disposal, net fee income would have increased 8% in the region. The 21% increase in Mexico was driven by payments and insurance. South America was up 11% boosted by greater transactionality, with growth in the main markets. Finally, Digital Consumer Bank rose 3% driven by greater new lending volumes.

Gains or losses on financial assets and liabilities and exchange differences (net)

Gains on financial transactions and liabilities and exchange differences (net) accounted only for 3% of total income. They were EUR 1,653 million, 6% higher than the previous year (+3% in constant euros) driven by growth in Brazil, Chile, Argentina and Spain. This growth was partially offset by falls in Portugal and Mexico and by the Corporate Centre due to negative results from the FX hedge which offset the positive impact of the exchange rates on the countries' results.

Gains and losses on financial assets and liabilities stem from valuing the trading portfolio and marked-to-market derivative instruments, which include spot market foreign exchange transactions, sales of investment securities and liquidation of our hedging and other derivative positions.

For more details, see note 43 to the consolidated financial statements.

Exchange rate differences primarily show gains and losses from foreign exchange and the differences that arise from converting monetary items in foreign currencies to the functional currency, and from selling non-monetary assets denominated in foreign currency at the time of their disposal. Because Santander manages currency exposures with derivative instruments, the changes in this line item should be analysed together with Gains/(losses) on financial assets and liabilities.

For more details, see note 44 to the consolidated financial statements.

Dividend income

Dividend income was EUR 488 million, 5% lower than in 2021 (both in euros and in constant euros).

Income from companies accounted for by the equity method

The income from companies accounted for by the equity method climbed to EUR 702 million in 2022, increasing 63% year-on-year (+56% in constant euros) owing to the higher contribution from the Group's associated entities in Spain and South America.

Other operating income/expenses

Other operating income/expenses recorded a loss of EUR 1,135 million compared to a gain of EUR 24 million in 2021 owing to lower leasing income in the US, the creation of an Institutional Protection Scheme in Poland in Q2'22, greater contributions to the Single Resolution Fund (SRF) and to the Deposit Guarantee Fund (DGF), and the impact of high inflation in Argentina.

For more details, see note 45 to the consolidated financial statement.

Operating expenses

EUR million

	2022	2021	Change			2020
			Absolute	%	% excl. FX	
Staff costs	12,547	11,216	1,331	11.9	7.5	10,783
Other administrative expenses	*8,371*	*7,443*	*928*	*12.5*	*7.1*	*7,537*
Information technology	*2,473*	*2,182*	*291*	*13.3*	*11.5*	*2,075*
Communications	*410*	*401*	*9*	*2.2*	*0.5*	*473*
Advertising	*559*	*510*	*49*	*9.6*	*6.0*	*517*
Buildings and premises	*708*	*699*	*9*	*1.3*	*(1.7)*	*725*
Printed and office material	*96*	*90*	*6*	*6.7*	*0.7*	*100*
Taxes (other than tax on profits)	*559*	*558*	*1*	*0.2*	*2.7*	*534*
Other expenses	*3,566*	*3,003*	*563*	*18.7*	*14.6*	*2,980*
Administrative expenses	**20,918**	**18,659**	**2,259**	**12.1**	**7.4**	**18,320**
Depreciation and amortization	2,985	2,756	229	8.3	4.7	2,810
Operating expenses	**23,903**	**21,415**	**2,488**	**11.6**	**7.0**	**21,130**

Operating expenses

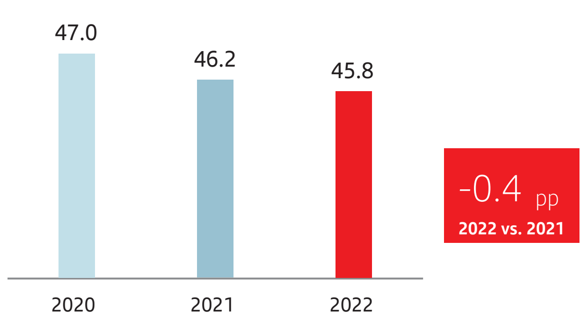
Operating expenses increased 12% from 2021 to EUR 23,903 million. In constant euros, costs rose 7% due to the sharp rise in inflation. However, in real terms (excluding the impact of average inflation), costs fell 5% in constant euros.

Our disciplined cost management enabled us to maintain one of the best efficiency ratios in the sector, which stood at 45.8%, a 0.4 pp improvement on 2021.

We continued to make headway with our transformation towards a more integrated and digital operating model, with better business dynamics and improved customer service and satisfaction.

Efficiency ratio (cost to income)

%



The trends by region and market in constant euros were:

- In **Europe**, costs were up 2% in nominal terms on the back of our transformation process and operational improvements. In real terms, costs decreased 7%, with falls across the region: -10% in Spain, -6% in the UK, -19% in Portugal and -7% Poland. The region's efficiency ratio stood at 47.3% (-4.9 pp compared to 2021), improving in all markets.
- In **North America**, costs increased 5%. In real terms, costs were down 3%. They remained stable in the US (-8% in real terms) while Mexico recorded an increase due to higher salaries, digitalization and technology spend and the increase in supply costs affected by inflation at 8%. The efficiency ratio stood at 47.7% (+1.9 pp on 2021).
- In **South America**, the rise in costs (+18%) was significantly distorted by soaring average inflation in the region (19% due to 71% inflation in Argentina) which was reflected in salary increases in Brazil and Argentina. In real terms, costs fell 5% in Chile and increased 1% in Brazil and 29% in Argentina. The efficiency ratio was 37.0% (+2.0 pp on 2021).
- **Digital Consumer Bank's** costs were 2% higher affected by inflation, strategic investments, transformational costs and business growth. In real terms, costs fell 6%. The efficiency ratio stood at 46.7% (-0.4 pp on 2021).

Provisions or reversal of provisions

Provisions (net of provisions reversals) amounted to EUR 1,881 million (EUR 2,814 million in 2021). This line includes the charges for restructuring costs recorded in 2021 (EUR 530 million net of tax).

For more details, see note 25 to the consolidated financial statements.

Impairment or reversal of impairment of financial assets not measured at fair value through profit or loss (net)

Impairment or reversal of impairment on financial assets not measured at fair value through profit or loss (net) was EUR 10,863 million (EUR 7,407 million in 2021), a 47% increase year-on-year in euros and +36% in constant euros.

This comparison was affected by the releases recorded in the UK and the US in 2021, macro provisions in 2022 (mainly in Spain, the UK and the US) resulting from a potential economic slowdown, the charges in Poland and DCB for CHF mortgages and the new mortgage payment holiday regulations in Poland (EUR 327 million). Lastly, there was a year-on-year rise in Brazil, driven by individual loans and a single name in CIB in the fourth quarter. However, there was a notable decline in Spain and Mexico.

For more details, see section 3 'Credit risk' in the 'Risk management and compliance' chapter.

Impairment of other assets (net)

The impairment of other assets (net) stood at -EUR 239 million, compared to -EUR 231 million in 2021.

Gains or losses on non-financial assets and investments (net)

Net gains on non-financial assets and investments were EUR 12 million (EUR 53 million in 2021).

For more details, see note 48 to the consolidated financial statements.

Impairment or reversal of impairment of financial assets not measured at fair value through profit or loss (net)

EUR million

	2022	2021	2020
Financial assets at fair value through other comprehensive income	7	19	19
Financial assets at amortized cost	10,856	7,388	12,363
Impairment or reversal of impairment of financial assets not measured at fair value through profit or loss and net gains and losses from changes	**10,863**	**7,407**	**12,382**

Impairment on other assets (net)

EUR million

	2022	2021	2020
Impairment of investments in subsidiaries, joint ventures and associates, net	**—**	**—**	**—**
Impairment on non-financial assets, net	**239**	**231**	**10,416**
Tangible assets	*140*	*150*	*174*
Intangible assets	*75*	*71*	*10,242*
Others	*24*	*10*	*—*
Impairment on other assets (net)	**239**	**231**	**10,416**

Negative goodwill recognized in results

No negative goodwill was recorded in 2021 or 2022.

Gains or losses on non-current assets held for sale not classified as discontinued operations

This item mainly includes impairment of foreclosed assets recorded and the sale of properties acquired upon foreclosure. It totalled EUR 7 million in 2022 (-EUR 43 million in 2021).

For more details, see note 49 to the consolidated financial statements.

Profit or loss before tax from continuing operations

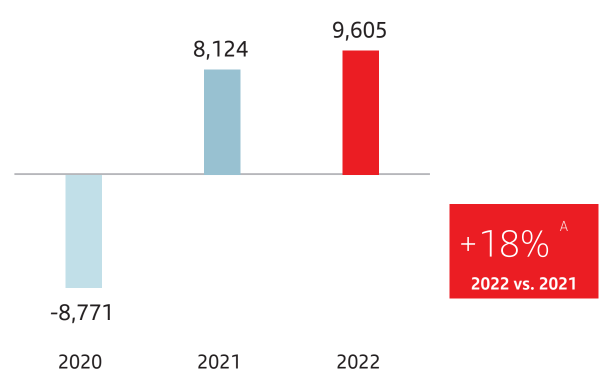
Profit before tax was EUR 15,250 million, +5% year-on-year. In constant euros it fell 4%.

Tax expense or income from continuing operations

Total income tax was EUR 4,486 million (EUR 4,894 million in 2021).

Profit attributable to the parent

EUR million



A. In constant euros: +8%.

Profit attributable to non-controlling interests

Profit attributable to non-controlling interests decreased 24% year-on-year (-29% in constant euros) to EUR 1,159 million, due to the buyback of minority interests in Mexico and in the US of Santander Consumer USA (SC USA).

For more details, see note 28 to the consolidated financial statements.

Profit attributable to the parent

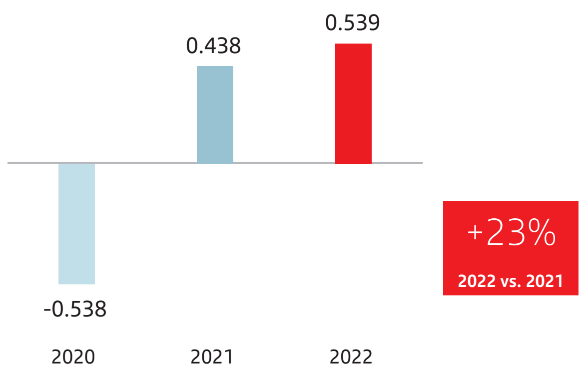
Profit attributable to the parent amounted to EUR 9,605 million in 2022, compared to EUR 8,124 million in 2021. The performance of the above-mentioned income statement items is reflected in profit growth of 18% in euros and 8% in constant euros.

Sustained earnings per share, which rose +23% year-on-year to EUR 53.9 cents.

RoTE stood at 13.37% (11.96% in 2021) and RoRWA at 1.77% (1.69% in 2021).

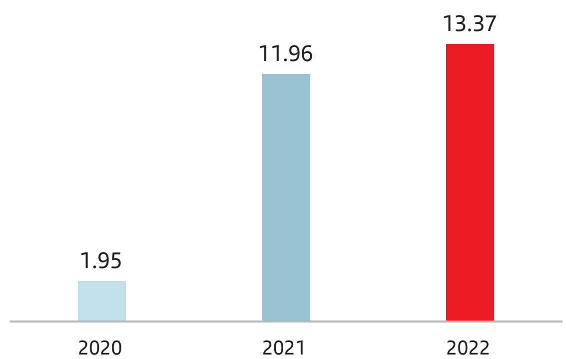
Earnings per share

EUR



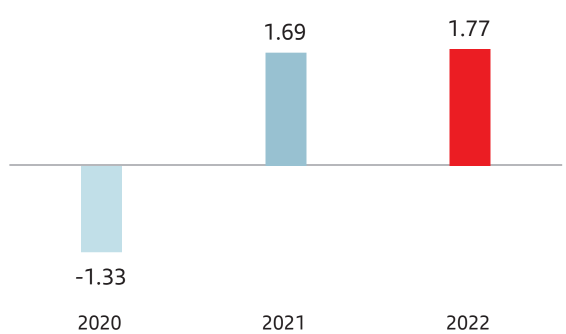
RoTE

%



RoRWA

%



Below is the condensed income statement adjusted to items beyond the ordinary course of business as described in note 51.c of the consolidated financial statements, where our segments' aggregate underlying consolidated results are reconciled to the statutory consolidated results.

Condensed underlying income statement

EUR million

	2022	2021	Change Absolute	Change %	Change % excl. FX	2020
Net interest income	38,619	33,370	5,249	15.7	9.0	31,994
Net fee income	11,790	10,502	1,288	12.3	6.7	10,015
Gains (losses) on financial transactions and exchange differences	1,653	1,563	90	5.8	2.6	2,187
Other operating income	92	969	(877)	(90.5)	(92.1)	404
Total income	**52,154**	**46,404**	**5,750**	**12.4**	**5.9**	**44,600**
Administrative expenses and amortizations	(23,903)	(21,415)	(2,488)	11.6	7.0	(20,967)
Net operating income	**28,251**	**24,989**	**3,262**	**13.1**	**5.0**	**23,633**
Net loan-loss provisions	(10,509)	(7,436)	(3,073)	41.3	31.2	(12,173)
Other gains (losses) and provisions	(2,492)	(2,293)	(199)	8.7	8.1	(1,786)
Profit before tax	**15,250**	**15,260**	**(10)**	**(0.1)**	**(8.0)**	**9,674**
Tax on profit	(4,486)	(5,076)	590	(11.6)	(19.3)	(3,516)
Profit from continuing operations	**10,764**	**10,184**	**580**	**5.7**	**(2.4)**	**6,158**
Net profit from discontinued operations	—	—	—	—	—	—
Consolidated profit	**10,764**	**10,184**	**580**	**5.7**	**(2.4)**	**6,158**
Non-controlling interests	(1,159)	(1,530)	371	(24.2)	(29.2)	(1,077)
Net capital gains and provisions	—	(530)	530	(100.0)	(100.0)	(13,852)
Profit attributable to the parent	**9,605**	**8,124**	**1,481**	**18.2**	**8.5**	**(8,771)**
Underlying profit attributable to the parent [A]	**9,605**	**8,654**	**951**	**11.0**	**2.3**	**5,081**

A. Excluding net capital gains and provisions.

Underlying profit attributable to the parent

Profit attributable to the parent and underlying profit were the same in 2022, as profit was not affected by results that fall outside the ordinary course of our business, but there is a reclassification in the presentation of certain items under some headings of the underlying income statement. Attributable profit and underlying profit in 2022 both amounted to EUR 9,605 million.

In 2021, attributable profit was affected by restructuring costs, mainly in the UK and Portugal. Excluding these charges from the line where they were recorded, and including them separately in the net capital gains and provisions line, adjusted profit or underlying profit attributable to the parent in 2021 stood at EUR 8,654 million.

Adjusted profit or underlying profit attributable to the parent in 2022 was 11% higher in euros (+2% in constant euros) compared to 2021.

For more details, see note 51.c to the consolidated financial statements.

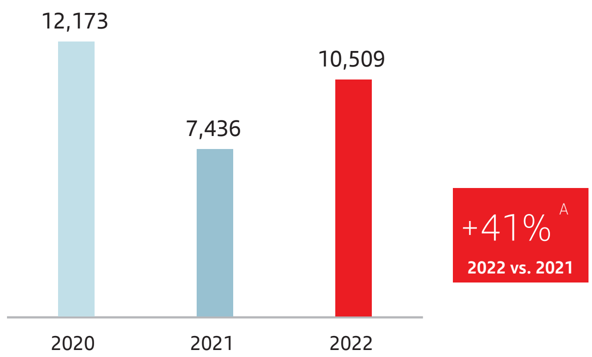
The Group's cost of risk was 0.99%, consistent with our 1% forecast, and higher than in 2021 but a significant improvement compared to 2020 and 2019 (1.28% and 1.00%, respectively).

Before recording loan-loss provisions, Santander's net operating income[1] (i.e. total income less operating expenses) was EUR 28,251 million, 13% higher year-on-year, +5% in constant euros. The performance in constant euros is detailed below.

1. As described in note 51.c of the consolidated financial statements, net operating income is used for the Group's internal operating and management reporting purposes but is not a line item in the statutory consolidated income statement.

Net loan-loss provisions

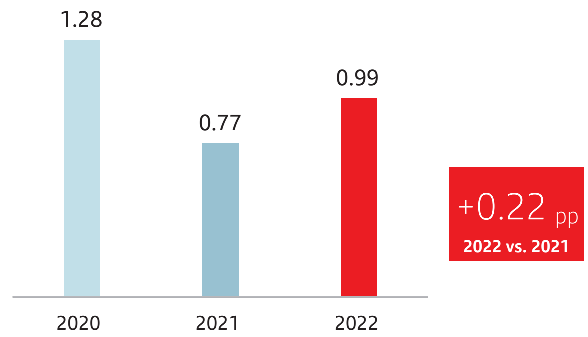
EUR million



A. In constant euros: +31%.

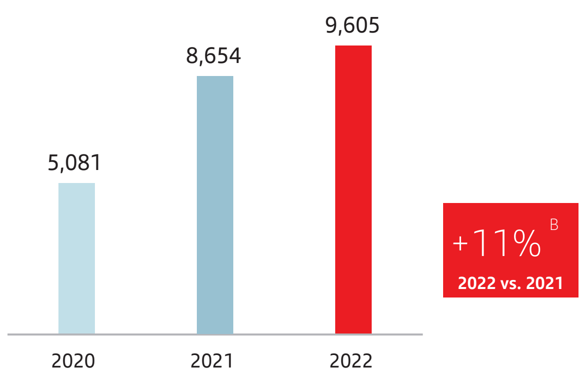
Cost of risk

%



Underlying profit attributable to the parent[A]

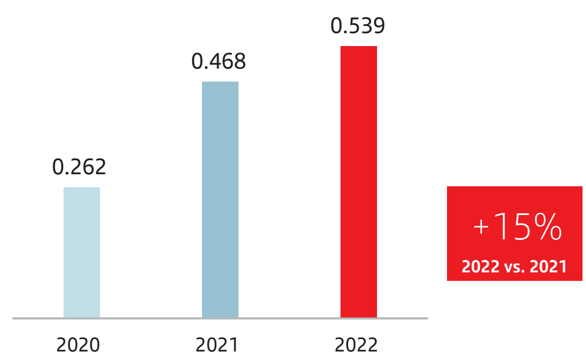
EUR million



A. Excluding net capital gains and provisions.
B. In constant euros: +2%.

Underlying earnings per share[A]

EUR



A. Excluding net capital gains and provisions.

By line:

- Total income increased mainly due to net interest income (+9%) improving consistently every quarter, and net fee income (+7%), which recovered further due to greater commercial activity.
- Costs were driven up by soaring inflation and investments in technology associated with the transformation process.

By region:

- In **Europe**, net operating income increased 25% with better performance in all markets.
- In **North America**, net operating income fell 3%. It dropped 12% in the US (mainly due to lower leasing income) and was up 17% in Mexico.
- In **South America**, net operating income grew 2% despite a 3% decrease in Brazil and 1% decrease in Chile. It rose 136% in Argentina.
- In **Digital Consumer Bank**, net operating income increased by 4%.

In 2022, the Santander's underlying RoTE (same as statutory RoTE) was 13.37% (12.73% in 2021), underlying RoRWA was 1.77% (1.78% in 2021) and underlying earnings per share was EUR 0.539 (EUR 0.468 in 2021), with all three showing an improvement compared to 2020 and 2019.

3.3 Balance sheet

Balance sheet

EUR million

Assets	2022	2021	Change Absolute	Change %	2020
Cash, cash balances at central banks and other deposits on demand	223,073	210,689	12,384	5.9	153,839
Financial assets held for trading	156,118	116,953	39,165	33.5	114,945
Non-trading financial assets mandatorily at fair value through profit or loss	5,713	5,536	177	3.2	4,486
Financial assets designated at fair value through profit or loss	8,989	15,957	(6,968)	(43.7)	48,717
Financial assets at fair value through other comprehensive income	85,239	108,038	(22,799)	(21.1)	120,953
Financial assets at amortized cost	1,147,044	1,037,898	109,146	10.5	958,378
Hedging derivatives	8,069	4,761	3,308	69.5	8,325
Changes in the fair value of hedged items in portfolio hedges of interest risk	(3,749)	410	(4,159)	(1,014.4)	1,980
Investments	7,615	7,525	90	1.2	7,622
Assets under insurance or reinsurance contracts	308	283	25	8.8	261
Tangible assets	34,073	33,321	752	2.3	32,735
Intangible assets	18,645	16,584	2,061	12.4	15,908
Tax assets	29,987	25,196	4,791	19.0	24,586
Other assets	10,082	8,595	1,487	17.3	11,070
Non-current assets held for sale	3,453	4,089	(636)	(15.6)	4,445
Total assets	**1,734,659**	**1,595,835**	**138,824**	**8.7**	**1,508,250**
Liabilities and equity					
Financial liabilities held for trading	115,185	79,469	35,716	44.9	81,167
Financial liabilities designated at fair value through profit or loss	55,947	32,733	23,214	70.9	48,038
Financial liabilities at amortized cost	1,423,858	1,349,169	74,689	5.5	1,248,188
Hedging derivatives	9,228	5,463	3,765	68.9	6,869
Changes in the fair value of hedged items in portfolio hedges of interest rate risk	(117)	248	(365)	(147.2)	286
Liabilities under insurance or reinsurance contracts	747	770	(23)	(3.0)	910
Provisions	8,149	9,583	(1,434)	(15.0)	10,852
Tax liabilities	9,468	8,649	819	9.5	8,282
Other liabilities	14,609	12,698	1,911	15.0	12,336
Liabilities associated with non-current assets held for sale	—	—	—	—	—
Total liabilities	**1,637,074**	**1,498,782**	**138,292**	**9.2**	**1,416,928**
Shareholders' equity	124,732	119,649	5,083	4.2	114,620
Other comprehensive income	(35,628)	(32,719)	(2,909)	8.9	(33,144)
Non-controlling interest	8,481	10,123	(1,642)	(16.2)	9,846
Total equity	**97,585**	**97,053**	**532**	**0.5**	**91,322**
Total liabilities and equity	**1,734,659**	**1,595,835**	**138,824**	**8.7**	**1,508,250**

Executive summary [A]

Loans and advances to customers (minus reverse repos)

Positive trend in loans and advances to customers in 2022

EUR 1,019 billion +5%

➔ By segment:

Growth backed by individuals and large corporates

Individuals	SMEs and corporates	CIB
+7%	0%	+11%

Customer funds (deposits minus repos + mutual funds)

Strong increase in customer funds benefiting from the higher customer deposits

EUR 1,146 billion +6%

➔ By product:

Demand deposits accounted for 62% of customer funds. Increase in time deposits due to higher interest rates and mutual funds were impacted by market performance

Demand	Time	Mutual funds
-1%	+48%	-5%

A. 2022 vs. 2021 changes in constant euros.

Loans and advances to customers totalled EUR 1,036,004 million in December 2022, up 7% compared to December 2021.

For the purpose of analysing traditional commercial banking loans, the Group uses gross loans and advances to customers excluding reverse repurchase agreements which amounted to EUR 1,019,188 million, 6% higher year-on-year. To facilitate the analysis of the Santander's management, as usual the comments below do not consider the exchange rate impact.

Gross loans and advances to customers, excluding reverse repurchase agreements and in constant euros, increased 5%, with broad-based growth across regions, as follows:

- **Europe**: growth was 3%. By market, lending in the UK rose 4% due to mortgages; 2% in Spain, boosted by strong performance in individuals and SCIB; and 1% in Poland driven by corporates and CIB. In 'Other Europe', loans increased 13% owing mainly to SCIB. In Portugal, they remained flat.

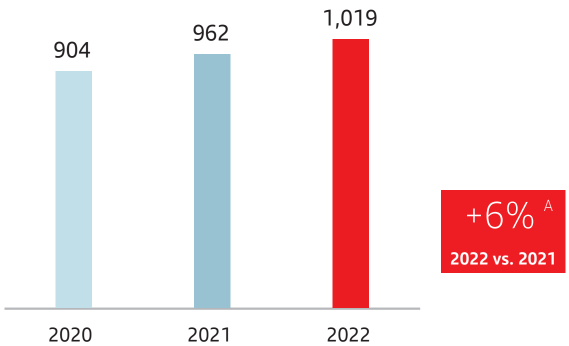
Loans and advances to customers

EUR million

	2022	2021	Change Absolute	Change %	2020
Commercial bills	56,688	49,603	7,085	14.3	37,459
Secured loans	565,609	542,404	23,205	4.3	503,014
Other term loans	290,031	269,526	20,505	7.6	269,143
Finance leases	39,833	38,503	1,330	3.5	36,251
Receivable on demand	11,435	10,304	1,131	11.0	7,903
Credit cards receivable	22,704	20,397	2,307	11.3	19,507
Impaired assets	32,888	31,645	1,243	3.9	30,815
Gross loans and advances to customers (minus repurchase agreements)	**1,019,188**	**962,382**	**56,806**	**5.9**	**904,092**
Repurchase agreements	39,500	33,264	6,236	18.7	35,702
Gross loans and advances to customers	**1,058,688**	**995,646**	**63,042**	**6.3**	**939,794**
Loan-loss allowances	22,684	22,964	(280)	(1.2)	23,595
Net loans and advances to customers	**1,036,004**	**972,682**	**63,322**	**6.5**	**916,199**

Gross loans and advances to customers (minus reverse repos)

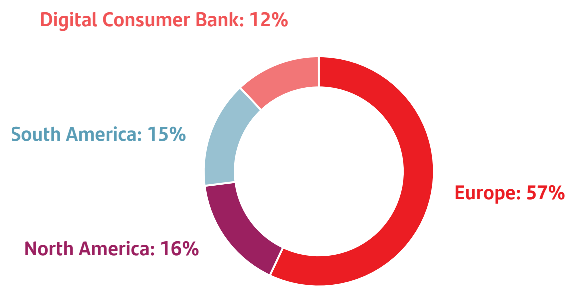
EUR billion



A. In constant euros: +5%.

Gross loans and advances to customers (minus reverse repos)

% of operating areas. December 2022



- In **North America**, growth was 9%. In the US, lending grew 9% propelled by auto financing, CIB and CRE, while lending in Mexico was up 8% with widespread rises across segments (except SMEs).
- Growth in **South America** was 10%. In Argentina, lending increased 72% driven by consumer, SMEs and corporates. In Brazil, it climbed 8% owing to positive performance in individuals (mainly in mortgages and payrolls) and corporates. In Chile, loans increased 8% backed by mortgages, corporates, institutions and SCIB. In Uruguay, they rose 14%.
- **Digital Consumer Bank (DCB)** rose 9%, receiving an uplift from new lending, which rose 10% year-on-year, and increased in most markets. Openbank loans grew 30%.

As of December 2022, gross loans and advances to customers minus reverse repurchase agreements maintained a balanced structure: individuals (62%), SMEs and corporates (24%) and SCIB (14%).

By the end of 2022, 62% of loans and advances to customers maturing in more than a year had a fixed interest rate, while the other 38% had a floating interest rate:

- In Spain, 50% of loans and advances to customers were fixed rate and 50% were floating rate.
- Outside Spain, 65% of loans and advances to customers were fixed rate and 35% were floating rate.

For more details on the distribution of loans and advances to customers by business line, see note 10.b to the consolidated financial statements.

Tangible assets amounted to EUR 34,073 million in December 2022, up EUR 752 million compared to December 2021 due to exchange rate movements.

Intangible assets stood at EUR 18,645 million, of which EUR 13,741 million corresponds to goodwill (which increased EUR 1,028 million) and EUR 4,904 million to other intangible assets, mostly IT developments (up EUR 1,033 million).

Loans and advances to customers with maturities exceeding one year at 2022 year end

EUR million

	Domestic		International		TOTAL	
	Amount	Weight as % of the total	Amount	Weight as % of the total	Amount	Weight as % of the total
Fixed	81,874	50%	369,353	65%	451,227	62%
Floating	81,178	50%	197,219	35%	278,397	38%
TOTAL	**163,052**	**100%**	**566,572**	**100%**	**729,624**	**100%**

Total customer funds

EUR million

	2022	2021	Change Absolute	Change %	2020
Demand deposits	710,232	717,728	(7,496)	(1.0)	642,897
Time deposits	251,778	164,259	87,519	53.3	171,939
Mutual funds [A]	184,054	188,096	(4,042)	(2.1)	164,802
Customer funds	**1,146,064**	**1,070,083**	**75,981**	**7.1**	**979,638**
Pension funds [A]	14,021	16,078	(2,057)	(12.8)	15,577
Managed portfolios [A]	32,184	31,138	1,046	3.4	26,438
Repurchase agreements	63,391	36,357	27,034	74.4	34,474
Total funds	**1,255,660**	**1,153,656**	**102,004**	**8.8**	**1,056,127**

A. Including managed and marketed funds.

Customer deposits grew 12% year-on-year to EUR 1,025,401 million in December 2022.

Santander uses customer funds (customer deposits, minus repurchase agreements, plus mutual funds) to analyse traditional retail banking funds, which stood at EUR 1,146,064 million.

Customer funds increased 7%. In constant euros they rose 6%, as follows:

- By product, customer deposits minus repurchase agreements were up 9%. Time deposits grew 48% (higher interest rates) in all markets except Portugal and Peru, to the detriment of demand deposits, which fell 1% (declines in most countries). Mutual funds declined 5%, affected by market trends mainly in Europe.
- Customer funds increased 11% in North America (the US: +16% and Mexico: +2%), 5% in South America (Argentina: +98%; Uruguay: +8%; Brazil: +3%) and 5% in Europe (increases of 10% in Spain and 2% in the UK and Poland that more than offset the 3% drop in Portugal).
- Positive performance also in DCB, whose funds increased 7%. Growth in Openbank was 5%.

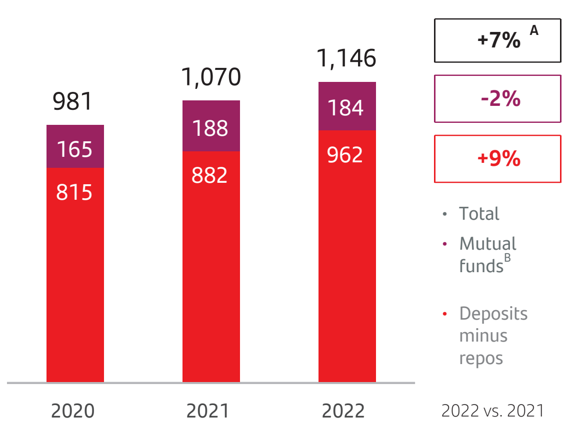
The weight of demand deposits was 62% of total customer funds, while time deposits accounted for 22% and mutual funds 16%.

In addition to capturing customer deposits, the Group, for strategic reasons, has a selective policy on issuing securities in international fixed income markets. We strive to adapt the frequency and volume of market operations to each unit's structural liquidity needs and to each market's receptiveness.

For more details on debt issuances and maturities, see section 3.4 'Liquidity and funding management' in this chapter.

Customer funds (minus repos)

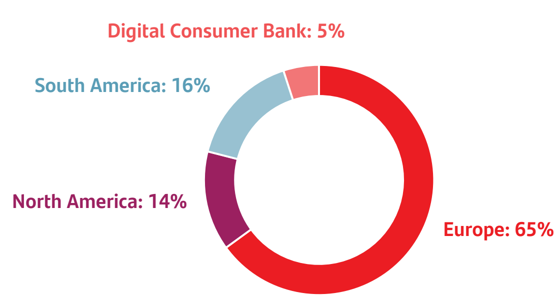
EUR billion



A. In constant euros: +6%.
B. Including managed and marketed funds.

Customer funds (minus repos)

% of operating areas. December 2022

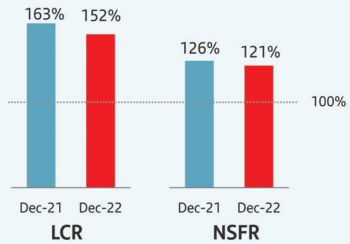


3.4 Liquidity and funding management

Executive Summary

Regulatory ratios

The LCR and NSFR ratios amply exceed regulatory requirements (both 100%)



Debt issuances in 2022

We issued more than EUR 57 bn in debt in 2022, diversified by product, currency, country and maturity

EUR 39.6 bn	Medium- and long-term debt
EUR 17.6 bn	Securitizations

Comfortable and stable funding structure

High contribution from customer deposits

101%	LTD ratio

Liquidity management

Our structural liquidity management aims to optimize maturities and costs, and to avoid undesired liquidity risks in funding Santander's operations.

It follows these principles:

- Decentralized liquidity model.
- Medium- and long-term (M/LT) funding needs must be covered by medium- and long-term instruments.
- High contribution from customer deposits due to the retail nature of the balance sheet.
- Wholesale funding sources diversified by instrument, investor, market, currency and maturity.
- Limited use of short-term funding.
- Sufficient liquidity reserves (including standing facilities/ discount windows at central banks) to be used in adverse situations.
- Group and subsidiary-level compliance with regulatory liquidity requirements.

To apply these principles effectively across the Group, we developed a unique, three-pronged management framework:

- **Organization and governance.** Strict organization and governance that involve subsidiaries' senior managers in decision-making and our global strategy. Decisions about structural risks, including liquidity and funding risk, falls on the local asset and liability committees (ALCOs), which coordinate with the global ALCO. The global ALCO is empowered by the board of directors under the corporate Asset and Liability Management (ALM) framework.

  This enhanced governance model is part of our risk appetite framework, which meets regulatory and market standards for strong risk management and control systems.

- **Balance sheet and liquidity risk.** In-depth balance sheet analysis and liquidity risk measurement that support decisions and controls to ensure liquidity levels cover short- and long-term needs with stable funding sources, and manage funding costs.

  Each subsidiary has a conservative risk appetite framework (based in their commercial strategy) which sets out the liquidity risk management framework. Subsidiaries must work within the framework limits to achieve their strategic objectives.

- **Liquidity management adapted to the needs of each business.** We develop a liquidity plan every year to achieve:
  - a solid balance sheet structure, with a diversified footprint in wholesale markets;
  - stable liquidity buffers and limited asset encumbrance; and
  - compliance with regulatory and other metrics included in each entity's risk appetite statement.

We monitor all the plan's components throughout the year.

Santander continues to carry out the Internal Liquidity Adequacy Assessment Process (ILAAP) as part of our other risk management and strategic processes to measure liquidity in ordinary and stressed scenarios. The quantitative and qualitative items we consider are also inputs for the Supervisory Review and Evaluation Process (SREP).

Once a year, we must submit a board-approved ILAAP assessment to supervisors that shows our funding and liquidity structures will remain solid in all scenarios and our internal processes will ensure sufficient liquidity (based on analyses that each subsidiary conducts according to local liquidity management models).

Our governance structure is robust and suited to identify, manage, monitor and control liquidity risks. It rests on common frameworks, conservative principles, clearly defined roles and responsibilities, a consistent committee structure, effective local lines of defence and well-coordinated corporate supervision.

We produce frequent, detailed liquidity monitoring reports for management, control and reporting purposes. We also regularly send the most relevant information to senior managers, the executive committee and the board of directors.

Over the last few years, Santander and each subsidiary have developed a comprehensive special situations management framework that centralizes our governance for such scenarios. It contains contingency funding plans, that form part of our governance model, including feasible, pre-assessed actions that follow a defined timeline, are categorized and prioritized, and provide for sufficient liquidity and execution time to mitigate stress scenarios.

Funding strategy and liquidity in 2022

Funding strategy and structure

In recent years, our funding strategy has focused on extending our management model to all subsidiaries.

It is based on a model of autonomous subsidiaries that are responsible for covering their own liquidity needs. This enables our solid retail banking model to maintain sound liquidity positions in the Group and our core country units, even amid market stress.

We have had to adapt funding strategies to business trends, market conditions and new regulations. In 2022, we improved specific aspects, without significant changes in liquidity management or funding policies and practices. This will enable us to start 2023 from a strong position and with no growth restrictions.

Our subsidiaries continue to apply the same funding and liquidity management strategies to:

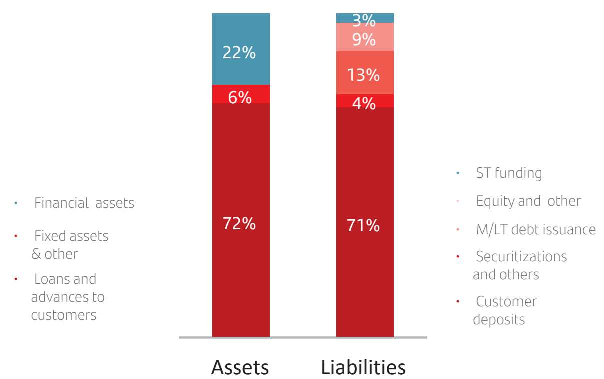
- maintain sufficient and stable medium- and long-term wholesale funding levels;
- ensure the right volume of assets that can be discounted in central banks as part of the liquidity buffer; and
- generate liquidity from the retail business.

These developments have strengthened Santander's funding structure:

- Customer deposits are our main funding source . They are highly stable because they mainly arise from retail customer activity. At the end of December 2022, they represented just over two thirds of net liabilities (i.e. of the liquidity balance sheet) and nearly 99% of loans and advances to customers. Their weight (as a percentage of loans and advances to customers) increased year-on-year. For more details, see the Liquidity in 2022 section.

Group's liquidity balance sheet

%. December 2022



Note: Liquidity balance sheet for management purposes is the consolidated balance sheet, net of trading derivatives and interbank balances. For more information on the consolidated balance sheet, see the 'Consolidated financial statements' chapter.

- M/LT funding accounted for nearly 17% of net liabilities at the end of 2022 (similar to 2021). It amply covers the retail funding gap (i.e. loans and advances to customers not funded by customer deposits).

The outstanding balance of M/LT debt issued (to third parties) at the end of 2022 was EUR 186,689 million. Our maturity profile is comfortable and well balanced by instruments and markets with a weighted average maturity of 4.3 years (slightly below average maturity of 4.8 years at the end of 2021).

These tables show our funding by instrument over the past three years and by maturity profile:

Group. Stock of medium- and long-term debt issuances [A]

EUR million

	2022	2021	2020
Preferred	8,693	10,238	8,925
Subordinated	17,573	16,953	13,831
Senior debt	116,350	104,553	95,208
Covered bonds	44,073	41,908	49,388
Total	**186,689**	**173,652**	**167,351**

A. Placed in markets. Does not include securitizations, agribusiness notes and real estate credit notes.

Group. Distribution by contractual maturity. December 2022

EUR million

	0-1 month	1-3 months	3-6 months	6-9 months	9-12 months	12-24 months	2-5 years	more than 5 years	Total
Preferred	—	—	—	—	—	—	—	8,693	**8,693**
Subordinated	—	—	—	—	663	—	7,538	9,373	**17,573**
Senior debt	1,818	3,386	4,119	2,216	2,795	22,891	51,581	27,543	**116,350**
Covered bonds	—	1,248	1,000	987	200	7,642	20,378	12,618	**44,073**
Total	**1,818**	**4,634**	**5,119**	**3,202**	**3,658**	**30,533**	**79,497**	**58,226**	**186,689**

Note: There are no additional guarantees for any of the debt issued by the Group's subsidiaries.

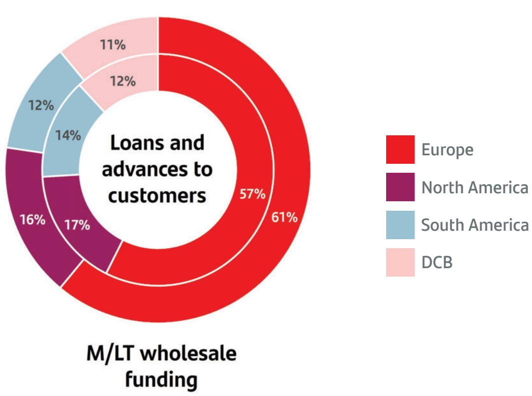
Covered bond issuance recovered sharply in 2022. Santander was not very active in this market in previous years due to Santander's focus on building the MREL and TLAC requirements.

In addition to M/LT wholesale debt issuances, we have securitizations placed in the market and collateralized and other specialist funding totalling EUR 54,890 million (including EUR 10,720 million in debt instruments placed with private banking clients in Brazil). Average maturity was around 1.6 years.

This chart shows the similarity of the geographic breakdown of our loans and advances to customers and M/LT wholesale funding across our footprint. This distribution is almost identical to 2021.

Loans and advances to customers and M/LT wholesale funding

%. December 2022



Wholesale funding from short-term issuance programmes is a residual part of Santander's funding structure, which is related to treasury activities and is comfortably covered by liquid assets.

The outstanding short-term wholesale funding balance at the end of 2022 was EUR 44,146 million. 61% was in European Commercial Paper, US Commercial Paper and domestic programmes issued by Banco Santander, S.A.; 12% in certificates of deposit and commercial paper programmes in the UK; 15% in Santander Consumer Finance (SCF) commercial paper programmes; and 12% in issuance programmes in other subsidiaries.

Liquidity in 2022

The key liquidity takeaways from 2022 were:

- basic liquidity ratios remained at comfortable levels;
- regulatory liquidity ratios were well above minimum requirements; and
- our use of encumbered assets in funding operations was moderate.

In order to tackle high inflation and return it to more normalized levels, central banks continued to withdraw stimulus measures that were introduced in 2021. This was done both by removing liquidity from the system and by raising interest rates.

Santander repaid a significant part of the funding (with original maturity in 2023) from the ECB's TLTRO-III programme early in Q4 2022. We were able to replace these funds as we strengthened balance sheets through a combination of growth in customer deposits, an increase in short-term instruments and greater activity in medium and long-term issuances, with the objective of maintaining regulatory liquidity ratios and internal metrics at prudent levels after repayment.

Our liquidity position has always remained solid. Commercial activity was not a significant drain on liquidity in 2022, given that credit growth was coupled with deposit growth.

i. Basic liquidity ratios at comfortable levels

At the end of 2022, Santander recorded:

- a stable credit to net assets ratio (i.e. total assets minus trading derivatives and inter-bank balances) of 72%, slightly lower than previous years. Such a high level compared to our competitors in Europe speaks to the retail nature of our balance sheet;
- a net loan-to-deposit ratio (LTD) of 101%, a very comfortable level (well below 120%) and lower than 2021 year-end. Lending grew moderately in constant euros in almost all our markets, including consumer businesses, and deposits performed positively;
- a customer deposit plus M/LT funding to net loans and advances ratio of 122% (117% in 2021);
- limited recourse to short-term wholesale funding (around 3% of total funding), in line with previous years; and
- an average structural surplus balance, defined as the excess of structural funding sources (deposits, M/LT funding and capital) against structural liquidity needs from fixed assets and loans, of EUR 237,141 million in the year.

  The consolidated structural surplus stood at EUR 274,492 million at year-end. Fixed-income assets (EUR 171,900 million), equities (EUR 12,745 million) and net interbank and central bank deposits (EUR 133,993 million) were partly offset by short-term wholesale funding (-EUR 44,146 million). This totalled around 19% of our net liabilities (slightly up from the end of 2021).

This table shows Santander's basic liquidity monitoring metrics in recent years:

Group's liquidity monitoring metrics

%

	2022	2021	2020
Loans [A] / Net assets	72%	75%	76%
Loan [A] -to-deposit ratio (LTD)	101%	106%	108%
Customer deposits and medium-and long-term funding / Loans [A]	122%	117%	116%
Short-term wholesale funding / Net liabilities	3%	2%	2%
Structural liquidity surplus (% of net liabilities)	19%	16%	15%

A. Loans and advances to customers.

The table below shows the principal liquidity ratios of our main subsidiaries at the end of 2022:

Main subsidiaries' liquidity metrics

%. December 2022

	LTD ratio	Deposits + M/LT funding / Loans [A]
Spain	75%	143%
United Kingdom	109%	107%
Portugal	93%	115%
Poland	75%	135%
United States	105%	123%
Mexico	93%	117%
Brazil	96%	126%
Chile	149%	89%
Argentina	53%	189%
Digital Consumer Bank	209%	69%
Group	**101%**	**122%**

A. Loans and advances to customers.

In 2022, the key drivers of Santander's and its subsidiaries' liquidity (in constant euros, i.e. excluding exchange rate impact) were:

- lending growth in all our markets, including Digital Consumer Bank (DCB). There was also general growth in customer deposits. As a result, the retail funding gap increased only slightly; and
- issuances continued at a similar rate to the previous year and, overall, were in line with our funding plan for the year. North America and DCB issued less than planned due to lower-than-expected business growth, while we were more active in capital markets in Europe.

In 2022, Santander issued EUR 57,247 million in M/LT funding (at year-average exchange rates).

By instrument, the stock of M/LT fixed income debt (i.e. covered bonds, senior debt, subordinated debt and capital hybrid instruments) increased by around 36% to EUR 39,602 million at the end of the year. Greater activity in preferred and TLAC eligible senior debt and covered bonds more than offset lower hybrids issuances. Securitizations and structured finance totalled EUR 17,645 million in 2022, down 23% year-on-year.

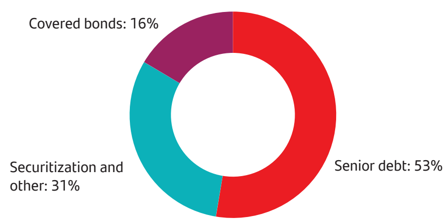
Spain and the UK issued the most M/LT fixed income debt (not including securitizations), followed by the US and Brazil. The UK and the US registered the highest absolute increases in the year. The main year-on-year decrease occurred in Brazil.

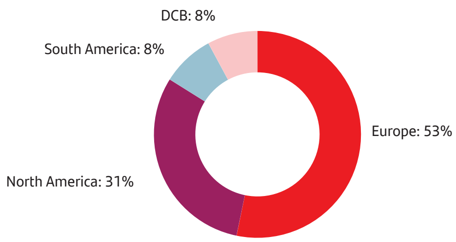
SCF and SC USA were the main issuers of securitizations.

The charts below show issuances by instrument and region:

Distribution by instrument and region

%. December 2022





Mortgage covered bonds represented 16% of the total issuances in 2022, compared to just 1% in 2021. This increase was due to the recovery of this product in its traditional markets (Spain and the UK) for the reasons mentioned above. Senior debt accounted for 53% of total issuances compared with 45% in 2021. In 2022, the weight of TLAC-eligible senior debt versus senior preferred debt was lower than in 2021. The issuance of eligible hybrid instruments as AT1 or subordinated debt depends on changes in risk-weighted assets. Since no additional issuance was necessary in 2022 as the AT1 and T2 buffers (1.5% and 2%, respectively) were covered, liquidity was replaced by other, more cost-efficient instruments.

In 2022 at average exchange rates, the Group issued EUR 12,093 million in subordinated instruments, including EUR 11,970 million in senior non-preferred debt from Banco Santander, S.A. and senior preferred from the holdings in the UK and the US; EUR 123 million in subordinated debt issued from Chile; and, as mentioned, no AT1 eligible hybrid instruments were issued.

We retained comfortable access to all our markets having issued and securitized debt in 14 currencies, involving 20 major issuers from 12 countries and an average maturity of 4.1 years (slightly lower than 4.5 years in 2021).

ii. Compliance with regulatory liquidity ratios

Within the liquidity management model, in recent years, Santander has implemented, monitored and complied with the liquidity requirements established under international financial regulations early.

Liquidity Coverage Ratio (LCR)

As the regulatory LCR requirement has been at the maximum level of 100% since 2018, we set a risk appetite of 110% at the consolidated and subsidiary level.

Our strong short-term liquidity base and our core subsidiaries' autonomous management helped us reach compliance levels above 100% (both at the Group and subsidiary level) throughout the year. Our LCR in December 2022 was 152%, well above the regulatory requirement.

Moreover, this ratio considers the EUR 55 billion of TLTRO funds amortized (the vast majority of which were repaid early). Of these, EUR 50 billion were at the parent bank (82% of its total outstanding at the beginning of 2022).

This table shows that all our subsidiaries substantially exceeded the required minimum in 2022 and the comparison versus 2021. Santander UK's figures only include activities that the Financial Services and Markets Act 2000 leaves within the Ring-Fenced Bank.

Liquidity Coverage Ratio (LCR)

%

	December 2022	December 2021
Parent bank	148%	151%
United Kingdom	157%	168%
Portugal	132%	138%
Poland	178%	197%
United States	125%	150%
Mexico	197%	184%
Brazil	127%	141%
Chile	189%	148%
Argentina	235%	258%
Santander Consumer Finance	241%	319%
Group	**152%**	**163%**

NSFR (Net Stable Funding Ratio)

The Regulation (EU) 2019/876 of the European Parliament dictated that entities must have a net stable funding ratio greater than 100% from June 2021.

The NSFR is a structural measurement that gives banks an incentive to ensure long-term stability and proper management of maturity mismatches by funding long-term assets with long-term liabilities. It is the quotient of available stable funding (ASF) and required stable funding (RSF).

ASF comprises sources of funding (i.e. capital and other liabilities) considered stable over one year. As RSF primarily refers to any asset deemed illiquid over one year, it needs to be matched with stable sources of funding.

We set a risk appetite limit for the NSFR of 101.5% at the consolidated and subsidiary level.

The high weight of customer deposits (which are more stable); permanent liquidity needs deriving from commercial activity funded by medium- and long-term instruments; and limited recourse to short-term funding help maintain our balanced liquidity structure as reflected in our consolidated and subsidiary NSFRs which all exceeded 100% in December 2022.

The following table provides details by entities as well as a comparison with 2021. Santander UK's figures only include activities that the Financial Services and Markets Act 2000 leaves within the Ring-Fenced Bank. All figures were calculated using European regulations.

Net Stable Funding Ratio

%

	December 2022	December 2021
Parent bank	118%	118%
United Kingdom	137%	138%
Portugal	116%	124%
Poland	146%	156%
United States	109%	128%
Mexico	120%	134%
Brazil	112%	116%
Chile	117%	124%
Argentina	195%	180%
Santander Consumer Finance	109%	115%
Group	**121%**	**126%**

iii. Asset Encumbrance

Santander's use of assets as collateral in structural balance sheet funding sources is moderate.

Per the 2014 European Banking Authority (EBA) guidelines on disclosure of encumbered and unencumbered assets, the concept of asset encumbrance includes on-balance-sheet assets pledged as collateral in operations to obtain liquidity, off-balance-sheet assets received and reused for a similar purpose, and other assets with liabilities for reasons other than funding.

The tables below show the asset encumbrance data we must submit to the EBA as of December 2022:

Group. Disclosure on asset encumbrance as at December 2022

EUR billion

	Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of unencumbered assets	Fair value of unencumbered assets
Assets	**308.9**	**—**	**1,425.7**	**—**
Loans and advances	197.3	—	1,143.5	—
Equity instruments	8.3	8.3	7.4	7.4
Debt instruments	71.7	71.1	122.0	125.8
Other assets	31.6	—	152.8	—

Group. Collateral received as at December 2022

EUR billion

	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
Collateral received	**104.3**	**29.4**
Loans and advances	1.3	—
Equity instruments	4.8	6.8
Debt instruments	98.2	22.5
Other collateral received	—	0.1
Own debt securities issued other than own covered bonds or ABSs	—	**0.5**

Group. Encumbered assets/collateral received and associated liabilities as at December 2022

EUR billion

	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
Total sources of encumbrance (carrying amount)	**313.2**	**413.2**

On-balance-sheet encumbered assets amounted to EUR 308.9 billion, of which 64% were loans and advances (e.g. mortgages and corporate loans). Off-balance-sheet encumbrance stood at EUR 104.3 billion and mainly related to debt securities received as collateral in reverse repurchase agreements and rehypothecated ('reused').

In total encumbered assets amounted to EUR 413.2 billion, giving rise to associated liabilities of EUR 313.2 billion.

At the end of 2022, total asset encumbrance in funding operations was 22.1% of the Group's extended balance sheet under EBA criteria (total assets plus guarantees received: EUR 1,868.4 billion). This is lower than the end-2021 figure (26.1%), mainly due to the early repayment of collateralized funding with central banks, in particular the European Central Bank (TLTRO) and the Bank of England (TFSME).

Rating agencies

Rating agencies influence Santander’s access to wholesale funding markets and the cost of its issuances.

The agencies listed below regularly review our ratings. Debt ratings depend on several internal factors (business model, strategy, capital, income generation capacity, liquidity, ESG related factors, etc.) but also on external factors related to economic conditions, the industry and sovereign risk across our footprint.

The agencies' methodologies limit ratings in some cases to the sovereign's rating of the country where the bank is headquartered. However, as a testament of our financial strength and diversification, Moody’s, DBRS and Standard & Poor’s (S&P) still rate Banco Santander, S.A. above the Kingdom of Spain's (where it is headquartered) sovereign rating while Fitch rates them equally.

At the end of 2022, the ratings from the main agencies were:

Rating agencies

	Long term	Short term	Outlook
DBRS	A (High)	R-1 (Middle)	Stable
Fitch Ratings	A-(SeniorA)	F2 (Senior F1)	Stable
Moody's	A2	P-1	Stable
Standard & Poor's	A+	A-1	Stable
Scope	AA-	S-1+	Stable
JCR Japan	A+	—	Stable

In 2021, S&P upgraded the long-term rating to A+ due to a change in its methodology. DBRS, Fitch, Moody's and JCR Japan confirmed their ratings again in 2022.

In 2021, Fitch upgraded its outlook from negative to stable due to the stabilization of the operating environment in Santander's main markets. In March 2022, S&P Global ratings raised Santander's outlook on the back of its upward revision to the sovereign's outlook, placing them both at stable again and keeping Santander one notch above the Kingdom of Spain.

Funding outlook for 2023

Santander has begun 2023 with a strong liquidity position, having already repaid a large part of the ECB financing maturities corresponding to 2023. The funding outlook for the year is positive, despite lingering uncertainties due to the macroeconomic and geopolitical landscape.

We expect lending to rise moderately in all our core markets, coupled with a solid performance in deposits leading to limited demand for liquidity from our retail business.

Maturities in the coming quarters are manageable, aided by limited recourse to short-term funding and an expected medium- and long-term issuance dynamic slightly up on last year. We will manage each country and optimize liquidity to maintain a solid balance sheet structure across our footprint.

Our funding plans consider costs and diversification by instrument, country and market as well as the construction of liability buffers with loss-absorbing capacity in resolution (whether capital eligible or not). We design them to ensure Santander and its subsidiaries satisfy regulatory requirements and those stemming from our risk appetite framework.

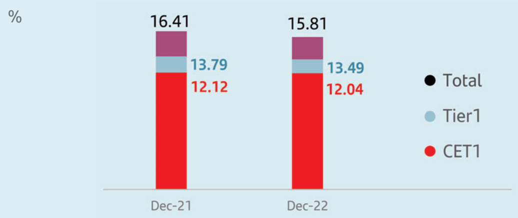
Santander has been very active at the beginning of 2023. The main issuers in the Group (Banco Santander, S.A., UK, Santander Consumer Finance and Santander Holdings USA) had already issued EUR 12.2 billion by the end of January 2023, which represents nearly half of their total funding plan for the year.

3.5 Capital management and adequacy. Solvency ratios

Executive summary

Fully-loaded capital ratio

The fully-loaded CET1 ratio remained above 12% in every quarter in 2022



Fully-loaded CET1

Strong organic generation driven by profit and RWA management

Organic generation* **+76 bps**

TNAV per share

The TNAV per share was **EUR 4.26**, +6% year-on-year including cash dividends

* Net of shareholder remuneration.

Capital management and adequacy at Santander aims to guarantee solvency and maximize profitability, while complying with internal capital targets and regulatory requirements.

Capital management is a key strategic tool for decision-making at both the subsidiary and corporate levels.

We have a common framework that covers capital management actions, criteria, policies, functions, metrics and processes.

Our most notable capital management activities are:

- establishing capital adequacy and capital contribution targets that align with minimum regulatory requirements and internal policies, to guarantee robust capital levels consistent with our risk profile and efficient use of capital to maximize shareholder value;
- drawing up a capital plan to meet our strategic plan objectives. Capital planning is an essential part of executing the three-year strategic plan;
- assessing capital adequacy to ensure the capital plan is also consistent with our risk profile and risk appetite framework and in stress scenarios;
- developing the annual capital budget as part of the Group's budgeting process;
- monitoring and controlling budget execution at Group and subsidiary level and drawing up action plans to correct any deviations;
- integrating capital metrics into our business management to ensure alignment with the Group's objectives;
- preparing internal capital reports, and reports for the supervisory authorities and the market; and
- planning and managing other loss absorbing instruments (MREL and TLAC).

Santander's capital function is comprised of three levels:

Regulatory capital

The first step in managing regulatory capital is to analyse the capital base, the capital adequacy ratios under the current regulatory criteria and the scenarios used in capital planning to make the capital structure as efficient as possible, both in terms of costs and compliance with regulatory requirements. Active capital management includes strategies for allocation and efficient use of capital, securitizations, asset sales and issuances of equity instruments (hybrid equity instruments and subordinated debt).

Economic capital

The economic capital model aims to ensure we adequately allocate our capital to cover every risk we are exposed to a result of our activity and risk appetite. It also aims to optimize economic value added at Group and business unit level.

Profitability and pricing

Creating value and maximizing profitability is one of Santander's main objectives. We carefully select the most appropriate markets and portfolios based on profitability while considering risk. Thus, profitability and pricing are integral to our key capital model processes.

The main measures we took in 2022 were:

Issuances of capital hybrid and other loss-absorbing instruments

Banco Santander, S.A. did not issue any hybrid instruments (subordinated debt and contingently convertible preferred shares - CoCos) in 2022 but did issue EUR 5,536 million in senior non-preferred debt.

Dividends and shareholder remuneration

For 2022, the board continued the policy of allocating approximately 40% of the Group’s underlying profit to shareholder remuneration, split in approximately equal parts in cash dividends and share buybacks.

- **Interim remuneration**. On 27 September 2022, the board agreed to:
  - Pay an interim cash dividend of EUR 5.83 cents per share entitled to receive dividends (equivalent to approximately 20% of the Group’s underlying profit in H1 2022), charged to 2022 results. It was paid on 2 November 2022.
  - Implement the First 2022 Buyback Programme worth approximately EUR 979 million (approximately 20% of the Group’s underlying profit in H1 2022). It was approved by the ECB on 17 November 2022 and ran from 22 November 2022 to 31 January 2023. Banco Santander bought back 340,406,572 own shares, which was 2.03% its share capital at that time (see ‘First 2022 Buyback Programme’ in the 'Corporate Governance' chapter).
- **Final remuneration**. On 27 February 2023, within the 2022 shareholder remuneration policy, the board of directors decided to:
  - Submit a resolution at the 2023 AGM to approve a final cash dividend in the gross amount of EUR 5.95 cents per share entitled to receive dividends. If approved at the AGM, the dividend would be payable from 2 May 2023.
  - Implement a Second 2022 Buyback Programme worth EUR 921 million, for which the appropriate regulatory authorization has already been obtained and that will be executed from 1 March 2023. For more details, see ‘Second 2022 Buyback Programme’ in the 'Corporate Governance' chapter.

Once the above mentioned actions are completed, the shareholder remuneration for 2022 will have been EUR 3,842 million (approximately 40%[1] of the underlying profit in 2022) split in approximately equal parts in cash dividends (EUR 1,942 million) and share buybacks (EUR 1,900 million). For more details, see section 3.3 'Dividends and shareholder remuneration' in the 'Corporate Governance' chapter.

Strengthening our active capital management culture

We continue to focus on disciplined capital allocation and shareholder remuneration while maintaining our fully-loaded CET1 target between 11%-12%.

Continuous improvement of our capital ratios reflects our profitable growth strategy and a culture of active capital management at all levels.

The Capital and Profitability Management team is in charge of our capital analysis, adequacy and management, coordination with subsidiaries on all matters related to capital and monitoring and measuring returns.

Every subsidiary and business unit has drawn up individual capital plans that focus on maximizing the return on equity.

Santander places a high value on its long-term sustainability and the efficient use of capital in the incentives of the Group's main executives. We considered certain aspects relating to capital management and returns when setting senior managers' 2022 variable remuneration:

- Metrics included return on tangible equity (RoTE), return on risk-weighted assets (RoRWA) and customer-related measures.
- Qualitative adjustments considered included efficient management of solvency metrics, operational risk management, risk appetite, sustainability and strength of results and effective cost management.

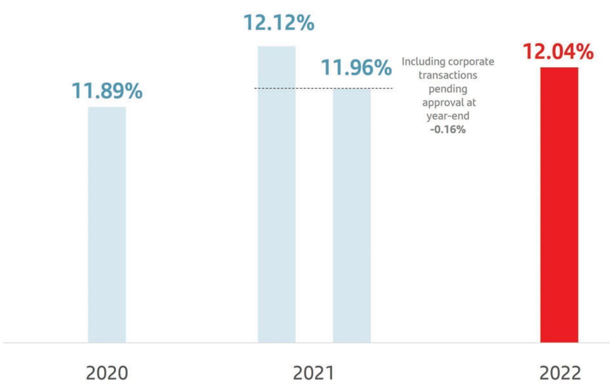
Action plans

We are working on a programme of continuous enhancement of capital-related infrastructure, processes and methodologies, to further bolster active capital management by responding quicker to the numerous and increasing regulatory requirements and efficiently carrying out all associated activities.

1. Subject to approval of the final dividend at the 2023 AGM and completion of the Second 2022 Buyback Programme under the terms agreed by the board (see section 3.3 'Dividends and shareholder remuneration' in the 'Corporate Governance' chapter).

Fully-loaded CET1 ratio

%



Regulatory phased-in CET1 ratio[A]

%

12.34	12.51	12.18

Main capital data and solvency ratios

EUR million

	Fully loaded		Phased-in[A]	
	2022	2021	2022	2021
Common equity (CET1)	73,390	70,208	74,202	72,402
Tier1 (T1)	82,221	79,939	83,033	82,452
Eligible capital	96,373	95,078	97,392	97,317
Risk-weighted assets	609,702	579,478	609,266	578,930
CET1 capital ratio	12.04%	12.12%	12.18%	12.51%
T1 capital ratio	13.49%	13.79%	13.63%	14.24%
Total capital ratio	15.81%	16.41%	15.99%	16.81%
Leverage ratio	4.70%	5.21%	4.74%	5.37%

A. The phased-in ratios include the transitory treatment of IFRS 9, calculated in accordance with article 473 bis of the Regulation on Capital Requirements (CRR) and subsequent amendments introduced by Regulation 2020/873 of the European Union. Additionally, the Tier 1 and total phased-in capital ratios include the transitory treatment according to chapter 2, title 1, part 10 of the aforementioned CRR.

Fully-loaded capital ratios in 2022

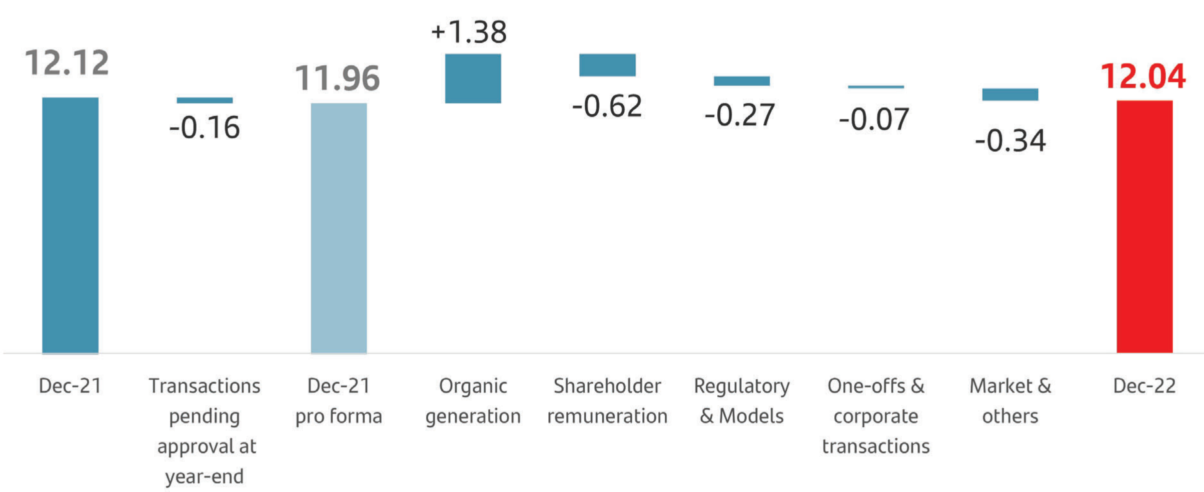
The fully-loaded CET1 ratio was 12.04% if we do not apply the transitory IFRS 9 provisions or the subsequent amendments introduced by Regulation 2020/873 of the European Union.

Of note in the year was organic generation of 138 bps, supported by profit and our management of risk-weighted assets. We recorded an impact of 62 bps for shareholder remuneration, which represents a net generation of 76 bps in 2022. This strong generation was partially offset by the negative market impacts on available for sale (HTC&S) portfolios and regulatory drivers.

The fully-loaded leverage ratio stood at 4.70%.

Fully-loaded CET1 ratio in 2022

%



Regulatory capital ratios (phased-in)

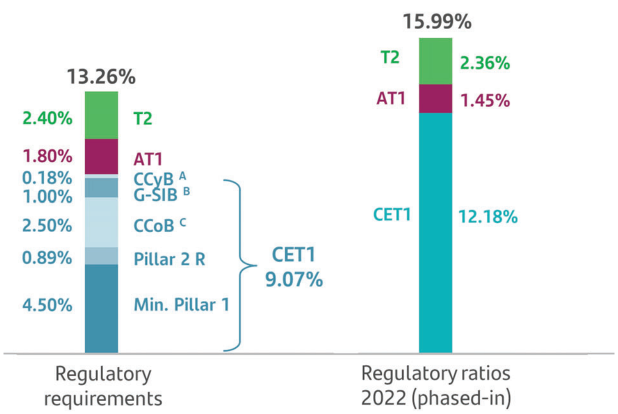
The phased-in ratios are calculated by applying the CRR transitory schedules.

On a consolidated basis, the minimum levels required by the European Central Bank are 9.07% for the CET1 ratio, 10.87% for the tier 1 ratio and 13.26% for the total capital ratio.

Our capital requirements increased in 2022, mainly due to the reactivation of countercyclical buffers by the competent authorities in the countries in which we operate (+0.16 pp) and the ECB's review of the Pillar 2 requirement (P2R), which increased 0.08 pp (0.05 pp in CET1 and the rest between AT1 and Tier 2).

At year-end, the phased-in CET1 ratio was 12.18%, resulting in a CET1 management buffer of 311 bps. This shows our ability to generate capital organically, our solid position to be able to pay dividends and our strong capital management.

The total phased-in capital ratio was 15.99%. Taking into account the shortfall in AT1 and Tier 2 (T2), Santander exceeded the 2022 minimum regulatory requirements (i.e. distance to the maximum distributable amount - MDA) by 272 bps.



A. Countercyclical buffer.
B. Global systemically important banks (G-SIB) buffer.
C. Capital conservation buffer.

The phased-in leverage ratio stood at 4.74%.

Regulatory capital (phased-in). Flow statement

EUR million

	2022
Capital Core Tier 1 (CET 1)	
Starting amount (31/12/2021)	**72,402**
Shares issued in the year and share premium	(1,979)
Treasury shares and own shares financed	906
Reserves	(2,305)
Attributable profit net of dividends	7,684
Other retained earnings	(2,654)
Minority interests	680
Decrease/(increase) in goodwill and other intangible assets	(1,118)
Other	587
Ending amount (31/12/2022)	**74,202**
Additional Capital Tier 1 (AT1)	
Starting amount (31/12/2021)	**10,050**
AT1 eligible instruments	(1,758)
AT1 excesses - subsidiaries	539
Residual value of intangible assets	—
Deductions	—
Ending amount (31/12/2022)	**8,831**
Capital Tier 2 (T2)	
Starting amount (31/12/2021)	**14,865**
T2 eligible instruments	(653)
Generic funds and surplus loan-loss provisions-IRB	(75)
T2 excesses - subsidiaries	223
Deductions	—
Ending amount (31/12/2022)	**14,359**
Deductions from total capital	—
Total capital ending amount (31/12/2022)	**97,392**

These tables show the total risk-weighted assets (comprising the denominator of capital requirements based on risk) as well as their distribution by geographic segment.

Risk-weighted assets (phased-in CRR, phased-in IFRS 9)

EUR million

	RWAs		Minimum capital requirements
	2022	2021	2022
Credit risk (excluding CCR)	**507,775**	**477,977**	**40,622**
Of which: standardized approach (SA)	274,922	262,869	21,994
Of which: the foundation IRB (FIRB) approach	11,759	9,483	941
Of which: slotting approach[A]	14,509	14,672	1,161
Of which: equities under the simple risk-weighted approach	2,828	2,219	226
Of which: the advanced IRB (AIRB) approach	188,442	173,956	15,075
Counterparty credit risk (CCR)	**13,096**	**15,674**	**1,048**
Of which: standardized approach[B]	9,493	13,639	759
Of which: internal model method (IMM)	—	—	—
Of which: exposures to a CCP	278	268	22
Of which: credit valuation adjustment (CVA)	1,097	1,767	88
Of which: other CCR	2,229	—	178
Settlement risk	**4**	**1**	**0**
Securitization exposure in the banking book (after the cap)	**9,898**	**9,268**	**792**
Of which: SEC-IRBA approach	4,471	5,226	358
Of which: SEC-ERBA approach	2,156	1,366	173
Of which: SEC-SA approach[B]	3,270	2,676	262
Of which: 1250% deduction	—	—	—
Position, foreign exchange and commodities risks (Market risk)	**15,791**	**17,224**	**1,263**
Of which: standardized approach	7,521	6,844	602
Of which: internal model approach (IMA)	8,270	10,380	662
Large exposures	**—**	**—**	**—**
Operational risk	**62,702**	**58,786**	**5,016**
Of which: basic indicator approach	—	—	—
Of which: standardized approach	62,702	58,786	5,016
Of which: advanced measurement approach	—	—	—
Amounts below the thresholds for deduction	**25,868**	**21,032**	**2,069**
Total [B C]	**609,266**	**578,930**	**48,741**

A. It includes equities under the PD/LGD approach.
B. For more detail see Pillar 3 report.
C. Total does not include amounts below the thresholds for deduction.

RWAs by geographical distribution (phased-in CRR, phased-in IFRS 9)

EUR million

	TOTAL	EUROPE	o/w: Spain	o/w: United Kingdom	NORTH AMERICA	o/w: US	SOUTH AMERICA	o/w: Brazil	Rest of the world
Credit risk (excluding CRR)	**507,775**	**299,188**	**124,858**	**70,519**	**90,572**	**67,004**	**112,099**	**79,007**	**5,915**
Of which: internal rating-based (IRB) approach [A]	**222,978**	**175,935**	**77,292**	**52,204**	**17,622**	**8,773**	**25,297**	**21,327**	**4,125**
Central governments and central banks	—	—	—	—	—	—	—	—	—
Institutions	11,422	6,713	1,114	1,373	2,298	1,368	1,601	644	811
Corporates – SME	123,261	81,227	42,034	16,387	15,192	7,312	23,612	20,663	3,229
Of which: Corporates - Specialized Lending	15,471	11,254	3,134	4,902	2,919	1,605	758	—	540
Of which: Corporates – Other	18,904	17,790	14,971	616	802	10	309	288	3
Retail - Secured by real estate SME	4,719	4,703	4,576	20	5	4	2	1	8
Retail - Secured by real estate non-SME	48,059	47,846	14,987	29,467	92	75	55	4	66
Retail - Qualifying revolving	4,547	4,541	1,089	2,649	1	1	3	1	2
Retail - Other SME	8,574	8,557	5,850	4	12	11	3	1	2
Retail - Other non-SME	20,818	20,771	6,064	2,304	21	2	21	14	6
Other non-credit-obligation assets	1,577	1,577	1,577	—	—	—	—	—	—
Of which: standardized approach (SA)	**274,922**	**111,876**	**35,861**	**18,503**	**73,253**	**58,265**	**88,001**	**58,647**	**1,792**
Central governments and central banks	26,579	11,537	10,217	5	2,543	—	12,285	11,163	215
Regional governments or local authorities	330	104	33	—	15	15	211	183	—
Public sector entities	369	53	—	—	198	198	116	—	2
Multilateral development banks	—	—	—	—	—	—	—	—	—
International organizations	—	—	—	—	—	—	—	—	—
Institutions	4,610	1,506	585	318	1,639	1,548	1,422	1,171	43
Corporates	47,920	22,911	3,115	6,288	9,970	9,022	14,650	8,252	388
Retail	98,556	35,151	3,012	6,114	31,717	25,853	30,594	24,085	1,093
Secured by mortgages on immovable property	35,103	10,804	2,152	726	10,972	7,860	13,319	3,895	7
Exposures in default	12,251	3,305	1,345	341	4,296	3,542	4,642	3,042	9
Items associated with particular high risk	1,414	101	19	38	1	1	1,312	315	—
Covered bonds	257	257	—	246	—	—	—	—	—
Claims on institutions and corporates with a short-term credit assessment	157	100	14	4	50	50	—	—	6
Collective investments undertakings (CIU)	158	158	116	—	—	—	—	—	—
Equity exposures	135	59	—	—	—	—	76	—	—
Other items	47,082	25,830	15,253	4,423	11,851	10,176	9,375	6,541	27
Of which: Equity IRB	**18,120**	**18,120**	**18,120**	**—**	**—**	**—**	**—**	**—**	**—**
Under the PD/LGD method	5,388	5,388	5,388	—	—	—	—	—	—
Under simple method	2,828	2,828	2,828	—	—	—	—	—	—
Equity exposures under risk weighted approach	9,903	9,903	9,903	—	—	—	—	—	—
Counterparty credit risk	**13,096**	**7,385**	**6,007**	**600**	**911**	**632**	**2,570**	**1,795**	**2,230**
Of which: standardized approach	9,493	6,679	5,540	440	766	547	2,047	1,386	1
Of which: internal model method (IMM)	—	—	—	—	—	—	—	—	—
Of which: exposures to a CCP	278	156	4	113	59	57	62	8	—
Of which: CVA	1,097	551	463	47	85	28	460	401	—
Of which: other CCR	2,229	—	—	—	—	—	—	—	2,229
Settlement risk	**4**	**4**	**4**	**—**	**—**	**—**	**—**	**—**	**—**
Securitization exposures in banking book (after cap) [B]	**9,898**	**6,968**	**1,820**	**2,760**	**2,502**	**2,481**	**353**	**328**	**75**
Market risk	**15,791**	**10,477**	**9,998**	**245**	**1,568**	**1,568**	**3,757**	**1,326**	**—**
Of which: standardized approach (SA)	7,521	4,570	4,091	245	1,568	1,568	1,394	1,326	—
Of which: internal model method (IMA)	8,270	5,907	5,907	—	—	—	2,363	—	—
Operational risk	**62,702**	**25,781**	**12,694**	**6,790**	**9,072**	**5,168**	**16,365**	**9,193**	**11,484**
Of which: basic indicator approach	—	—	—	—	—	—	—	—	—
Of which: standardized approach	62,702	25,781	12,694	6,790	9,072	5,168	16,365	9,193	11,484
Of which: advanced measurement approach	—	—	—	—	—	—	—	—	—
Amounts below the thresholds for deduction and other non-deducted investments (subject to 250% risk weight)	**25,868**	**13,903**	**12,728**	**3**	**2,112**	**—**	**9,820**	**9,181**	**35**
Total [C]	**609,266**	**349,803**	**155,381**	**80,915**	**104,626**	**76,854**	**135,144**	**91,649**	**19,705**

Note: Breakdown according to debtor's residency, except operational risk (management criteria) and some residual standardized approach exposures (legal basis).
A. Including IRB counterparty credit risk.
B. Does not include 1,250% deductions.
C. Total does not include amounts below the thresholds for deductions (subject to 250% risk weight).

This table presents the main changes to capital requirements by credit risk:

Credit risk capital movements [A]

EUR million

	RWAs	Capital requirements
Starting amount (31/12/2021)	**500,884**	**40,071**
Asset size	1,449	116
Model updates	16,663	1,333
Regulatory	—	—
Acquisitions and disposals	1,857	149
Foreign exchange movements	8,549	684
Other	—	—
Ending amount (31/12/2022)	**529,401**	**42,352**

A. Includes capital requirements from equity, securitizations and counterparty risk (excluding CVA and CCP).

Credit risk RWAs increased EUR 28,221 million in 2022, with a notable impact from models, mainly in Spain. The effect from exchange rate movements was +EUR 8,549 million, mainly due to the BRL's and USD's appreciation, partially offset by the GBP's depreciation. The acquisition of Pierpont Capital Holdings LLC resulted in an increase in credit risk of EUR 1,857 million. In terms of asset size, of note was business growth in South America and Digital Consumer Bank, offset by the impact from securitizations the Group carried out in the year (-EUR 13,205 million).

In short, from a qualitative point of view, Santander's solid capital ratios are consistent with its business model, balance sheet structure and risk profile.

Economic capital

Economic capital is the capital required to cover risks from our activity with a certain level of solvency. We measure it using an internal model. To calculate the required capital, we determine our solvency level based on our long-term rating target of 'A' (in line with the Kingdom of Spain); this represents a confidence level of 99.95% (above the regulatory level of 99.90%).

Our economic capital model measurements cover all significant risks incurred in our activity (concentration risk, structural interest rate risk, business risk, pensions risk, deferred tax assets (DTAs), goodwill and others that are beyond the scope of regulatory Pillar 1). It also considers diversification, which is key to determining and understanding our risk profile and solvency in view of our multinational operations and businesses.

Our total risk and related economic capital are less than the sum of the risk and capital of all individual units combined. Because our business spans several countries in a structure of separate legal entities with different customer and product segments and risk types, our earnings are less vulnerable to adverse situations for any given market, portfolio, customer type or risk. Despite increasing economic globalization, economic cycles and their impact differ by country, which was evident during the covid-19 pandemic. Groups with a global presence tend to have more stable results and are more resistant to market or portfolio crises, which translates into lower risk.

In contrast to regulatory criteria, we consider such intangible assets as DTAs and goodwill to retain value (even in a hypothetical resolution), owing to the geographic structure of our subsidiaries. Thus, we can value assets and estimate their unexpected loss and capital impact.

Economic capital is an essential internal management tool that helps us develop our strategy, assess solvency and manage portfolio and business risk. As such, it is a key part of the Supervisory Review and Evaluation Process (SREP).

Regarding Basel Pillar 2, we use our economic model for the internal capital adequacy assessment process (ICAAP). We plan business progression and capital needs under a central scenario and alternative stress scenarios to make sure we meet our solvency objectives, even in adverse scenarios.

Economic capital-derived metrics help us assess risk-return objectives, price operations based on risk, determine how economically viable projects are, and value country units and business lines to fulfil our overriding objective of maximizing shareholder value.

As a homogeneous risk measure, we can use economic capital to explain how we distribute risk throughout Santander, bringing together several activities and risk types under a single metric.

Given its relevance to internal management, Santander includes several economic capital-derived metrics from both a capital needs and a risk-return point of view, within a conservative risk appetite framework established at both Group and subsidiary level.

Required economic capital in December 2022 amounted to EUR 70,951 million. Compared to the available economic capital base of EUR 91,716 million, this implies a capital surplus of EUR 20,765 million.

Reconciliation of economic and regulatory capital

EUR million

	2022	2021
Net capital and issuance premiums	54,610	55,683
Reserves and retained profits	67,978	61,436
Valuation adjustments	(35,068)	(34,395)
Minority interests	7,426	6,736
Prudential filters	(708)	(637)
Other [A]	(2,522)	(1,184)
Base economic capital available	**91,716**	**87,639**
Deductions	(18,603)	(16,922)
Goodwill	*(14,484)*	*(13,911)*
Other intangible assets	*(2,698)*	*(2,153)*
DTAs	*(1,421)*	*(859)*
Other	*237*	*(509)*
Base regulatory (FL CET1) capital available	**73,350**	**70,208**
Base economic capital available	**91,716**	**87,639**
Economic capital required [B]	70,951	64,308
Capital surplus	20,765	23,332

A. Includes: deficit of provisions over economic expected loss, pension assets and other adjustments.

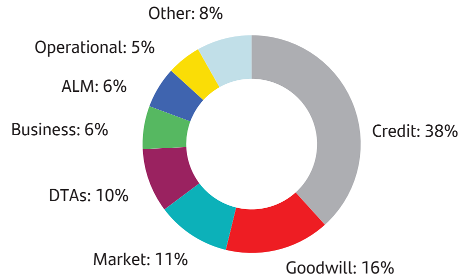
B. For a better comparison with regulatory capital, the differences in goodwill due to FX changes are included in the required economic capital. All figures according to EC 2022 methodology.

The main difference compared to regulatory CET1 is the treatment of goodwill, other intangible assets and DTAs; we consider them additional capital requirements rather than a deduction from available capital.

The charts below show the Group's economic capital needs at 31 December 2022, by region and risk type.

Distribution of economic capital needs by type of risk

%. December 2022



Our distribution of economic capital among core business areas is an indication of our business and risk diversification. Europe accounted for 44% of capital needs; North America, 20%; South America, 24%; and Digital Consumer Bank (DCB) 12%.

Outside our operating areas, the Corporate Centre mainly takes on goodwill risk and structural exchange rate risk (from maintaining stakes in foreign subsidiaries denominated in currencies other than the euro).

The benefit from diversification included in the economic capital model, including intra-risks (largely similar to geographic diversification) and inter-risk diversification was approximately 25-30%.

Distribution of Group economic capital needs by region and risk type

EUR million. December 2022

Grupo Santander. Total requirements: 70,951

Corporate Centre 17,978		Europe 23,503		North America 10,760		South America 12,665		DCB 6,045	
All risks:		**All risks:**		**All risks:**		**All risks:**		**All risks:**	
Goodwill	**61%**	Credit	**46%**	Credit	**55%**	Credit	**51%**	Credit	**64%**
Market	**24%**	ALM	**16%**	ALM	**11%**	DTAs	**14%**	Operational	**9%**
DTAs	**13%**	Market	**10%**	Fixed Assets	**10%**	Business	**11%**	ALM	**7%**
Others	**1%**	Others	**28%**	Others	**24%**	Others	**24%**	Others	**20%**

RoRAC and Economic Value Added

Since 1993, Santander has been using risk-adjusted return (RoRAC) methodology to:

- calculate economic capital consumption and return for business units, segments, portfolios and customers, to optimize capital allocation;
- measure units' management through budgetary monitoring of capital consumption and RoRAC; and
- analyse and set prices to make decisions on operations (approvals) and customers (monitoring).

The RoRAC methodology helps us compare the return on operations, customers, portfolios and businesses on a like-for-like basis. We can identify what is obtaining a risk-adjusted return higher than its cost of capital and thus align risk and business management to maximize economic value added (EVA), which is senior management's ultimate goal.

We regularly assess the level and progression of EVA and RoRAC across the Group. EVA is the profit generated above the cost of economic capital employed, and is calculated as follows:

Economic Value Added = underlying consolidated profit – (average economic capital x cost of capital)

We calculate profit by making the necessary adjustments to consolidated profit to eliminate factors outside the ordinary course of business and obtain each subsidiary's underlying result for the year.

For internal management purposes, we analyse the impact of items that are not covered by our economic capital model but affect reserves without being included in the income statement.

The minimum return on capital a transaction must obtain is determined by the cost of capital (i.e. the minimum compensation required by shareholders). We calculate it by adding the premium shareholders demand to invest in Santander to the risk-free return. The premium depends essentially on the degree of volatility in our share price with respect to market performance. Santander's cost of capital in 2022 was 11.2% (compared to 10.1% in 2021).

On top of reviewing the cost of capital every year, we also estimate a cost of capital for each business unit based on its features (under the philosophy that subsidiaries manage capital and liquidity autonomously) to determine whether each business is capable of creating standalone value.

If a transaction or portfolio obtains a positive return, it contributes to our profits, but only adds economic value when that return exceeds the cost of capital.

This table shows economic value added and RoRAC of the Group's main geographical segments at the end of December 2022. The figures reflect the economic value added in all the main segments:

Economic Value Added[A] and RoRAC

EUR million

	2022		2021	
Main segments	**RoRAC**	**EVA**	**RoRAC**	**EVA**
Europe	16.1%	1,493	12.7%	631
North America	24.4%	1,582	34.6%	2,542
South America	24.1%	1,299	25.4%	1,323
Digital Consumer Bank	26.2%	1,043	28.1%	1,053
Total Group	**14.5%**	**2,446**	**14.2%**	**2,969**

Note: The 2021 economic capital requirements in this table have been recalculated based on the 2022 methodology to facilitate their comparison.

A. The economic value added is calculated with the cost of capital of each unit. The Group's total RoRAC includes the operating units and the Corporate Centre, reflecting the Group's economic capital and its return.

Capital planning and stress tests

Capital stress test exercises are a key tool in banks' dynamic assessments of their risks and solvency. These forward-looking reviews are based on unlikely-but-plausible macroeconomic and idiosyncratic scenarios. They require robust planning models that can translate the effects defined in the projected scenarios to elements that affect solvency.

The ultimate aim of these exercises is to assess risks and solvency thoroughly to determine capital requirements if a bank fails to meet its regulatory and internal capital objectives.

Santander has an internal capital stress and planning process to respond to various regulatory exercises and is a key tool integrated within management and strategy. They aim to ensure sufficient current and future capital, even in unlikely-but-plausible economic scenarios. We estimate results in various business environments (including severe recessions as well as expected macroeconomic environments), based on our initial situation (financial statements, capital base, risk parameters and regulatory and economic ratios) to determine our solvency ratios, usually for a three-year period.

Planning offers a comprehensive view of our capital for the analysed period and in each of the defined scenarios based on regulatory capital and economic capital metrics.

This chart describes the structure in place:

1	**Macroeconomic scenario**	• **Central and recession** • **Idiosyncratic:** based on specific risks the entity faces • **Multi-year** horizon • **Reverse stress tests**
2	**Balance sheet and income statement forecasts**	• Projection of **volumes**. Business **strategy** • **Margins** and **funding costs** • **Fees** and operating **expenses** • **Market** shocks and **operational** losses • Credit losses and **provisions**. PIT LGD and PD models • IFRS 9 models and migration among stages
3	**Capital requirements forecasts**	• **Consistent** with projected **balance sheet** • **Regulatory and economic risk parameters** (PD, LGD and EAD)
4	**Solvency analysis**	• Available **capital base**. Profits and dividends • **Regulatory and legislative impacts** • **Capital and solvency ratios** • **Compliance** with capital **objectives** • **Regulatory and economic view**
5	**Action plan**	• In the event of failure to comply with internal objectives or regulatory requirements

This structure supports the ultimate objective of capital planning, by making it an important strategic component that:

- ensures current and future solvency, even in adverse economic scenarios;
- facilitates communication with the market and supervisors;
- ensures comprehensive capital management, analyses specific effects and integrates them into strategic planning;
- enables a more efficient use of capital; and
- helps formulate capital management strategy.

Senior managers are fully involved in and closely oversee capital planning under a framework that ensures proper governance and is subject to the robust challenge, review and analysis.

In capital planning and stress analysis exercises, calculating the required provisions under stress scenarios is key, especially to cover losses on credit portfolios and is particularly important for income statement forecasts under adverse scenarios.

To calculate loan-loss provisions of the credit portfolio, we use a methodology that ensures provisions cover loan losses projected by internal expected loss models, based on exposure at default (EAD), probability of default (PD) and loss given default (LGD parameters), at all times.

In 2018, we adapted this methodology to incorporate changes brought in by the new IFRS 9 regulations, with models to calculate balances by stages (S1, S2, S3) as well as the movements between them and the loan-loss provisions in accordance with the new standards.

Our capital planning and stress analysis culminate in an analysis of solvency under various scenarios over a set period to measure capital adequacy and ensure we meet all internal capital and regulatory requirements.

Should we fail to meet our capital objectives, we would draw up an action plan with the measures needed to attain the minimum capital desired. We analyse and quantify those measures as part of internal exercises even if we don't need to use them as we exceed the minimum capital thresholds.

Santander carries out its internal stress and capital planning transversally throughout the Group, at the consolidated and local level. Our subsidiaries use it as an internal management tool, particularly to respond to local regulatory requirements.

We have undergone eight external stress tests since the beginning of the economic crisis in 2008. All proved our strength and solvency in the most extreme and severe macroeconomic scenarios showing that, owing to our business model and geographic diversification, we would still be capable of generating a profit for shareholders while satisfying the most demanding regulatory requirements.

The ECB determines and sets Pillar 2 Guidance (P2G) according to the results of the adverse scenario in these supervisory stress tests, including the EU-level stress tests carried out by the EBA. When determining the P2G, the ECB considers the maximum impact expected on the CET1 ratio, which, for this purpose, is the difference between the lowest CET1 ratio in the adverse scenario over the projection horizon and the real CET1 ratio at the starting point.

We have also conducted internal stress tests every year since 2008 as part of our ICAAP (Basel Pillar 2). Every test has proven our capacity to confront the most difficult exercises globally and locally. We carry out these capital planning processes using tools shared throughout the Group.

Due to the special situation resulting from the covid-19 pandemic, capital planning capacities and stress tests enabled us to analyse various pandemic scenarios and ensure capital adequacy in each of them.

We incorporate an analysis of the potential impact of climate risks (transition risk and physical risk) into internal stress exercises in addition to expressly considering them in the macroeconomic scenarios definitions, in line with industry best practices and supervisory expectations.

In 2022, Santander participated in the ECB's first climate risk stress test comprising three parts: first, the supervisor assessed entities' internal capacities; second, the entities provided information on their main customers' emissions and revenue shares by activity sector to the supervisor; and third, the ECB made projections under various transition risk, heat wave risk and flood risk scenarios. The ECB published aggregate results for the industry as a whole.

Total Loss-Absorbing Capacity (TLAC) and Minimum Requirement for own funds and Eligible Liabilities (MREL)

In November 2015, the FSB published the TLAC term sheet based on the previously published principles for crisis management frameworks. It aims to ensure global systemically important banks (G-SIBs) will have the capacity to absorb losses and recapitalize as required to maintain critical functions during and immediately after resolution proceedings without compromising customer funds, public funds or financial stability.

The TLAC term sheet requires each G-SIB to have an individually set minimum TLAC level that is the greater of 18% of risk-weighted assets or 6.75% of the Basel III Tier 1 leverage ratio exposure from 1 January 2022.

Some jurisdictions have already transposed the TLAC term sheet into law (as is the case in Europe, in the US and in Mexico as of 1 January 2023); however, other jurisdictions where we operate (e.g. Brazil) have yet to do so.

In Europe, the final texts of CRR 2 and BRRD 2, which amend the resolution framework, were published in June 2019. One of the main objectives of this revision was to implement the TLAC requirement in Europe.

The CRR 2, which came into force in June 2019, dictates the 18% minimum requirement for G-SIBs as set in the TLAC term sheet. It must be made up of subordinated liabilities (with the exception of a percentage of senior debt of 3.5%).

As of 31 December 2022, the TLAC of the resolution group headed by Banco Santander, S.A. stood at 24.81% of risk-weighted assets and 8.79% of the leverage ratio exposure.

The BRRD 2 was transposed into law in Spain in 2021.

G-SIBs also have a Pillar 2 requirement in addition to the minimum CRR requirement, owing to the MREL methodology in the BRRD 2.

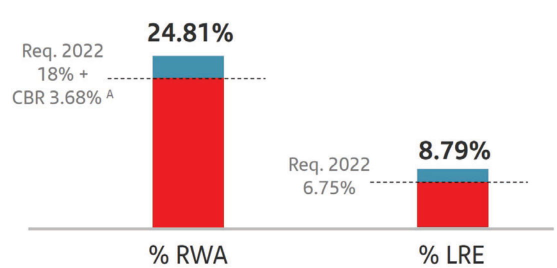
In May 2022, Banco de España formally communicated the (binding) MREL requirement for the Banco Santander, S.A. Resolution Group (sub-consolidated), which needed be met from 1 January 2022. It was set at the highest of 28.95% of the Resolution Group's RWAs[1] and 13.20% of the Resolution Group's leverage ratio exposure, based on 31 December 2020 data.

As of 31 December 2022, Banco Santander, S.A. met its MREL requirements having issued eligible instruments during the year, specifically 38.01% of RWAs and 16.32% of the leverage ratio exposure.

Of the total MREL requirement, a minimum subordination level was fixed as the highest of 9.04% of RWAs and 6.02% of the leverage ratio exposure. However, the Resolution Group's minimum subordination is determined by TLAC, not by MREL, as the TLAC subordination requirement is greater. In December 2022, the MREL subordinated figures of the Resolution Group headed by Banco Santander, S.A. were 32.36% and 13.90%, respectively.

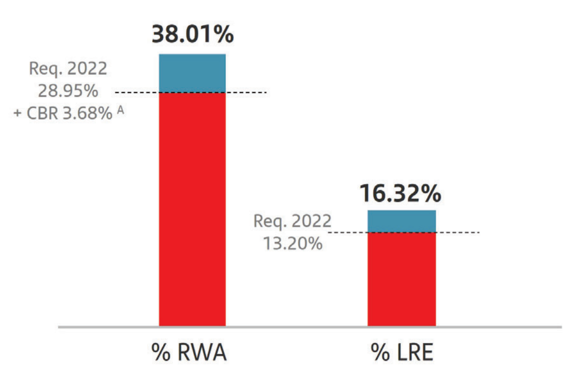
TLAC 2022

%



MREL 2022

%



A. CBR: Combined Buffer Requirement, comprising a capital conservation buffer (2.5%), a G-SII buffer (1%) and a countercyclical capital buffer (0.18%).

1. When the requirement is set in terms of RWAs, the CET1 used to cover the combined capital buffers cannot be used to comply with the MREL requirement at the same time.

3.6 Special situations and resolution

Corporate special situations and resolution framework, crisis management, recovery and resolution planning

This section summarizes the main developments in the year relating to: (i) preparing and strengthening mechanisms for a potential crisis; (ii) recovery plans; and (iii) preparing and executing initiatives to improve resolvability plans.

Corporate framework for special situations and resolution

The framework enables our units to aggregate and clearly interpret the various mechanisms for monitoring, escalating and managing both financial and non-financial events as well as governance. It helps link the action plans (e.g. contingency plans, business continuity plans, recovery plan) to be executed in each phase.

We base crisis governance on a collective decision-making model, that is organized into and operated under severity levels to facilitate flexibility and sequential decision-making. For instance, in the most severe stages of a hypothetical crisis, the 'Gold committee', composed of the Group's top executives, supported by the 'Silver forum' and other specialist 'Bronze teams', would be the leading decision-making body.

The framework aims to encourage the sharing of best practices across the Group and continuous collaboration between subsidiaries and corporate teams (including coordination in the recovery and resolution planning phases) to continue to develop our management and control model in the most effective way.

Following the Banco Santander, S.A. board of directors' ratification of the corporate special situations and resolution framework in Q2 2021, in 2022:

- All country units adhered to the framework and transposed the reference regulatory tree. Modifications were limited to local laws and regulatory requirements. We carried out several training exercises with corporate and subsidiary governance bodies to promote the necessary dissemination of the changes and collaborative discussions.
- We reinforced crisis prevention mechanisms by:
  - setting up a working group, which meets regularly to identify and react to threats early;
  - carrying out a new simulation exercise (involving local units) to be better prepared for stress situations; and
  - strengthening the mechanisms for reporting to crisis governance bodies, with a new dashboard and a tool for monitoring static and forward-looking crisis management indicators (Special Situation Tool).
- Regardless of the management of more local events, these changes introduced to the new crisis management framework proved effective in the wake of the impacts of the war in Ukraine on energy supply, supply chains, refugees and humanitarian aid:
  - We encouraged coordination with subsidiaries through crisis governance bodies (e.g. global Silver forum) or via the recurring issuance of corporate guidelines.
  - We improved our ability to respond quickly and proactively to critical events by way of the Bronze-level Event Response Group (ERG).
  - We simplified our decision-making process (e.g. approval of 2022 objectives and guidance) and escalation process between crisis management and statutory government bodies (e.g. board of directors and executive committee).
- During 2022, in crisis prevention and management, we continued to implement the new regulatory tree and fulfilled the agreed actions arising from the 'lessons learned from covid-19' exercise. We also responded effectively to global uncertainties (e.g. arising from the war in Ukraine) and local events.

Recovery plans

Context. Santander drew up its thirteenth corporate recovery plan in 2022. It sets out measures we have at our disposal to survive a very severe crisis without extraordinary public aid, in accordance with article 5.3 of the BRRD.

Its primary aim is to test the feasibility, effectiveness and credibility of the recovery measures as well as the suitability of the recovery indicators and their respective thresholds, above which decision-making will be escalated to cope with stress situations.

It sets out macroeconomic and financial crisis scenarios that could materialize in idiosyncratic, systemic and combined events that could lead the Group to trigger the plan.

The recovery plan should not be considered an instrument separate from our structural mechanisms to measure, manage and supervise risk. It includes the risk appetite framework (RAF), the risk appetite statement (RAS), the risk profile assessment (RPA), the business continuity management system (BCMS), the internal assessments of capital and liquidity (ICAAP and ILAAP) and other tools. It is also integrated into the Group's strategic plans.

Progress in 2022. In May, the ECB sent the CEO a letter indicating the end of the operational relief offered for the last two years in response to the covid-19 pandemic. The ECB asked that we include four new scenarios considering the implications of the war in Ukraine and that in the idiosyncratic scenario we include a cyber incident as a source of severe financial implications.

Like every year, the document fully covered all of the ECB's recommendations. Specifically:

- new indicators to meet the EBA's Guidelines on recovery plan indicators under Article 9 of Directive 2014/59/EU, published in November 2021;
- more extreme scenarios so that the systemic and combined scenarios break the red threshold (9% CET1);
- four stress scenarios to meet regulatory requirements: idiosyncratic, regional, global and combined (global crisis plus idiosyncratic);
- impact estimation on a larger number of indicators, mainly MREL and TLAC; and
- new recovery measures.

The key takeaways from our review of the 2022 corporate plan were:

- no material interdependencies between main subsidiaries;
- ample recovery capacity in all scenarios through available measures. Our geographic diversification model is a great benefit from a recovery standpoint;
- sufficient capacity in each subsidiary to emerge from a recovery situation on its own, which strengthens capital and liquidity within our autonomous subsidiaries model;
- sufficiently robust governance to manage financial and non-financial stresses that vary in nature and intensity; and
- amid a serious financial or solvency crisis, no subsidiary is important enough to trigger the corporate plan by causing the severest recovery indicator levels to be breached.

These factors prove our business model and geographic diversification strategy (based on autonomous subsidiaries) would remain firm in a recovery situation.

Regulation and governance. Santander's recovery plan complies with EU regulations and follows the non-binding recommendations of the Financial Stability Board (FSB) and other international bodies.

We submitted our latest plan to the Single Supervisory Mechanism in October 2022; the EBA has six months to make formal considerations.

It comprises the corporate plan (Banco Santander, S.A.) and local plans for the UK, Brazil, Mexico, the US, Germany, Argentina, Chile, Portugal, Norway and a recovery plan summary for Poland (as required). All subsidiaries (except Santander Chile and SC Germany) must draw up a local plan in compliance with local regulations and corporate requirements.

Though the board of Banco Santander, S.A. approves the corporate plan, relevant content and figures are submitted to and discussed by the Silver forum, Gold committee, risk control committee and the risk supervision, regulation and compliance committee beforehand. Local plans are approved by local bodies in coordination with the Group (as they are included in the corporate plan).

Resolution plans

Santander cooperates with the relevant authorities to prepare resolution plans and provides them with all information they request[1]. The members of the Crisis Management Group (CMG) upheld their decision on our Multiple Point of Entry (MPE) strategy to be used in a hypothetical resolution.

This strategy is consistent with our legal and business structure, which is organized into twelve resolution groups that can be resolved independently without involving other parts of the organization, given the low level of interconnection.

Meetings with the Single Resolution Board (SRB) and its working priorities letters confirmed that there are no substantial impediments to Banco Santander, S.A.'s resolvability. However, this will have to be confirmed in December 2023 (when banks must have reached full resolvability). In fact, the SRB highlighted the significant progress the Group has made in recent years to improve its resolvability.

In 2022, we prepared the multi-annual work plan to achieve resolvability. Banco Santander, S.A.'s board of directors approved it in January 2023, prior to its definitive submission to the SRB and in which the following actions, among others, were defined:

1. With the exception of Santander US whose resolution plans correspond to the individual entities.

1) Ensure we establish processes and develop capabilities to measure and report liquidity needs in resolution and complete the data template to report on the liquidity situation during resolution.

In 2021, we identified key liquidity entities (KLEs) that provide liquidity to other entities in the Group, depend on the liquidity received from other entities in the Group or perform liquidity management functions for the resolution group.

We also identified the key liquidity drivers in resolution, which could trigger a substantial change or deterioration in the bank's liquidity position in resolution.

We developed a methodology to identify, process and analyse relevant data to estimate the liquidity position in resolution.

In 2022, we focused on identifying and mobilizing optimal collateral to obtain liquidity in a recovery situation.

2) Demonstrate the separability of relevant subsidiaries in the Banco Santander, S.A. resolution group.

This analysis must incorporate an assessment of potential risks to operational and business continuity.

3) In 2022, G-SIBs were required to analyse the impact of reducing the trading portfolio to its base minimum in a resolution and during the post-resolution phase, to avoid potential contagion effects in the financial system.

An operational manual or playbook detailing the governance complemented this analysis. In 2023, we expect to incorporate this analysis into our systems (Steady-State) and test its robustness on an annual basis.

4) In 2022, we carried out a comprehensive analysis on the loss transfer mechanism and simultaneous recapitalization between relevant subsidiaries with internal MREL and Banco Santander, S.A., as the entry point for the resolution group.

We complemented this analysis with a quantitative simulation and then each subsidiary prepared an individual playbook incorporating this process. In 2023, we aim to further develop this playbook and test this mechanism during the planned dry run.

5) In 2022, the resolution group drafted a preliminary version of its restructuring plan in a post-resolution phase, to ensure its viability after resolution.

This analysis consisted of a comprehensive individual assessment of the business lines, activities, business model and international footprint to outline the core bank's post-resolution objectives. In addition, the analysis included an assessment of each our recovery measures and others that complemented this analysis.

In 2023, Santander is expected to further detail an optimal mix of measures and quantify its total capacity through projections.

6) Ensure information systems can quickly provide the high-quality information required in resolution.

We enhanced and automized our governance of information provided to the resolution authority for drawing up resolution plans, including these projects in 2022:

- automation of Santander Consumer Finance's liability data report and additional liability report;
- automation of Banco Santander, S.A.'s TLAC/MREL reports;
- automated production of the necessary data to carry out a valuation exercise in resolution;
- automated production of the dataset for bail-in (simulation);
- a dry run generating the MIS information; and
- a self-assessment of our ability to generate asset information on a selected number of portfolios for each of the Group's material entities.

In 2023, we expect to focus on enhancing automation through dry runs, testing and template development.

7) Guarantee operational continuity in resolution situations.

In 2022, we identified the essential services that support core business lines, as well as their operational assets and critical personnel. We also redrafted any service contracts that did not contain the operational continuity clause.

We continued to work on making contingency plans for market infrastructure services more operational and executive.

We addressed the development of retention and succession plans.

8) Foster a culture of resolvability.

Santander continued to involve more senior managers in resolution planning. We escalated the three-year plan, which includes the resolution work streams, to the board. We also reported on progress to such high-level committees as the Gold committee, Silver forum, and other bodies. In 2022, senior management received training and completed the first governance-level resolution simulation. The CEO was appointed as the highest resolution officer.

4. Financial information by segment

4.1 Description of segments

We base segment reporting on financial information presented to the chief operating decision maker, which excludes certain statutory results items that distort year-on-year comparisons and are not considered for management reporting. This financial information (underlying basis) is computed by adjusting reported results for the effects of certain gains and losses (capital gains, write-downs, impairment of goodwill, etc.). These gains and losses are items that management and investors ordinarily identify and consider separately to better understand the underlying trends in the business (see also note 51.c to the Santander financial statements).

Santander has aligned the information in this chapter with the underlying information used internally for management reporting and with that presented in the Group's other public documents.

Santander's executive committee has been selected to be its chief operating decision maker. The Group's operating segments reflect its organizational and managerial structures. The executive committee reviews internal reporting based on these segments to assess performance and allocate resources.

The segments are split by geographic area in which profits are earned or by type of business. We prepare the information by aggregating the figures for Santander’s various geographic areas and business units, relating it to both the accounting data of the business units integrated in each segment and that provided by management information systems. The same general principles as those used in the Group are applied.

With the aim of increasing transparency and improving capital allocation to continue enhancing our profitability, on 4 April 2022, we announced that, starting and effective with the financial information for the first quarter of 2022, inclusive, we would make a change in the reportable segments.

a. Main changes in the composition of Santander's segments made in April 2022

The main changes, which have been applied to management information for all periods included in the consolidated financial statements, are the following:

1. Reallocation of certain financial costs from the Corporate Centre to the country units:
   - Further clarity in the MREL/TLAC regulation makes it possible to better allocate the cost of eligible debt issuances to the country units.
   - Other financial costs, primarily associated with the cost of funding the excess capital held by the country units above the Group's CET1 ratio, have been reassigned accordingly.
2. Downsizing of Other Europe:
   - The Corporate & Investment Banking branches of Banco Santander, S.A. in Europe and other business lines previously reported under 'Other Europe' have been now integrated into the Spain unit to reflect how the business was managed and supervised, in line with other regions.

The Group recast the corresponding information of earlier periods to 2022 considering the changes included in this section to facilitate a like-for-like comparison.

In addition to these changes, we completed the usual annual adjustment of the perimeter of the Global Customer Relationship Model between Retail Banking and Santander Corporate & Investment Banking and between Retail Banking and Wealth Management & Insurance.

The above-mentioned changes have no impact on the Group's reported consolidated financial figures.

b. Current composition of Group segments

Primary segments

This primary level of segmentation, which is based on the Group's management structure, comprises five reportable segments: four operating areas plus the Corporate Centre. The operating areas are:

Europe: which comprises all business activity carried out in the region, except that included in Digital Consumer Bank. Detailed financial information is provided on Spain, the UK, Portugal and Poland.

North America: which comprises all the business activities carried out in Mexico and the US, which includes the holding company (SHUSA) and the businesses of Santander Bank, Santander Consumer USA (SC USA), the specialized business unit Banco Santander International, Santander Investment Securities (SIS), the New York branch and Amherst Pierpont Securities (APS).

South America: includes all the financial activities carried out by Santander through its banks and subsidiary banks in the region. Detailed information is provided on Brazil, Chile, Argentina, Uruguay, Peru and Colombia.

Digital Consumer Bank: includes Santander Consumer Finance, which incorporates the entire consumer finance business in Europe, Openbank and ODS.

Secondary segments

At this secondary level, Santander is structured into Retail Banking, Santander Corporate & Investment Banking (SCIB), Wealth Management & Insurance (WM&I) and PagoNxt.

Retail Banking: this covers all customer banking businesses, including consumer finance, except those of corporate banking which are managed through SCIB, asset management, private banking and insurance, which are managed by WM&I. The results of the hedging positions in each country are also included, conducted within the sphere of their respective assets and liabilities committees.

Santander Corporate & Investment Banking: this business reflects revenue from global corporate banking, investment banking and markets worldwide including treasuries managed globally (always after the appropriate distribution with Retail Banking customers), as well as equity business.

Wealth Management & Insurance: includes the asset management business (Santander Asset Management), the corporate unit of Private Banking and International Private Banking in Miami and Switzerland and the insurance business (Santander Insurance).

PagoNxt: this includes digital payment solutions, providing global technology solutions for our banks and new customers in the open market. It is structured in four businesses: Merchant Acquiring, International Trade, Payments and Consumer.

In addition to these operating units, both primary and secondary segments, the Group continues to maintain the area of **Corporate Centre**, that includes the centralized activities relating to equity stakes in financial companies, financial management of the structural exchange rate position, assumed within the sphere of the Group's assets and liabilities committee, as well as management of liquidity and of shareholders' equity via issuances.

As the Group's holding entity, this area manages all capital and reserves and allocations of capital and liquidity with the rest of businesses. It also incorporates goodwill impairment but not the costs related to the Group's central services (charged to the areas), except for corporate and institutional expenses related to the Group's functioning.

The businesses included in each of the primary segments in this report and the accounting principles under which their results are presented here may differ from the businesses included and accounting principles applied in the financial information separately prepared and disclosed by our subsidiaries (some of which are publicly listed) which in name or geographical description may seem to correspond to the business areas covered in this report. Accordingly, the results of operations and trends shown for our business areas in this document may differ materially from those of such subsidiaries.

As described in section 3 'Group financial performance' above, the results of our business areas presented below are provided on the basis of underlying results only and generally including the impact of foreign exchange rate fluctuations. However, for a better understanding of the changes in the performance of our business segments, we also provide and discuss the year-on-year changes to our results excluding such exchange rate impacts.

The statements included in this section regarding Santander's competitiveness and that of its subsidiaries have been produced by the Group based on public information (corporate websites of competing entities and information published by national banking institutions).

4.2 Summary of the Group's main business areas' income statements

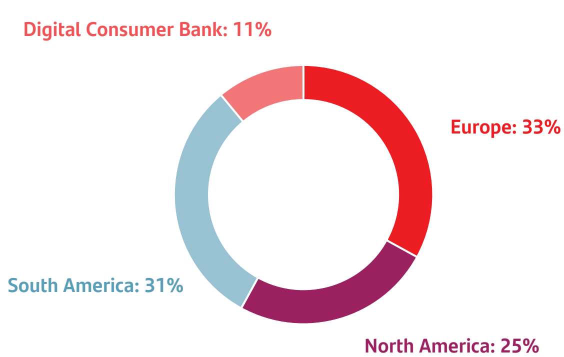
2022

Main items of the underlying income statement
EUR million

Primary segments	Net interest income	Net fee income	Total income	Net operating income	Profit before tax	Underlying profit attributable to the parent
Europe	**12,565**	**4,493**	**18,030**	**9,507**	**5,482**	**3,810**
Spain	4,539	2,818	8,233	4,236	2,079	1,560
United Kingdom	4,992	390	5,418	2,733	1,900	1,395
Portugal	747	484	1,295	793	775	534
Poland	1,976	528	2,474	1,782	789	364
Other	312	273	609	(38)	(61)	(42)
North America	**9,705**	**1,958**	**12,316**	**6,445**	**3,790**	**2,878**
US	6,140	771	7,623	4,025	2,261	1,784
Mexico	3,565	1,140	4,623	2,547	1,665	1,213
Other	0	47	70	(126)	(137)	(119)
South America	**12,979**	**4,515**	**18,025**	**11,350**	**5,764**	**3,658**
Brazil	8,901	3,296	12,910	8,730	4,055	2,544
Chile	1,772	468	2,449	1,468	1,062	677
Argentina	1,778	542	1,833	846	443	324
Other	527	210	832	306	205	112
Digital Consumer Bank	**4,022**	**843**	**5,269**	**2,807**	**2,237**	1,308
Corporate Centre	**(652)**	**(19)**	**(1,487)**	**(1,858)**	**(2,022)**	**(2,049)**
TOTAL GROUP	**38,619**	**11,790**	**52,154**	**28,251**	**15,250**	**9,605**
Secondary segments						
Retail Banking	**34,880**	**7,650**	**42,684**	**24,116**	**11,772**	**7,946**
Corporate & Investment Banking	**3,544**	**1,988**	**7,395**	**4,497**	**4,115**	**2,805**
Wealth Management & Insurance	**825**	**1,291**	**2,608**	**1,566**	**1,526**	**1,118**
PagoNxt	**22**	**881**	**953**	**(71)**	**(141)**	**(215)**
Corporate Centre	**(652)**	**(19)**	**(1,487)**	**(1,858)**	**(2,022)**	**(2,049)**
TOTAL GROUP	**38,619**	**11,790**	**52,154**	**28,251**	**15,250**	**9,605**

Underlying profit attributable to the parent distribution

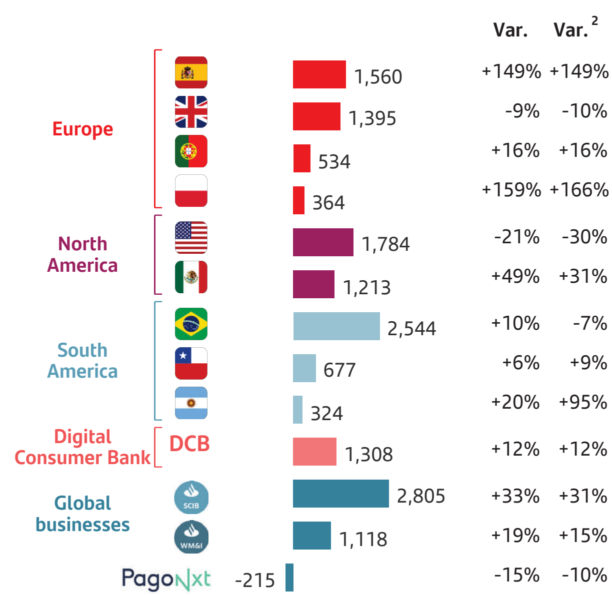
Distribution[1] by primary segment. 2022



1. As a % of operating areas. Excluding the Corporate Centre.

Underlying profit attributable to the parent. 2022

EUR million. % change YoY



2. Changes in constant euros.

2021

Main items of the underlying income statement
EUR million

Primary segments	Net interest income	Net fee income	Total income	Net operating income	Profit before tax	Underlying profit attributable to the parent
Europe	**10,574**	**4,344**	**15,934**	**7,615**	**4,034**	**2,750**
Spain	4,166	2,789	7,748	3,696	863	627
United Kingdom	4,383	434	4,815	2,223	2,149	1,537
Portugal	722	441	1,313	750	685	462
Poland	1,020	518	1,617	955	351	140
Other	282	163	441	(9)	(15)	(16)
North America	**8,072**	**1,644**	**10,853**	**5,886**	**4,531**	**2,960**
US	5,298	782	7,277	4,080	3,546	2,252
Mexico	2,773	828	3,553	1,910	1,100	816
Other	—	34	23	(104)	(114)	(108)
South America	**11,307**	**3,721**	**15,337**	**9,958**	**6,232**	**3,317**
Brazil	7,867	2,728	10,876	7,641	4,610	2,320
Chile	1,982	394	2,455	1,513	1,156	636
Argentina	1,065	420	1,388	583	306	270
Other	393	179	618	221	160	91
Digital Consumer Bank	**4,041**	**821**	**5,099**	**2,694**	**1,973**	**1,164**
Corporate Centre	**(624)**	**(28)**	**(819)**	**(1,165)**	**(1,510)**	**(1,535)**
TOTAL GROUP	**33,370**	**10,502**	**46,404**	**24,989**	**15,260**	**8,654**

Secondary segments						
Retail Banking	**30,596**	**7,045**	**38,869**	**21,766**	**12,632**	**7,389**
Corporate & Investment Banking	**2,921**	**1,744**	**5,619**	**3,240**	**3,071**	**2,113**
Wealth Management & Insurance	**476**	**1,247**	**2,240**	**1,326**	**1,294**	**941**
PagoNxt	**1**	**493**	**495**	**(178)**	**(227)**	**(253)**
Corporate Centre	**(624)**	**(28)**	**(819)**	**(1,165)**	**(1,510)**	**(1,535)**
TOTAL GROUP	**33,370**	**10,502**	**46,404**	**24,989**	**15,260**	**8,654**

4.3 Primary segments

António Simões
Regional head of Europe

Europe

Underlying attributable profit
EUR 3,810 mn

"Europe continues to drive the fundamental transformation of our business. Having laid its foundations in 2021, we accelerated our transformation towards a more common operating model in 2022"

Strategy	Business performance[1]	Results[1]
We remain focused on **customer experience and service quality**, and on making the structural changes needed to develop a **common operating model for Europe**	**Loans and advances to customers were 3% higher**, with strong growth in individuals and CIB. **Customer funds grew 5%** driven mainly by **customer deposits**	**Underlying attributable profit rose 38%** year-on-year underpinned by NII growth, significant efficiency gains (despite inflation) and controlled cost of risk

1. In constant euros.

Strategy

Our aim is to create a better bank in Europe, that our customers and employees will feel a close connection with and to deliver sustainable value to shareholders and society. We aim to:

- grow our business by serving our customers better, focusing on capital efficient opportunities (including SCIB and WM&I), simplifying our mass market value proposition, improving customer experience and engaging with PagoNxt;
- make headway with our omnichannel strategy by redefining customer interaction, accelerating our digital transformation and maintaining close customer relationships through our teams; and
- create a common operating model in Europe to serve our businesses through shared technology platforms and services. This should enable us to become a more agile organization with one aligned team across Europe.

Our ongoing structural changes aim to deliver higher revenue, greater efficiency and significantly better customer experience.

In 2022, we accelerated our transformation by simplifying products, launching the common "Everyday Banking" value proposition in our four core markets, enhancing our common app (which we're currently rolling out in the UK) and digital marketing capabilities, and implementing a series of shared services across the region (e.g. 2LoD Cyber and Climate Risks, Costs and FCC). We delivered:

- sustainable business growth, increasing customer loyalty and revenue per customer. We built on our connectivity, accelerated our E2E digital transformation and improved customer and employee experience;
- strong cost discipline which led to a better efficiency ratio;
- solid risk management which allowed us to improve NPL and coverage ratios; and
- greater shareholder value, with an underlying RoTE of 9.3% (up from 6.8% in 2021).

Strategy by country in 2022:

Spain

We aligned our strategy with our priorities for Europe focusing on:

- sustained customer base improvement thanks to a simple, yet comprehensive, value proposition. We took further steps to unify our proposition in Europe (i.e. same account in all markets, common model of green cards) and leveraged our digital capabilities to develop new products (Home planner, roboadvisor, Santander Activa) and services (Santander Key);
- progress with product simplification and process automation (e.g. digital confirming, 100% digital onboarding) to enhance experience on all channels and reduce the cost to serve at the same time. Our app for individuals is the core of ONE APP, which we have rolled out in Portugal and Poland and will soon fully launch in the UK. In corporate digital banking, we transformed our channels into a work tool, making it easier for companies to carry out their daily business with value-added services that help them make decisions to run efficient operations; and
- proactive, forward-looking risk management that harnesses predictive models and optimizes repayment and recovery processes.

Our work during the year led to a marked improvement in NPS. *Global Banking & Finance Review* named us the Best Digital Bank in Spain in 2022 and we picked up the prize for the Most Innovative Corporate Banking App in Spain in 2022. These awards reflect our innovation model and the focus on technological and digital solutions as part of our transformation.

United Kingdom

We continued to focus on generating greater commercial opportunities in our core business areas (Homes, Everyday Banking and Corporate & Commercial Banking), while bolstering digitalization, simplification, efficiency and sustainable growth. In 2022:

- we leveraged the region's scale, capabilities and shared resources to boost mortgage lending and use of digital channels;
- we continued transforming the business to meet changing customer needs. For example, we launched products to help our customers manage their budgets; and
- we structurally improved efficiency through cost management.

Portugal

We continued to follow our selective growth strategy that focused on service quality and profitability. In 2022:

- we continued developing the commercial and digital transformation of our business to attract more customers and continue reducing the cost to serve;
- we maintained high and stable volumes of new mortgage lending (23% market share) and growth in digital and loyal customers; and
- we were named the Best Bank in Portugal by *Global Finance* and *World Finance*, due to outstanding customer service and innovation.

Loyal Customers	Europe	Spain	UK	Portugal	Poland
Thousands	**10,964**	3,083	4,566	934	2,379
YoY	**+6%**	+11%	3%	+9%	+6%

Digital Customers	Europe	Spain	UK	Portugal	Poland
Thousands	**17,450**	5,899	6,980	1,115	3,284
YoY	**+7%**	+9%	+5%	+11%	+10%

Poland

We focused on delivering the best customer and employee experience, digital acceleration, product and service simplification and profitable business growth. In 2022:

- we achieved our target to raise employee engagement and satisfaction in every quarter;
- we were recognized in important rankings. For example, Golden Bank considered us the Best Bank in Service Quality and second in Best in Personal Accounts and Mortgage Loans. We also ranked first for the second time in a row on the *Forbes* list of the Best Banks for SMEs;
- we were one of just six companies and the only financial institution to get the Equal Pay Certificate from the Business Center Club, a local organization of business owners; and
- we won the *Euromoney* award for CEE Best Bank for Corporate Responsibility, demonstrating that we are one of the most committed banks to ESG.

Business performance

Loans and advances to customers were flat year-on-year. In gross terms, minus reverse repurchase agreements and in constant euros, they rose 3%. We saw growth in individuals in all countries except Poland where interest rate spikes slowed mortgage lending. Of note was the strong growth in mortgages in Spain, Portugal and the UK.

Customer deposits increased 6% compared to 2021. Minus repurchase agreements and in constant euros, they were up 9%, with strong growth in CIB, SMEs and Individuals. In Individuals, demand deposits grew in Spain and Portugal, and time deposits were up in the UK and Poland as interest rate rises began to feed through to deposit rates.

Mutual funds decreased 13% in constant euros, impacted by higher interest rates across the board, particularly affecting business Poland, and by market volatility. However, we observed a slight recovery during Q4 2022 in some countries.

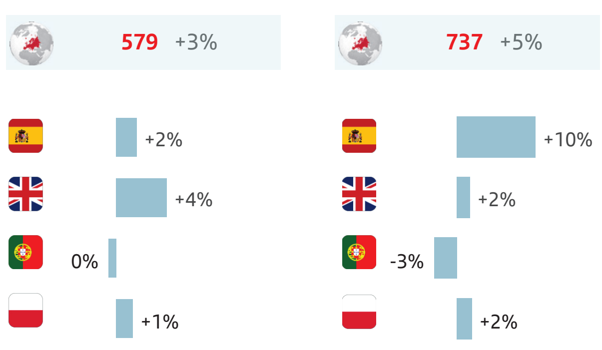
Results

Underlying attributable profit was EUR 3,810 million (33% of the Group's total operating areas). Year-on-year it was up 39% in euros, +38% in constant euros, as follows:

- Total income grew 13% mainly driven by net interest income which rose 19%, benefitting from higher volumes and interest rates and active spread management. Net fee income increased 3% spurred by greater activity and growth in WM&I and CIB.
- Despite higher inflation, increased activity and investments in IT, our costs rose just 2% (-7% in real terms). As a result, net operating income rose 25%.
- Net loan-loss provisions increased due to the normalization of provisioning in the UK, following releases in 2021, and CHF mortgage charges in Poland but was partially offset by the positive performance in Spain and Portugal which allowed us to maintain the cost of risk stable at 0.39%.
- Other gains (losses) and provisions increased 27%, mainly due to mortgage payment holidays in Poland, as well as the settlement agreed with the FCA in the UK regarding AML controls prior to 2017.

Europe. Business performance.

2022. EUR billion and YoY % change in constant euros



Gross loans and advances to customers minus reverse repos

Customer deposits minus repos + mutual funds

Europe. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %	/ 2021 % excl. FX
Revenue	18,030	15,934	+13	+13
Expenses	-8,523	-8,319	+2	+2
Net operating income	**9,507**	**7,615**	**+25**	**+25**
LLPs	-2,396	-2,293	+4	+5
PBT	5,482	4,034	+36	+35
Underlying attrib. profit	**3,810**	**2,750**	**+39**	**+38**

Detailed financial information in section 4.6 'Appendix'.

Spain

Underlying attributable profit
EUR 1,560 mn

Business performance

Despite the challenging macroeconomic environment, we increased our customer base more than 700 thousand in total recording growth in every quarter in 2022.

Loans and advances to customers rose 3% year-on-year. In gross terms, minus reverse repurchase agreements, growth was 2%.

In Individuals, we saw record mortgage origination in Q3 and sustained business dynamics in consumer finance and insurance during the year. In wholesale banking, we continued to lead the syndicated and leveraged finance market. In corporate lending, short-term financing reached record highs while demand for long-term loans fell.

Customer deposits increased 17% compared to 2021. Minus repurchase agreements, growth was 15%. Mutual funds decreased 10% due to financial market volatility. Customer funds rose 10%.

Results

Underlying attributable profit was EUR 1,560 million (13% of the Group's total operating areas), 149% higher than 2021. By line:

- Total income increased 6% propelled by growth in net interest income, on the back of higher volumes and interest rates starting to feed through in recent months. Net fee income increased slightly, driven by CIB.
- Administrative expenses and amortizations fell 1% as our operating model transformation more than offset both inflationary pressures and investment in wholesale banking. The efficiency ratio improved 3.7 percentage points to 48.6%.
- Net loan-loss provisions decreased strongly (-30%) and our NPL ratio also improved, up 145 basis points to 3.27%.
- Other gains (losses) and provisions was broadly unchanged.

Spain. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %
Revenue	8,233	7,748	+6
Expenses	-3,998	-4,052	-1
Net operating income	**4,236**	**3,696**	**+15**
LLPs	-1,618	-2,320	-30
PBT	2,079	863	+141
Underlying attrib. profit	**1,560**	**627**	**+149**

Detailed financial information in section 4.6 'Appendix'.

United Kingdom

Underlying attributable profit
EUR 1,395 mn

Business performance

Our transformation programme continues to deliver efficiency improvements through the simplification and digitalization of key processes.

Loans and advances to customers were 4% lower year-on-year. In gross terms, minus reverse repurchase agreements and in constant euros they grew 4% underpinned by strong mortgage growth. Net mortgage lending amounted to GBP 9.8 billion (GBP 35.5 billion gross new lending) in a robust housing market.

Customer deposits fell 5%. Minus repurchase agreements and in constant euros, both customer deposits and total customer funds increased 2%. We saw higher balances in customers' savings accounts supported by successful eSaver and ISA campaigns.

Results

Underlying attributable profit was EUR 1,395 million in 2022 (12% of the Group's total operating areas), 9% down on 2021 affected by the LLP normalization and the aforementioned settlement agreed with the FCA (EUR 127 million). In constant euros, underlying profit fell 10%. By line:

- Total income was up 12%, driven by strong net interest income growth (+13%) on the back of higher mortgage volumes and margin management in a rising interest rate environment.
- Administrative expenses and amortizations rose 3% driven by transformation spending and inflationary pressure. In real terms, costs were down 6%. Efficiency improved to 49.6% (-4.3 percentage points).
- Loan-loss provisions rose to EUR 316 million, leading to a cost of risk of 12 basis points. In 2021, we released provisions recorded in 2020.
- The negative impact from other gains (losses) and provisions increased year-on-year, due to such legal contingencies as the aforementioned settlement agreed with the FCA.

United Kingdom. Underlying income statement

EUR million and % change

			/ 2021	
	2022	2021	%	% excl. FX
Revenue	5,418	4,815	+13	+12
Expenses	-2,685	-2,592	+4	+3
Net operating income	**2,733**	**2,223**	**+23**	**+22**
LLPs	-316	245	—	—
PBT	1,900	2,149	-12	-12
Underlying attrib. profit	**1,395**	**1,537**	**-9**	**-10**

Detailed financial information in section 4.6 'Appendix'.

Portugal

Underlying attributable profit
EUR 534 mn

Business performance

Our ongoing commercial and digital transformation supported of our growth strategy. We improved our service quality, increased the number of loyal and digital customers and gained market share in Individuals, mainly due to high new mortgage lending.

Loans and advances to customers were flat year-on year (both net and in gross terms, minus reverse repurchase agreements).

On the other hand, customer deposits (both, including and minus repurchase agreements) fell 1%. Mutual funds decreased 17% driven by market conditions. As a result, customer funds fell 3% from the previous year.

Results

Underlying attributable profit was EUR 534 million (5% of the Group's total operating areas), up 16% year-on-year.

- Total income decreased 1%, affected by ALCO portfolio sales in 2021 but was boosted by a 10% increase in net fee income (transactional fees and mortgage lending). Net interest income rose 3%, driven, in recent months, by higher interest rates.
- Transformation initiatives enabled us to reduce administrative expenses and amortizations 11%. The efficiency ratio stood at 38.7%, among the best banks in Portugal.
- Conservative risk management in recent years, the change in portfolio mix and positive credit quality performance enabled us to maintain loan-loss provisions close to zero, improve NPL ratio to 3.0% and increase NPL coverage to 79%.
- Other gains (losses) and provisions was practically zero in the year compared to -EUR 26 million in 2021.

Poland

Underlying attributable profit
EUR 364 mn

Business performance

2022 was a challenging year for our business in Poland, as we focused on helping Ukrainian refugees from the war in Ukraine. We developed our strategic growth initiatives to improve our customer satisfaction through digitalization and simpler processes.

Loans and advances to customers were 1% down in the year. In gross terms, minus reverse repurchase agreements and in constant euros, however, they grew 1%. This was driven by increased demand from corporates and CIB. Mortgage volumes contracted 6% as rising interest rates reduced demand.

Customer deposits increased 4%, +6% minus repurchase agreements and in constant euros. There was strong growth in time deposits from Individuals and CIB. Mutual funds decreased 29% due to flows into time deposits and tough market conditions.

Results

Underlying attributable profit was EUR 364 million (3% of the Group's total operating areas). Year-on-year, profit grew 159%. In constant euros, it grew 166% as follows:

- Total revenue was 57% higher driven by NII which doubled on the back of higher volumes and rates and well controlled funding costs. Net fee income was up 5%, mainly boosted by transactional products.
- Administrative expenses and amortizations increased 7%, well below average inflation (14%).
- Loan-loss provisions grew sharply (+126%) by the recognition of CHF mortgage provisions in this line (previously recorded in other gains (losses) and provisions).
- Other gains (losses) and provisions recorded a EUR 553 million net loss due to mortgage payment holiday provisions (-EUR 327 million) and the contribution to the Borrower Support Fund.

Portugal. Underlying income statement

EUR million and % change

			/ 2021
	2022	2021	%
Revenue	1,295	1,313	-1
Expenses	-502	-563	-11
Net operating income	**793**	**750**	**+6**
LLPs	-17	-38	-55
PBT	775	685	+13
Underlying attrib. profit	**534**	**462**	**+16**

Detailed financial information in section 4.6 'Appendix'.

Poland. Underlying income statement

EUR million and % change

			/ 2021	
	2022	2021	%	% excl. FX
Revenue	2,474	1,617	+53	+57
Expenses	-692	-663	+4	+7
Net operating income	**1,782**	**955**	**+87**	**+92**
LLPs	-440	-200	+120	+126
PBT	789	351	+125	+131
Underlying attrib. profit	**364**	**140**	**+159**	**+166**

Detailed financial information in section 4.6 'Appendix'.

Héctor Grisi Checa
Regional head of North America[1]

North America

Underlying attributable profit
EUR 2,878 mn

"Our ongoing transformation leverages our global and regional network benefits to enrich digitalization, customer experience and efficiency, while expanding the business through initiatives to enhance profitability"

Strategy	Business performance[2]	Results
We continue **leveraging our own local individual strengths and capabilities** in Mexico and the US while **simplifying our regional business model** to generate efficiencies and profitable growth	**Loans and advances to customers** increased 9% driven by growth in Mexico and in CIB, CRE and Auto in the US. **Customer funds** rose 11%, boosted by time deposits	**Underlying attributable profit amounted to EUR 2,878 million,** down 3% YoY (-14% in constant euros), as normalization in the US offset the positive performance in Mexico

1. From a January 2023, Grupo Santander CEO.
2. In constant euros.

Strategy

We continued to pursue joint US-Mexico initiatives to:

- create synergies and reduce overlapping in our business model, by leveraging our regional capabilities and sharing best practices to optimize expenses and improve profitability;
- boost customer attraction and retention through loyalty strategies, expand our tailored services and products for a better and more straightforward customer experience. We are building on successful businesses and improved interactions to drive customer loyalty, NPS and customer experience; and
- strengthen a common and regional approach through strong collaboration between both countries and the Group, bringing together operations know-how, digitalization, hubs, front-office, back-office and other IT functions in North America.

We have been focusing on taking and expanding sustainable finance opportunities within our businesses, in line with our global responsible banking agenda and public commitments. Here are some of our achievements and operations in 2022:

- *Euromoney Magazine* named Santander Best Bank in the World for Financial Inclusion for the second consecutive year in recognition of our inclusion programmes (Tuiio and Prospera).
- Santander US released its first Environmental, Social and Governance (ESG) Report which highlighted our commitment to a sustainable future.
- Santander US issued its first sustainable bond for USD 500 million.
- We formalized green financing for the acquisition of 50 zero-emission buses for Mexico City's public transport service.

In line with our strategy to allocate capital to the most profitable businesses, in 2022:

- SHUSA completed the acquisition of the common stock of Santander Consumer USA (SC USA);
- Santander US completed the acquisition of Amherst Pierpont Securities, improving our strategic focus and competitiveness with greater cost synergies;
- Santander US discontinued mortgage and home equity originations to focus efforts on products, services and digital capabilities that have greater growth potential;
- the Group announced plans to repurchase the outstanding shares of Santander México that it does not already own (3.76%) and delist them from the Mexican and the New York Stock Exchanges. We expect to complete this transaction in 2023 once the relevant regulatory approvals have been obtained; and
- Santander US distributed USD 4.75 billion in dividends and reallocated capital from Home lending to more accretive businesses aligned with strategic goals.

Strategy by country in 2022:

United States

We refocused our business model towards a simpler, more integrated structure. It is based on four core segments (Consumer, Commercial, CIB and Wealth Management) prioritizing businesses that benefit from the Group's connectivity or have a distinct competitive scalable business advantage.

Our strategy for Santander US is anchored on three key pillars:

- simplification: reducing complexity and rationalizing products and services to make our operating model and governance simpler;
- transformation: driving distinctive positioning through digitalization;

  Santander US announced a multi-year programme to accelerate its new consumer banking digital transformation strategy; and
- profitable growth: growing the customer base in our Auto Consumer and Commercial Real Estate businesses and our globally connected CIB and Wealth business lines.

  In auto, origination channels continued to expand. We extended the Stellantis agreement to 2025, announced a new preferred finance partnership with Mitsubishi Motors North America (MMNA) and transitioned over 13,000 dealers to our newly released digital portal.

Our key accomplishments include:

- **Consumer:** we progressed towards our objective of becoming a full spectrum auto lender while achieving significant improvement in customer satisfaction and experience.
- **Commercial:** we focused on improving profitability and disciplined capital allocation while supporting our well-established CRE/Multifamily franchise.
- **CIB**: we completed the APS acquisition to create a competitive structuring and distribution platform across multiple asset classes.
- **WM:** we integrated Crédit Agricole Indosuez in Miami and achieved a 35% return on investment one year after completing the transaction.

Mexico

Multichannel innovation and digital channel promotion enabled us to strengthen our value proposition with new products and services. We made headway with our customer attraction and loyalty strategy through commercial agreements, customer referrals and more customers who get their salary paid directly into a Santander account.

In cards, we continued to promote the LikeU credit card, with 822 thousand cards issued at year end. We continued to improve authorization and security procedures for better customer experience and fraud prevention. We also launched Cash Back Baby, the first loyalty programme that gives money back to customers for using their card at many retail outlets.

In mortgages, we launched products that fit our customers' needs based on the nature of their income and financial situation. In addition, our digital platform, Hipoteca Online, processed 97% of the mortgages formalized, with a more agile process.

In auto lending, we teamed up with Caranty to launch Caranty Credit, a digital car-buying and selling platform which is the only financing scheme in Mexico for private purchases of second hand vehicles directly from another individual. We also launched Mazda First, a new financial programme to help young people buy their first car.

In SMEs, we attracted new customers through commercial agreements in strategic sectors (restaurants and pharmacies). We strengthened our merchant acquiring business by offering state-of-the-art terminals (G-Mini, G-Advance, G-Smart and G-Store) that enable face-to-face sales and remote payment collection through payment links. Getnet has grown quickly. In 2020, we had a 14% market share (by number of transactions). By the end of 2022, our market share had grown to around 20% and is currently second in terms of payments volumes and transactions.

Finally, 65% of Tuiio customers noted an improvement in their lives, both personally and financially.

Loyal customers	North America	United States	Mexico
Thousands	**4,693**	365	4,328
YoY	**+10%**	-3%	+11%

Digital customers	North America	United States	Mexico
Thousands	**7,239**	1,037	6,029
YoY	**+7%**	0%	+9%

Business performance

Loans and advances to customers grew 25% year-on-year, partly favoured by the dollar appreciation. In gross terms, minus reverse repurchase agreements and in constant euros, they rose 9% boosted by consumer lending, credit cards, mortgages and auto loans in Mexico and auto lending, CIB and CRE in the US.

Customer deposits grew significantly compared to 2021 (+38%). Minus repurchase agreements and in constant euros, they grew 14%. This was driven by flows into interest-bearing deposits, as rates were higher across the region. Growth was concentrated in corporates in the US, but mainly in Individuals in Mexico as a result of our mix change strategy to control funding costs.

Mutual funds were flat in constant euros, due to the impact of higher rates and market volatility, partially offset by our efforts to grow our asset management business, especially in Mexico.

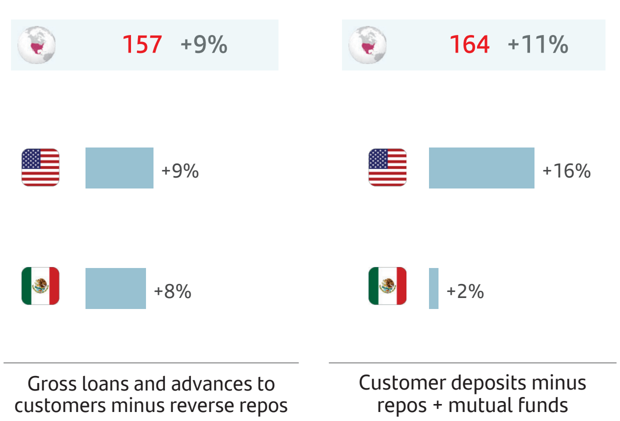
Results

Underlying attributable profit in 2022 was EUR 2,878 million (25% of the Group's total operating areas). Year-on-year, underlying attributable profit decreased 3%. However, profit fell 14% in constant euros, by line:

- Total income slightly increased (+1%), as net interest income and net fee income growth was largely offset by lower leasing revenue. NII rose 7% supported by higher interest rates and strong loan growth. Net fee income increased 6% driven by credit cards and insurance in Mexico. On the other hand, lease income decreased significantly in the US as higher used car prices increased the proportion of vehicles repurchased by dealers at lease end.
- Administrative expenses and amortizations rose 5%, well below inflation. Costs were higher in Mexico as we launched Getnet, investments in digitalization and faced higher-than-expected inflation. The US remained flat amid high inflation (8%).
- Net loan-loss provisions rose 85% reflecting the normalization of the cost of risk following US releases in 2021. Loan-loss provisions in Mexico decreased 12%, improving its cost of risk by 48 bps. In both countries, the loan-loss provision performance was better than expected at the beginning of the year.
- Other gains (losses) and provisions were less negative in 2022 mainly due to the early amortization of buildings and integration costs in the US in 2021.

North America. Business performance

EUR billion and YoY % change in constant euros. 2022



North America. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %	/ 2021 % excl. FX
Revenue	12,316	10,853	+13	+1
Expenses	-5,871	-4,967	+18	+5
Net operating income	**6,445**	**5,886**	**+9**	**-3**
LLPs	-2,538	-1,210	+110	+85
PBT	3,790	4,531	-16	-26
Underlying attrib. profit	**2,878**	**2,960**	**-3**	**-14**

Detailed financial information in section 4.6 'Appendix'.

United States

Underlying attributable profit
EUR 1,784 mn

Business performance

We focused on delivering strong and profitable growth while diversifying our business mix across the US. We significantly improved customer satisfaction and experience in consumer and mobile banking, and improved the profitability of our Commercial segment.

Loans and advances to customers increased 26% year-on-year. In gross terms, minus reverse repurchase agreements and in constant euros, they grew 9% year-on-year driven by Auto, CIB and CRE.

Customer deposits soared 49% year-on-year. Minus repurchase agreements and in constant euros, they grew 19%. Deposit costs were stable for much of 2022 but started to increase in Q4.

Mutual funds decreased 3% as higher rates drove funds to interest-bearing deposits and the negative performance in equity markets affected valuations.

Results

Underlying attributable profit remained high in the year at EUR 1,784 million (15% of the Group's total operating areas), though fell 21% year-on-year affected by releases in 2021. In constant euros, underlying profit fell 30%:

- Total income decreased 7% driven by home lending exit and by lower activity in capital markets, gains on lease disposition and fees from new Safety Net initiative. On the other hand, net interest income increased 3% due to the positive impact from higher loan balances and interest rates, partially offset by the increase in wholesale funding costs.
- Administrative expenses and amortizations were flat as investments in CIB and Wealth Management were offset by savings from transformation initiatives. In real terms, costs decreased 8%.
- Net loan-loss provisions increased due to the already mentioned normalization. Nonetheless, the cost of risk (1.35%) remained well below pre-pandemic levels.
- Other gains (losses) and provisions dropped to nearly zero, as there were no major items recorded.

United States. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %	/ 2021 % excl. FX
Revenue	7,623	7,277	+5	-7
Expenses	-3,599	-3,197	+13	0
Net operating income	**4,025**	**4,080**	**-1**	**-12**
LLPs	-1,744	-419	+316	+270
PBT	2,261	3,546	-36	-43
Underlying attrib. profit	**1,784**	**2,252**	**-21**	**-30**

Detailed financial information in section 4.6 'Appendix'.

Mexico

Underlying attributable profit
EUR 1,213 mn

Business performance

We strengthened our value-added products to increase customer loyalty. We developed different mortgage products, where we have high market share, maintained the momentum of the LikeU credit card and signed new agreements in auto.

Loans and advances to customers increased 21% year-on-year. In gross terms, minus reverse repurchase agreements and in constant euros, they climbed 8%, driven by loans to individuals (auto +43%, cards +21% and mortgages +10%). Lending to corporates and institutions rose 6% but fell 8% in SMEs.

Customer deposits grew 14% year-on-year. Minus repurchase agreements and in constant euros, they rose by 1%, driven by deposits from individuals, reflecting customer acquisition campaigns to control liability costs, and the success of our customer loyalty strategy. Mutual funds were up 3% in constant euros.

Results

Underlying attributable profit in 2022 was EUR 1,213 million (10% of the Group's total operating areas), 49% higher year-on-year. In constant euros, it increased 31%. By line:

- Total income rose 15%, boosted by net fee income (+21%) and net interest income (+13%, as a result of higher volumes and interest rates).
- Administrative expenses and amortizations increased 11%, affected by inflation at 8% and its effect on wages and investments in digitalization and technology.
- Net loan-loss provisions were down 12%, owing to the solid portfolio performance. The NPL ratio was 2.32% (-41 bps), cost of risk stood at 1.95% (-48 bps) and total coverage ratio was 107%.
- Other gains (losses) and provisions recorded a EUR 94 million loss compared to -EUR 22 million in 2021, due to higher provisions for legal and tax contingencies in 2022.

Mexico. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %	/ 2021 % excl. FX
Revenue	4,623	3,553	+30	+15
Expenses	-2,076	-1,643	+26	+11
Net operating income	**2,547**	**1,910**	**+33**	**+17**
LLPs	-788	-791	—	-12
PBT	1,665	1,100	+51	+33
Underlying attrib. profit	**1,213**	**816**	**+49**	**+31**

Detailed financial information in section 4.6 'Appendix'.

Carlos Rey
Regional head of South America

South America

Underlying attributable profit
EUR 3,658 mn

"Our focus remains on boosting profitability through greater connection between countries. By delivering profitable growth, we reaffirm our commitment to society, sustainability and shareholders"

Strategy	Business performance[1]	Results[1]
We continued with our strategy to strengthen **regional connectivity,** share best practices among countries and capture **new business opportunities** while maintaining high **profitability**	Year-on-year **growth** in **loans** and **deposits**, supported by innovative products and services. We continued to roll out **ESG** initiatives in the region	**Underlying attributable profit rose 10% year-on-year (+1% in constant euros)** driven by higher customer revenue and a lower tax burden

1. In constant euros.

Strategy

South America offers great growth potential, with opportunities for increasing banking penetration and financial inclusion. We continued to focus on widening our customer base and boosting digitalization, with new and innovative technology and solutions. Our strategy remained focused on generating synergies across business units:

- In **consumer finance**, we export positive experiences between our countries, such as a new and used vehicle management platform in Brazil and the consolidation of Cockpit in several countries. We expanded our digital strategy for consumer credit and used auto financing in Peru and Argentina. We remained well positioned in consumer credit in Uruguay. In Brazil, new auto business averaged more than BRL 2.4 billion per month and insurance sales were strong in Chile, through such digital platforms as Autocompara and Klare.

- In **payment methods**, we made progress with in our e-commerce strategies and in immediate domestic and international transfers. We consolidated Getnet, our successful acquiring model from Brazil, in other countries in the region. In Chile, Getnet is already one of our most known and popular brands and in Argentina, we are the second largest payment processing company. In Uruguay, we launched Getnet for SMEs, gaining a stronger foothold in the payments market.

- We continued to make headway in **joint initiatives between CIB and corporates** to deepen relations with multinational clients helping boost loyalty and customer capture in every country. In Peru, we offered more sophisticated products on the back of global and regional expertise. In Colombia, we remained part of the most important development-related transactions in the country. In Chile and Argentina, we continued to offer comprehensive solutions for our customers.

- We promoted **inclusive and sustainable businesses** through our ESG agenda in different niches, such as our micro-credit programme Prospera in Brazil (with 885,000 active customers), Colombia (in 425 municipalities) and Uruguay (more than 10,000 entrepreneurs). In Peru, we also promoted micro-credits through Surgir, with almost 63,000 customers (95% are women). In Uruguay, we continued to grant carbon-neutral loans for vehicle purchase. In Argentina, we launched lower interest rate loans for purchasing electric cars. In Brazil and Chile, we made progress with our solar energy loan proposition. In Chile, we remained leaders in Green Finance, and, in Brazil, we partnered with other companies to create Biomas, a company focused on the restoration, conservation and preservation of Brazilian biomes.

Our customer service enhancement initiatives and our expanded product and service proposition earned us a place in the top 3 in NPS in four markets, plus substantial customer growth in the region.

Main initiatives by **country in 2022**:

Brazil

Our strategy to become the best consumer credit company in Brazil rests on four pillars:

- customer focus: we strengthened our products and services to improve customer experience and satisfaction;
- more integrated and accessible sales channels: for example, in the physical channel, we continued to expand to strategic businesses; we had 541 million monthly hits on digital channels; and there were 10.3 million queries per month in the remote channel;
- innovation and capital: we focused on exploring new markets and innovative services through investment platforms, insurance and services for SMEs and large corporates. We continued to transform our investment platform, introducing a new advisory model with 592 advisors; and
- a horizontal culture that promotes empowerment, diversity and meritocracy, and prioritizes sustainable businesses that support the transition to a low-carbon economy.
- In ESG, we continued to lead the way in Green Finance. During the year we built six solar plants to increase the bank's renewable energy use.

Argentina

We remained focused on improving our customers experience, which enabled us to rank first in NPS for individual customer satisfaction.

- We made progress in digitalization with our open financial services platform. Our banking app remained the best rated among banks on iOS and Android.
- We strengthened Getnet's value proposition and held on to second place in payment processing in Argentina.
- We boosted consumer credit, ending the year with more than 1,000 member companies, 45,500 customers and 2,100 points of sale. We are leaders in auto lending with a 16% market share.
- In ESG, we supported the municipality of Córdoba in the first issuance of a green bond by a city and signed an agreement with Coradir for the purchase of electric vehicles.

Chile

Our strategy remained based on digital banking and better customer service. We increased loyal and digital customers, driven by Santander Life and Superdigital.

- In payment methods, we continued to develop our e-commerce and domestic and international transfer businesses. Consumer credit now accounts for 12% of total new business volumes.
- We continued to offer our corporate customers integrated financing, cash management and treasury solutions, which resulted in significantly higher revenue and profit in these segments.
- We launched the WorkCafé Startup, a new initiative to support startups with development and expansion.

Uruguay

We reaffirmed our leadership among privately-owned banks in Uruguay. Our business model allowed us to keep growing loyal customers. Consumer credit continued to expand, as we maintained our market leading position with a 30% share in new lending.

We made progress with digitalization, with the consolidation of SOY Santander, a fully-digital loyalty proposition for individuals, which already represents 40% of total card sales. We also launched F1RST, a new solution focused on innovation and security.

In addition, we were the best bank in Uruguay in the Great Place to Work (GPTW) ranking.

Loyal customers	South America	Brazil	Chile	Argentina	Other South America
Thousands	**11,473**	8,743	855	1,671	204
YoY	**+8%**	+9%	+3%	+5%	+21%

Digital customers	South America	Brazil	Chile	Argentina	Other South America
Thousands	**25,897**	20,405	1,982	2,867	643
YoY	**+9%**	+11%	-2%	+5%	+2%

Peru

We focused on global companies and the corporate segment, offering more sophisticated products. Our global and regional experience enabled us to develop new businesses (such as joint offers between SCIB and companies) and launch new products.

We are among the top three investment banks and, we have been leaders in mergers and acquisitions by volume of transactions for the last three years. We help distribute derivative instruments to reduce our customers' financial risk. In addition, our specialized auto finance company achieved a 32% market share.

Our NeoAuto platform, a digital marketplace for new and used auto financing, continued to expand. It had 1.7 million visits and more than 720,000 different users. We continued to digitalize our services and processes, with 90% of transactions processed digitally by our office banking and Nexus platforms.

Colombia

We continued to offer sustainable and inclusive financial solutions, and remained involved in the most important development-related transactions in Colombia, aided by joint CIB and corporate propositions.

In consumer finance, we strengthened our position in lending for new and used vehicles, with a 67% increase year-on-year.

In ESG, we increased our presence with Prospera, a fully-digital operation that processes payments in up to 24 hours. We continued to promote lending to entrepreneurs, with a significant percentage going to women, agricultural activities and charities.

Business performance

Loans and advances to customers climbed 17% year-on-year. Minus reverse repurchase agreements and in constant euros, gross loans were 10% higher, with increases in all countries.

Customer deposits rose 14% year-on-year. Minus repurchase agreements and in constant euros, they rose 5%, backed by time deposits (+13% year-on-year). Mutual funds were up 7% (in constant euros).

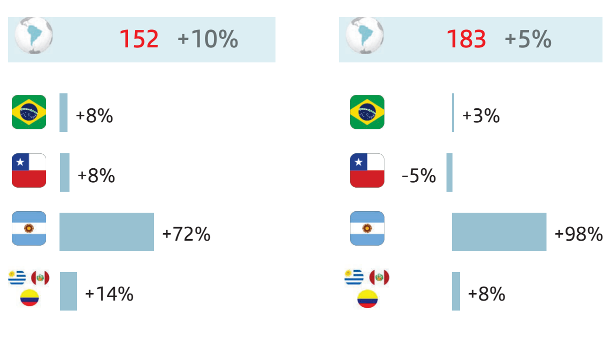
Results

Underlying attributable profit was EUR 3,658 million (31% of the Group's total operating areas), 10% higher year-on-year. In constant euros, it was up 1%, as follows:

- In total income, net interest income was 6% higher, net fee income increased 11% and gains on financial transactions also rose, with significant increases in all countries.
- Administrative expenses and amortizations increased 18%, heavily impacted by inflation. In real terms, costs decreased 1% owing to management efforts.
- Net loan-loss provisions rose by 37%, increasing across the region. The cost of risk was 3.32% (2.60% in December 2021).
- Greater loss in other income and provisions, mainly due to Argentina, partly offset by improved performance in Brazil.

South America. Business performance

EUR billion and YoY % change in constant euros. 2022



Gross loans and advances to customers minus reverse repos

Customer deposits minus repos + mutual funds

South America. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %	/ 2021 % excl. FX
Revenue	18,025	15,337	+18	+8
Expenses	-6,675	-5,380	+24	+18
Net operating income	**11,350**	**9,958**	**+14**	**+2**
LLPs	-5,041	-3,251	+55	+37
PBT	5,764	6,232	-8	-17
Underlying attrib. profit	**3,658**	**3,317**	**+10**	**+1**

Detailed financial information in section 4.6 'Appendix'.

Brazil

Underlying attributable profit
EUR 2,544 mn

Business performance

In Brazil, we remained focused on promoting a customer orientated culture with integrated channels and constant innovation.

In insurance, premiums amounted to BRL 10.8 billion (increasing 28% in two years). We remained market leaders in auto lending to individuals, with a 23% market share. 2022 was our best year in corporate business to date and we achieved record customer acquisition in SMEs. In wholesale, we maintained our strong position in FX, infrastructure, agro and Cash Management.

Loans and advances to customers increased 18% year-on-year. In gross terms, minus reverse repurchase agreements and in constant euros, they rose 8%, underscored by corporates (+10%) and individuals (+8%).

Customer deposits increased 21% year-on-year. Minus repurchase agreements and in constant euros, they grew 4% driven by time deposits (+10%). As mutual funds remained stable, customer funds rose 3% in constant euros.

Results

Underlying attributable profit was EUR 2,544 million (22% of the Group's total operating areas), 10% higher year-on-year. In constant euros, it was 7% lower. By line:

- Total income rose 1% boosted by gains on financial transactions and net fee income. Net interest income decreased 4% as higher volumes failed to offset negative sensitivity to higher interest rates.
- Administrative expenses and amortizations increased 10%, heavily affected by inflation (only +1% in real terms). The efficiency ratio remained excellent at 32.4%.
- Net loan-loss provisions rose 38%, due to the retail portfolio and a single name in CIB in the fourth quarter. This brought the cost of risk to 4.79% and the NPL ratio to 7.57%. Coverage stood at 80%.
- The negative impact of other gains (losses) and provisions decreased due lower civil and labour provisions in 2022.

Brazil. Underlying income statement

EUR million and % change

			/ 2021	
	2022	**2021**	**%**	**% excl. FX**
Revenue	12,910	10,876	+19	+1
Expenses	-4,180	-3,236	+29	+10
Net operating income	**8,730**	**7,641**	**+14**	**-3**
LLPs	-4,417	-2,715	+63	+38
PBT	4,055	4,610	-12	-25
Underlying attrib. profit	**2,544**	**2,320**	**+10**	**-7**

Detailed financial information in section 4.6 'Appendix'.

Chile

Underlying attributable profit
EUR 677 mn

Business performance

In 2022, we continued to expand Santander Life (which greatly surpassed one million customers) and Superdigital (with 397,000 customers). We maintained the best NPS in Chile.

We launched the Santander Life current account for SMEs and micro-entrepreneurs, integrated with Getnet. It was also a good year for our Corporate and CIB segments, owing to the integrated financing, cash management and treasury solutions we offered our customers.

We also received numerous awards, such as Best Bank in Chile in 2022 by *Euromoney* and *Latin Finance* and the Sustainable Finance Award from *Global Finance*.

Loans and advances to customers rose 14% year-on-year in euros. Minus reverse repurchase agreements and in constant euros, gross loans and advances to customers rose 8% boosted by mortgages, corporates and institutions and CIB.

Customer deposits decreased 2% year-on-year. Minus repurchase agreements and in constant euros they fell 8%, due to a 21% fall in demand deposits. Time deposits increased 14% and mutual funds rose 3% in constant euros. Total customer funds fell 5% in constant euros.

Results

Underlying attributable profit was EUR 677 million (6% of the Group's total operating areas), up 6% year-on-year. In constant euros it rose 9%. By line:

- Total income rose 2% driven by the double-digit rise in net fee income (greater loyal customers and transactionality) and gains on financial transactions. Net interest income fell 9%, as the increase in volumes failed to offset the negative sensitivity to higher interest rates.
- Administrative expenses and amortizations rose 6% (well below inflation) and the efficiency ratio was 40.1%.
- Net loan-loss provisions increased 19%, while the cost of risk was practically stable. NPL ratio stood at 4.99% and coverage at 56%.
- Other gains (losses) and provisions totalled -EUR 8 million, 50% less loss year-on-year.

Chile. Underlying income statement

EUR million and % change

			/ 2021	
	2022	**2021**	**%**	**% excl. FX**
Revenue	2,449	2,455	0	+2
Expenses	-981	-942	+4	+6
Net operating income	**1,468**	**1,513**	**-3**	**-1**
LLPs	-399	-341	+17	+19
PBT	1,062	1,156	-8	-6
Underlying attrib. profit	**677**	**636**	**+6**	**+9**

Detailed financial information in section 4.6 'Appendix'.

Argentina

Underlying attributable profit
EUR 324 mn

Business performance

Both volumes and the income statement were affected by very steep inflation (around 70%).

We remained leaders in transactional business, with a 12% market share in demand deposits and 16% in fees. We ranked second among privately-owned bank in loans.

Loans and advances to customers rose 8%. Minus reverse repurchase agreements and in constant euros, gross loans and advances to customers were 72% higher driven by consumer credit, SMEs and CIB.

Customer deposits increased 15% year-on-year. Minus repurchase agreements and in constant euros, deposits grew 87%. Demand and time deposits increased 76% and 112%, respectively, and mutual funds rose 136%. Customer funds rose 98% in constant euros.

Results

Underlying attributable profit was EUR 324 million (3% of the Group's total operating areas). Year-on-year, underlying attributable profit was 20% higher. In constant euros, it rose 95%:

- Total income grew 115% underpinned by 171% net interest income growth and 110% higher net fee income, driven by transactional, mutual fund and insurance fees. Gains on financial transactions were 141% higher. This good performance of the main revenue lines more than offset the greater negative effect from the hyperinflation adjustment.
- Administrative expenses and amortizations increased below revenue. The efficiency ratio stood at 53.9% (-4.2 pp) and net operating income rose 136%.
- Net loan-loss provisions rose 53% from extraordinarily low levels in 2021 (following covid-19-related provisioning in 2020). Cost of risk was 2.91%, 10 bps lower than in December 2021.
- Other gains (losses) and provisions increased their loss due to charges relating to downsizing.

Argentina. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %	/ 2021 % excl. FX
Revenue	1,833	1,388	+32	+115
Expenses	-987	-805	+23	+99
Net operating income	**846**	**583**	**+45**	**+136**
LLPs	-132	-140	-6	+53
PBT	443	306	+45	+136
Underlying attrib. profit	**324**	**270**	**+20**	**+95**

Detailed financial information in section 4.6 'Appendix'.

Uruguay

Underlying attributable profit
EUR 138 mn

Business performance

We reaffirmed our position as the country's leading financial group, in terms of efficiency and profitability. We continued to transform our distribution model and apply new ways of working.

We strengthened our retail commercial proposition, with successful such products as Soy Santander or auto financing. We continued promoting Getnet as an integral solution for SMEs and businesses.

Loans and advances to customers increased 37% year-on-year. In gross terms, minus reverse repurchase agreements and in constant euros, they rose 14%.

Customer deposits were 10% higher year-on-year. In constant euros and minus repurchase agreements, they fell 8% driven by demand deposits (-11%). Growth in mutual funds led to an 8% increase in customer funds in constant euros.

Results

Underlying attributable profit was EUR 138 million (1% of the Group's total operating areas). Year-on-year, it rose 25%. In constant euros, it increased 5% as follows:

- Total income increased 11% boosted by net interest income (+16%, driven by higher interest rates) and gains on financial transactions, which more than offset lower net fee income.
- Administrative expenses and amortizations rose 1%, compared with 9% average inflation. The efficiency ratio stood at 42.9% (+4.5 pp year-on-year) and net operating income rose 21%.
- Net loan-loss provisions increased, after the low levels recorded in 2021. Cost of risk remained low (1.51%) and the NPL ratio stood at 2.39%.

Uruguay. Underlying income statement

EUR million and % change

	2022	2021	/ 2021 %	/ 2021 % excl. FX
Revenue	453	342	+33	+11
Expenses	-194	-162	+20	+1
Net operating income	**259**	**180**	**+44**	**+21**
LLPs	-56	-32	+73	+45
PBT	201	145	+39	+16
Underlying attrib. profit	**138**	**110**	**+25**	**+5**

Detailed financial information in section 4.6 'Appendix'.

Peru

Underlying attributable profit
EUR 73 mn

Business performance

Loans and advances to customers rose 16% year-on-year (+5% in gross terms, minus reverse repurchase agreements and in constant euros).

Customer deposits decreased 7% (-16% minus repurchase agreements and in constant euros), with falls in both demand and time deposits.

Results

Underlying attributable profit of EUR 73 million in 2022 was 18% higher year-on-year. In constant euros, it rose 4%:

- Total income was up 20%, boosted by net interest income and gains on financial transactions, which offset the drop in net fee income.
- Administrative expenses and amortizations were 44% higher, mainly driven by the launch of new businesses. The efficiency ratio stood at 35.9% and net operating income increased 10%.
- Net loan-loss provisions increased, but cost of risk remained low at 0.68%.

Colombia

Underlying attributable profit
EUR 27 mn

Business performance

Loans and advances to customers rose 20% year-on-year. In gross terms, minus reverse repurchase agreements and in constant euros they rose 35%.

Customer deposits were up 17%, +30% minus repurchase agreements and in constant euros, mainly driven by 54% growth in time deposits.

Results

Underlying attributable profit of EUR 27 million was 13% higher year-on-year. In constant euros, it increased 14%. By line:

- Total income grew 35% driven by the good performance in the main revenue lines and in CIB, corporates and Prospera and Consumer businesses. The latter two accounted for 16% of the country's total revenue.
- Administrative expenses and amortizations were 51% higher. The efficiency ratio stood at 56.3% and net operating income was 18% higher.
- Net loan-loss provisions rose 25% and cost of risk remained low at 0.37%.

Other South America. Underlying income statement

EUR million and % change

	Net operating income				Underlying attrib. profit			
			/ 2021				/ 2021	
	2022	2021	%	% excl. FX	2022	2021	%	% excl. FX
Peru	131	104	+26	+10	73	62	+18	+4
Colombia	49	42	+18	+18	27	24	+13	+14

Sebastian J. Gunningham
Chair of Santander Consumer Finance and VP of Openbank

Digital Consumer Bank

Underlying attributable profit
EUR 1,308 mn

"DCB is the European consumer finance leader in scale and profitability as it leverages SCF's auto and non-auto consumer finance footprint and Openbank's technology stack"

Strategy

Our focus is on **transformation for future growth** and offsetting market headwinds with a simpler organizational structure, delivering through digital platforms and launching new channels, platforms and products

Business performance[1]

We continued to **reinforce our auto leadership** via strategic alliances, leasing and subscription and made significant market share gains (**new business +7%** year-on-year in a shrinking market). The rest of the consumer portfolio also showed a **strong increase in new consumer lending**

Results[1]

Underlying attributable profit stood at EUR 1,308 million (**+12%** year-on-year), driven by **total income** growth (+3% year-on-year) and solid cost of risk and efficiency performance

1. In constant euros.

Strategy

Digital Consumer Bank (DCB) is the leading consumer finance bank in Europe, created through the combination of Santander Consumer Finance's (SCF) scale and leadership in consumer finance in Europe and Openbank's retail banking and digital capabilities.

SCF is Europe's consumer finance leader, present in 18 countries (16 in Europe, plus China and Canada). It works through more than 130,000 associated points of sale (mainly auto dealers and retail merchants). In addition, it is developing pan-European initiatives to boost direct business across its footprint.

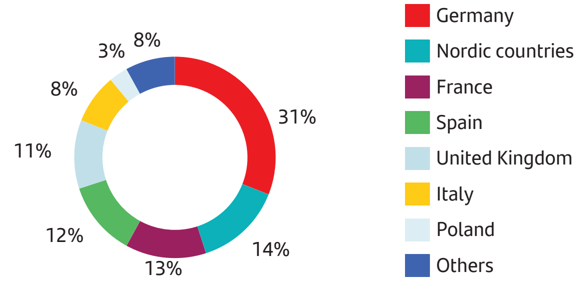
Openbank is Europe's largest fully-digital bank. It offers current accounts, cards, loans, mortgages, a state-of-the-art roboadvisor service and open platform brokerage. It is currently active in Spain, the Netherlands, Germany and Portugal, and is working on expansion across Europe and the Americas.

DCB aims to generate synergies between both businesses:

- SCF is dedicated to helping its customers and partners (OEMs, car dealers and retailers) enhance their sales capacity by financing their products and developing advanced technologies to give them a competitive edge. It is Europe's top mobility financer and provider.
- Openbank continues to work on boosting customer loyalty and engagement by applying its technological developments and business philosophy, while maintaining its ability to swiftly launch new initiatives.

Loans and advances to customers by geographic area

December 2022



Jose Luis de Mora

Co-CEO of DCB

Santander Consumer Finance

"We are focused on becoming the best-in-class mobility financer and provider in Europe by leveraging our OEM relationships and new digital capabilities, agreements and auto platforms"

In 2022, DCB continued to expand its reach, with new products, services, platforms and by signing new agreements with retail distributors and manufacturers. In the year, management's main priorities were to:

- Secure leadership in global digital consumer lending focusing on growth and transformation in these three areas:

1. **Auto**: continue our journey to transform the business and build a world-class digital proposition in mobility and capture today's market growth opportunity in used cars to reinforce our already strong franchise. Our transformational priorities include these initiatives:

   a. In leasing, our solutions and commercial focus increased the number of new leasing contracts by >20% year-on-year. We continued to develop a proprietary digital leasing platform for Europe with the ambition of disrupting the market. We launched a new platform in Italy and expect to expand more into Europe in 2023-24.

   b. In subscription, where we are already a leader, we continue to expand Wabi, our end-consumer subscription platform (live in Spain, Norway and Germany, with launches planned in Italy and France for 2023). In June, SCF launched Ulity, its new platform for vehicle subscription-based solutions for companies.

   c. We are creating one pan-European digital front that connects all our partners: OEMs, digital dealers and 3rd party marketplaces. We expect the digital dealers and auto marketplaces we've been successfully attracting to translate into nearly EUR 1 billion in new loans from digital partners in 2023.

   d. We are also developing our own digital channel with leading proprietary marketplaces and car advising value-added services. Plus, we strengthened our business in Spain (Coches.com) and are ramping up business in the UK (YourredCar.co.uk), Germany (Autobörse.de) and Portugal (Carmine.pt).

   e. We further expanded transformational OEM relationships. For example, in 2022 we renewed and extended our Stellantis partnership, in a deal due to be completed in H1 2023 (following the required authorizations). We also entered into a long-term global partnership with Piaggio Group, Europe's leader in scooters. In November, we acquired MCE Bank Germany establishing a partnership with Emil Frey, Europe's largest auto importer, gaining its captive finance for Mitsubishi, Isuzu, Great Wall and ORA brands for the German market. We continue to develop new agreements with OEMs entering the European market with strong EV propositions (e.g. GWM, BYD) and other sizeable on-going negotiations. DCB prioritized strategic deals to capture pan-European importers.

   f. We continued our pursuit of further market share gains in used and new cars while also addressing new segments (light delivery EV-Vans and leisure) and entering and accelerating growth in high-potential markets.

   g. We adapted our operating model to gain efficiency moving from self-contained banks to European hubs to increase competitiveness and enable scale benefits.

   We had a loan book of EUR 98 billion as of 2022.

2. **Consumer (Non-Auto)**: gain market share in consumer lending and develop buy now, pay later (BNPL) 2.0 to strengthen our top 3 position in Europe. Zinia, our BNPL initiative, continued to achieve outstanding results with more than 4.2 million contracts since its launch and around 44,000 retail merchants connected.

   The TIMF in joint venture is a strategic alliance with the leading Italian Telco, a new vertical for DCB. It has had more than 1.5 million contracts since launch as well as more than 5,800 active points of sale.

   Our loan book was EUR 21 billion as of 2022.

3. **Retail**: continue improving digital capabilities to increase loyalty among our 3.9 million Openbank and SC Germany Retail customers and boost digital banking activity.

- Increase profit by leveraging strategic operations (e.g. Stellantis), leasing and subscription launch (in Auto) and BNPL development (in Non-Auto);

- Drive tech transformation projects to seize on the fast-growing transition to online, support digital customer base expansion and provide our partners with digital tools to achieve a single digital connection in Europe while maintaining high profitability and one of the best efficiency ratios in the sector.

We continue to promote ESG and the transition to a greener economy by doing business sustainably. We supported our customers' green transitions by providing EUR 4.8 billion in green finance in the year for electric vehicles (>150k electric vehicles financed, gaining market share), electric chargers, solar panels, green heating systems, bikes and others.

We were also recognized as a Top Employer or Great Place to Work (GPTW) in eight countries.

Ezequiel Szafir

Co-CEO of DCB

Openbank

Grupo Santander

"Openbank's new tech stack and product building capabilities deployed in Zinia's BNPL activity will allow us to deliver on our merchant and customer targets to exceed our customers' expectations"

Business performance

2022 was a difficult year as we faced consecutive crises that drove supply chain disruptions (covid-19, chips shortage and the war in Ukraine) among other geopolitical tensions. High inflation in Europe and energy scarcity dented consumer confidence, reducing disposable income and affecting consumption decisions.

Still, we managed to increase new lending 10% year-on-year. Our leadership position and strategic alliances enabled us to increase market share in car financing in most of our countries. Our new business volumes in new and used cars were up 7% year-on-year while car transactions in 2022 in Europe fell high-single digits in our footprint.

The stock of loans and advances to customers increased 8% year on-year. In gross terms, minus reverse repurchase agreements and in constant euros they rose 9% year-on-year to EUR 125 billion. We will continue to closely monitor our portfolios to prevent the impact of any deterioration in our activity.

Customer deposits increased 6% and 7% minus repurchase agreements and in constant euros. Mutual funds increased 23% in constant euros. Our recourse to wholesale funding markets remained strong and diversified. We are actively repricing our new business to offset higher funding costs from rising interest rates.

Results

Underlying attributable profit was EUR 1,308 million (11% of the Group's total operating areas).

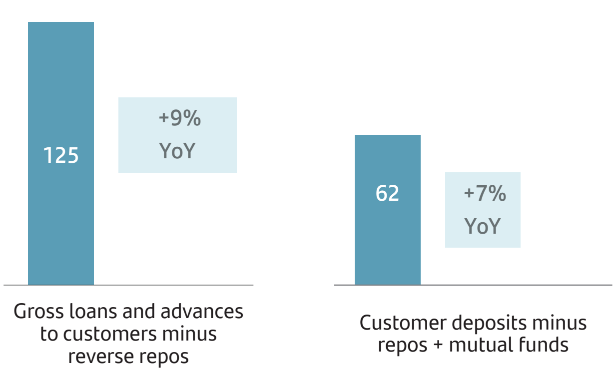
Interest rate rises pressured margins in consumer finance monoliners, at a time when Auto and Consumer Industries are transforming towards more sustainable mobility and consumption. At the end of the year, DCB faced negative impacts from regulatory claims in Poland and the TLTRO remuneration adjustment.

Compared to 2021, underlying profit increased 12%. In constant euros, it also rose 12% as follows:

- Total income was up 3% supported by increased leasing activity and net fee income (volumes growth). NII was slightly down due to higher funding costs (steep rate rises) and TLTRO changes, partially mitigated by new business repricing initiatives.
- Administrative expenses and amortizations increased 2%, affected by inflation, strategic and transformation investments and business growth. In real terms costs fell 6%. Net operating income rose 4% and the efficiency ratio improved 0.4 percentage points to 46.7%.
- Credit quality performance remained strong. Net loan-loss provisions increased just 3%, supported by portfolio sales. Cost of risk was steady at 0.45%, very low for consumer lending business, and the NPL ratio improved to 2.06%. Coverage remained high, exceeding 90%.
- Other gains (losses) and provisions came in less negative despite headwinds from regulatory charges in Poland (mortgage payment holidays) and insurance regulation in Germany.
- The largest contribution to underlying attributable profit came from Germany (EUR 433 million), the Nordic countries (EUR 273 million), the UK (EUR 227 million), France (EUR 160 million) and Spain (EUR 131 million).

Digital Consumer Bank. Activity

EUR billion and % change in constant euros. 2022



Digital Consumer Bank. Underlying income statement

EUR million and % change

			/ 2021	
	2022	2021	%	% excl. FX
Revenue	5,269	5,099	+3	+3
Expenses	-2,462	-2,405	+2	+2
Net operating income	**2,807**	**2,694**	**+4**	**+4**
LLPs	-544	-527	+3	+3
PBT	2,237	1,973	+13	+13
Underlying attrib. profit	**1,308**	**1,164**	**+12**	**+12**

Detailed financial information in section 4.6 'Appendix'.

4.4 CORPORATE CENTRE

Corporate Centre

Underlying attributable profit

-EUR 2,049 mn

2022 HIGHLIGHTS

→ The Corporate Centre continued with its role supporting the Group.

→ The Corporate Centre's objective is to define and coordinate the Group's strategy and aid the operating units by contributing value and carrying out the corporate oversight and control function. It also carries out functions related to financial and capital management.

→ Underlying profit was impacted by lower gains on financial transactions due to the exchange rate differences from the hedging of results of our core country units, partly offset by the improvement in provisions.

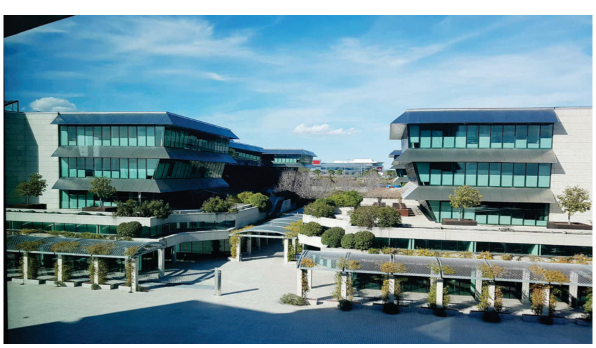
Strategy and functions

The Corporate Centre adds value to the Group by:

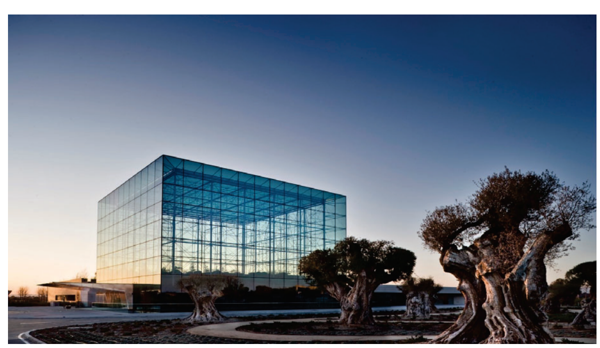
- strengthening the Group's governance with global control frameworks and supervision;
- fostering the exchange of best practices in cost management, that enable us to be one of the most efficient banks; and
- helping launch global business projects that leverage our global footprint to develop solutions for all business units, generating economies of scale.

It also coordinates our relationships with regulators in the EU and performs the following financial and capital management functions:

- **Financial management:**
  - Structural management of liquidity risks from funding the Group's recurring activity and financial stakes.
  - This activity is carried out by the diversification of funding sources (issuances and other), always maintaining an adequate profile in volumes, maturities and costs. The price of these transactions with other Group units is the market rate that includes all liquidity items (which the Group supports by immobilizing funds during the term of the transaction) and regulatory requirements (TLAC/ MREL).
  - Interest rate risk is also actively managed in order to dampen the impact of interest rate changes on net interest income, conducted via high credit quality, very liquid and low capital consumption derivatives.
  - Strategic management of exposure to exchange rates in equity and dynamic on the countervalue of the units' next twelve months results in euros. Net investments in equity are currently hedged, EUR 19,778 million (mainly in Brazil, Chile, Mexico, the UK and Poland) with different FX instruments (spot or forwards).
- **Management of total capital and reserves**: efficient allocation of capital to each of the Group's entities in order to maximize shareholder return.



Global Headquarters. Boadilla del Monte.



Global Headquarters. Boadilla del Monte.

Results

The underlying attributable loss of EUR 2,049 million was 33% greater than in 2021 (-EUR 1,535 million):

- Net interest income decreased, impacted by the rising interest rates.
- Gains on financial transactions were lower (EUR 583 million less than in 2021) dampened by negative foreign currency hedging results, which partially offset the favourable FX impacts in the countries' results.
- Administrative expenses and amortizations increased 7% year-on-year, due to the general upturn in inflation in 2022. Excluding this impact, they decreased 1%.
- Net loan-loss provisions were considerably down.
- The net negative impact of other gains (losses) and provisions (which include provisions, intangible asset impairments, cost of the state guarantee on deferred tax assets, pensions, litigation, one-off provisions, etc.) decreased from -EUR 190 million in 2021 to -EUR 173 million in 2022.

Global Headquarters in Boadilla del Monte.

Corporate Centre

EUR million

Underlying income statement	**2022**	**2021**	**%**
Net interest income	(652)	(624)	5
Net fee income	(19)	(28)	(31)
Gains (losses) on financial transactions [A]	(724)	(140)	417
Other operating income	(92)	(28)	231
Total income	**(1,487)**	**(819)**	**81**
Administrative expenses and amortizations	(372)	(346)	7
Net operating income	**(1,858)**	**(1,165)**	**60**
Net loan-loss provisions	9	(155)	—
Other gains (losses) and provisions	(173)	(190)	(9)
Profit before tax	**(2,022)**	**(1,510)**	**34**
Tax on profit	(27)	(24)	12
Profit from continuing operations	**(2,049)**	**(1,534)**	**34**
Net profit from discontinued operations	—	—	—
Consolidated profit	**(2,049)**	**(1,534)**	**34**
Non-controlling interests	0	(1)	(95)
Underlying profit attributable to the parent	**(2,049)**	**(1,535)**	**33**
Balance sheet			
Loans and advances to customers	5,785	6,787	(15)
Cash, central banks and credit institutions	123,230	88,918	39
Debt instruments	8,588	1,555	452
Other financial assets	273	2,203	(88)
Other asset accounts	124,343	116,007	7
Total assets	**262,217**	**215,470**	**22**
Customer deposits	895	1,042	(14)
Central banks and credit institutions	71,226	53,061	34
Marketable debt securities	98,733	74,302	33
Other financial liabilities	308	431	(29)
Other liabilities accounts	7,489	7,113	5
Total liabilities	**178,650**	**135,950**	**31**
Total equity	**83,567**	**79,520**	**5**
Memorandum items:			
Gross loans and advances to customers [B]	5,779	6,813	(15)
Customer funds	895	1,042	(14)
Customer deposits [C]	895	1,042	(14)
Mutual funds	—	—	—
Operating means			
Number of employees	1,899	1,724	10

A. Includes exchange differences.

B. Minus reverse repurchase agreements.

C. Minus repurchase agreements.

4.5 Secondary segments

Smart Red branch, Spain

Retail Banking

Underlying attributable profit

EUR 7,946 mn

"We remained committed to our digital transformation and multi-channel strategy, with a clear focus on customers and their satisfaction"

Strategy

We continued to strengthen our **commitment to customers and society, boosting digitalization and offering new products and services** that meet their needs

Business performance[1]

Year-on-year **growth in loans and advances to customers** (driven by North America and South America) and in **customer deposits**, due to the increase in time deposits

Results

Underlying attributable profit up 8% in euros (-1% in constant euros) to EUR 7,946 million, due to strong customer revenue

1. In constant euros.

Strategy

One of the main pillars of the Group's business model is a clear focus on customers to strengthen the relationships we establish with them and to contribute to our purpose of helping people and businesses prosper.

We intensified our transformation strategy, focusing on multichannel and digitalization of processes and businesses. Our goal is to take advantage of digitalization while being mindful of the importance of continuing to meet our customers' needs through our physical channels.

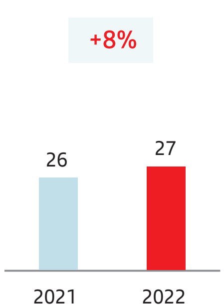
We believe in a hybrid model that, while we prioritize service on digital channels, it complements branch services, particularly for more complex transactions or those requiring more personalized attention from our professionals. We have 9,019 branches.

This personalized support adapted to our customers' needs, also forms part of our aim to continuously enhance customer care and service.

Our strategy helped us rank in the top 3 in NPS for customer satisfaction in eight markets.

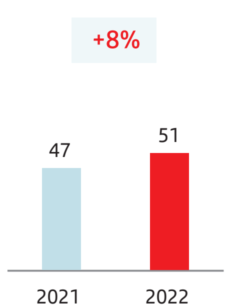
Loyal customers

Millions



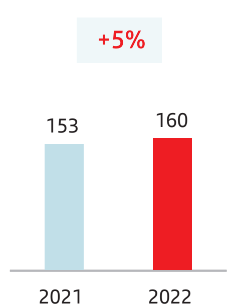
Digital customers

Millions



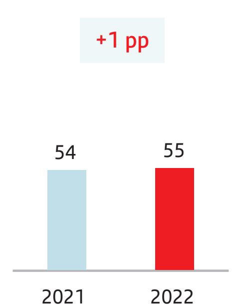
Total customers

Millions



Digital sales

% of total sales



Our digitalization efforts, together with continuous improvement of our customer service and service quality, led us to increase our customer base by 7 million to 160 million. Likewise, loyal customers grew 8% year-on-year to 27 million and digital customers reached 51 million having grown 8% year-on-year. Digital sales accounted for 55% of total sales and digital transactions 80% of total transactions.

Such a substantial increase in customers, loyalty and digitalization is the result of numerous commercial initiatives, with specialized products and services for each segment:

- Individuals: strong mortgage growth in our European markets especially in the UK and Spain. In Portugal, we saw high new mortgage lending growth. There was double-digit growth in new mortgage lending, driven by process simplification and commercial offers. In Mexico, we developed various mortgage products and maintained the momentum of the LikeU credit card.
- Auto finance: Digital Consumer Bank continued to strengthen its market position, with various strategic agreements. In the US, auto loans performed well during the year. In Mexico, we increased our auto market share and already exceed 15%. In South America, we consolidated the Cockpit platform in several of our countries, which originated in Brazil. In Peru, we continued to expand the NeoAuto platform, a digital marketplace for financing new and used vehicles.
- SMEs and Corporates: we continued to provide new services and products to our customers. In Poland, we continued our strategic Agile programmes. In Chile, we launched the Santander Life current account for SMEs and micro-entrepreneurs. In Brazil, we had a record year in corporate and SME customer acquisition.

Business performance

Loans and advances to customers increased 4% year-on-year. Minus reverse repurchase agreements and in constant euros, gross loans rose 5%, boosted by North and South America.

Customer deposits were 3% higher compared to 2021. Minus repurchase agreements and in constant euros, they also increased 3%, driven by growth in time deposits (+31%), as demand deposits decreased 2%.

Results

Underlying attributable profit was EUR 7,946 million (68% of the Group's operating areas).

Compared to 2021, underlying attributable profit was up 8%. In constant euros, it decreased 1%:

- Total income increased 3% on the back of net interest income (+7%) and net fee income (+3%). On the other hand, gains on financial transactions dropped 51% and other revenue also decreased impacted by lower leasing revenue.
- Administrative expenses and amortizations increased (+4%, well below inflation). Net operating income grew 3% and efficiency stood at 43.5%.
- Loan-loss provisions rose 33% mainly due to the normalization in North America and the provisions related to loan portfolio growth in South America.
- The other gains (losses) and provisions line was slightly more negative than in 2021 mainly due to regulatory charges in 2022 (mortgage payment holiday provisions and the aforementioned settlement agreed with the FCA in the UK).

Retail Banking. Underlying income statement

EUR million and % change

			/ 2021	
	2022	2021	%	% excl. FX
Revenue	42,684	38,869	+10	+3
Expenses	-18,568	-17,103	+9	+4
Net operating income	**24,116**	**21,766**	**+11**	**+3**
LLPs	-10,210	-7,081	+44	+33
PBT	11,772	12,632	-7	-15
Underlying attrib. profit	**7,946**	**7,389**	**+8**	**-1**

Detailed financial information in section 4.6 'Appendix'.

José M. Linares

Global head of Santander CIB

Santander Corporate & Investment Banking

Underlying attributable profit

EUR 2,805 mn

"The customer-centric business transformation we started five years ago continues to pay off. In a year characterized by economic and geopolitical challenges, more clients are relying on SCIB as their strategic partner in the transformation and financing of their businesses"

Strategy	Business performance	Results
Expanding our **content and products** to become our **clients' strategic advisors,** while **accelerating digitalization**	Business growth in 2022 **in SCIB's main economies,** despite a challenging macroeconomic and geopolitical environment	**Underlying attributable profit reached EUR 2,805 million,** driven by higher revenue. Efficiency was among best-in-class and **RoRWA** was **2.72%**

Strategy

SCIB continued to make headway with its strategy to transform its business and strengthen its position as our clients' strategic advisor of choice, by boosting specialized high value-added products and services. We remain focused on sustainable development and digital transformation.

The goal of our transformation is to become a leading investment bank by:

- continuing to accelerate business in the US, focusing on the integration of the broker-dealer Amherst Pierpont Securities (APS) as a first step towards achieving our growth aspirations;
- strengthening customer support in Europe, with a pan-European platform; and
- consolidating our regional leadership in most countries and products in Latin America.

Some of the key highlights in 2022 include:

- we continued to invest in talent, naming a new Global Markets head and a new head of SCIB Brazil;
- we acquired 80% of WayCarbon Soluções Ambientais e Projetos de Carbono (leading ESG consulting firm in Brazil), expanding SCIB's product portfolio in voluntary carbon markets and reforestation and conservation programmes;
- we reached a strategic agreement with the EIT InnoEnergy fund to accelerate energy transition by developing its start-up portfolio; and
- we entered into a new partnership with SAP to accelerate the digitalization of transactional banking services and offer innovative, high-value-added solutions.

SCIB held leading positions in several rankings:

- In Project Finance and Export & Agency Finance: top 3 globally, in Europe and in Latin America (only in Project Finance) by transaction volumes, promoting renewable energies (top 3 in Green Global), a key part of our ESG strategy.
- In Debt Capital Markets (DCM): leader in Spain and top 3 by volume of debt placed in Latin America (top 3 in Mexico, Chile and Argentina).
- In Equity Capital Markets (ECM): top 3 in Europe and leader in the Spanish and Mexican markets.

SCIB also received numerous awards in several categories, including from *Global Finance* and *Euromoney:*

Ranking 2022

Award/ranking	Source	Area
Best Investment Bank Spain	*Euromoney*	Global
Market Leader Corporate Banking Spain, Portugal and Chile	*Euromoney*	Global
Outstanding Leadership in Transition/Sustainability Linked Loans	*Global Finance*	GDF
Outstanding Leadership in Sustainable Infrastructure Finance	*Global Finance*	GDF
Best Bank for Sustainable Finance Chile	*Global Finance*	GDF
Best Bank for Sustainable Finance Poland	*Global Finance*	GDF
Best Debt Bank in Latin America	*Global Finance*	GDF
Issuer of the Year	*SCI*	GDF
Best Iberian Broker	*Institutional Investor*	Markets
Risk Solutions House of the Year	*Risk Magazine*	Markets
Structured Finance Deal of the Year – Metro de Panama's USD 2 billion ECA-covered notes issuance facility	*LatinFinance*	CF
Private Equity Deal of the Year – KKR's acquisition of Telefónica fibre assets in Chile and Colombia	*LatinFinance*	CF
Bank of the Year Southern Cone 2022 Project & Infrastructure Finance Awards	*LatinFinance*	GDF
Best Trade Financier in Latin America	*BAFT*	GTB
Best Supply Chain Finance Bank	*GTR*	GTB
Best ESG SCF Global Deal	*Supply Chain Finance Community Awards*	GTB

Business performance

In a challenging macroeconomic and geopolitical environment, our priority has been to support our clients with innovative and high-value-added solutions. In this context, revenue grew 32% year-on-year to EUR 7,395 million. In constant euros, revenue rose 27%, backed by growth across core businesses, notably Global Transactional Banking, Global Debt Finance and Global Markets:

- **Global Markets**: revenue was 25% higher year-on-year. The business successfully overcame a period of volatility in a difficult macroeconomic environment due to high levels of inflation, central bank policy and the protracted war in Ukraine.

  In Europe and Asia, market disruption and diligent risk management created opportunities, particularly in FX, equity derivatives and equity finance. The team continued to innovate and launched the first ESG-linked derivatives framework during the year.

  In Latin America, there was solid demand for interest rate and currency hedging products in all countries and a significant increase in sales volumes. In Argentina, Brazil and Chile, we were in the top 3, while in Peru and Colombia, we climbed into the top 5 in currency and rates.

  We had excellent results in US markets, boosted by gains in fixed income, currency and commodities, rates and security finance, as well as significant growth in customer flows (especially with financial sponsors).

- **Global Debt Financing (GDF):** significant revenue growth (+9%). Inflation, interest rates, liquidity shortage and a possible recession put pressure on primary issuances. Despite a sharp global decline in debt issuance, DCM maintained (or gained) market share in key markets, supported by EU debt issuance, KNP and Duke Energy green bonds, and the Lloyds AT1 bond.

  In Structured Finance, Santander continued to lead global rankings, especially regarding the renewable energy sector (leaders globally, in Europe and in Latin America). GDF participated in such major deals as Origis Energy Debt Raise, Project Gauss (1,600 MW of wind farms in Spain and Portugal), Great Pathfinder and Provence Grand Large, the first floating wind farm in France.

  Growth continued in our newer business lines, such as securitizations (+37%) and Leveraged Finance (+49%).

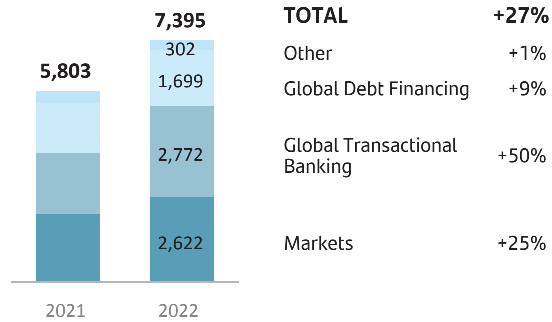
- **Global Transactional Banking (GTB)**: Total income was 50% higher than in 2021. Cash Management transactionality and liability income increased significantly during the year, driven by greater economic activity across most of SCIB's footprint and the higher interest rates in Europe, the US and Latin America.

  Trade & Working Capital Solutions (T&WC) focused on providing our clients with means to mitigate the impact of commodity price increases, optimize working capital and inventories, strengthen supply chains, reduce trade transaction risks and achieve ESG objectives. T&WCS more than tripled its ESG operating income year-on-year with significant transactions, especially in sustainable confirming. It also continued to develop new capabilities and products such as inventory finance.

  In Export Finance, SCIB maintained market leadership. We were number 1 in the global ECA finance ranking (according to Dealogic). The ESG team's work, particularly in the renewables sector, led to numerous transactions during the year, including Iberdrola's Green Shopping Line for a value of EUR 1 billion.

Total income breakdown

Constant EUR million



- In **Corporate Finance (CF)**, M&A growth has been undermined by the slowdown in Equity Capital Markets activity of the global markets. In this context, we participated in the Porsche IPO.

  In Infrastructure, Santander leads the League Tables in Europe and Latin America. Santander advised Platinum Equity on the sale of Socamex, a Spanish water company acquired by Quaero Capital.

  In the telecommunications, media and technology (TMT) sector, there was significant activity in fibre and towers during the year, with the M&As of MásMóvil, Ardian and Onnet valued at more than EUR 2 billion.

  In Energy, Santander established itself as a renewable energy financing leader. We participated in such important deals as the offshore wind farms of Hornsea One and Wikinger and the solar photovoltaic project with Ardian.

  In Consumer Retail Healthcare (CRH), Santander continued to grow its franchise through the most significant transactions in the sector, including the merger of Dufry with Autogrill for EUR 5.3 billion, or Gelnx's sale to Darlin Ingredients for USD 1.2 billion.

Collaboration revenue and revenue from multinational clients outside their home country increased 34% year-on-year and stood at around EUR 5.1 billion, of which EUR 3.4 billion came from SCIB (+33% year-on-year) and the rest was distributed among the different commercial banking markets.

Results

Underlying attributable profit increased 33% to EUR 2,805 million (24% of the Group's total operating areas). In constant euros, growth was 31%. RoRWA was 2.72% (2.23% in 2021). By line:

- Total income was 27% higher, driven by net interest income (+18%), net fee income (+9%) and gains on financial transactions (+139%).
- Administrative expenses and amortizations rose 17% year-on-year, due to investment in products and franchises under development, while our efficiency ratio (39%) was better than in 2021 (-3.2 pp) and well below the sector.
- Loan-loss provisions increased 63% compared to 2021 due to the normalization of provisioning and a single name in Brazil.

SCIB. Underlying income statement

EUR million and % change

			/ 2021	
	2022	**2021**	**%**	**% excl. FX**
Revenue	7,395	5,619	+32	+27
Expenses	-2,898	-2,379	+22	+17
Net operating income	**4,497**	**3,240**	**+39**	**+35**
LLPs	-251	-151	+66	+63
PBT	4,115	3,071	+34	+30
Underlying attrib. profit	**2,805**	**2,113**	**+33**	**+31**

Detailed financial information in sect

Víctor Matarranz
Global head of Wealth Management & Insurance

Wealth Management & Insurance

Underlying attributable profit
EUR 1,118 mn

"In 2022, despite a complex market we continued to grow at double-digits and progressed with our strategic plan, developing value-added products focused on our clients' needs"

Strategy	Business performance[1]	Results[1]
We aim to become **the best Wealth Manager in Europe and the Americas,** committed to offering the best service and products, acting **responsibly** and developing **sustainable products**	Total **assets under management** fell 3% to **EUR 401 billion,** less than falls in the market during the year	**Total contribution to profit** in 2022 **grew 18%** (minus 2021 non-recurring results to **EUR 2,728 million**, as a result of good activity levels in a challenging market

1. In constant euros.

Strategy

In 2022, we continued to work to become the best responsible wealth manager in Europe and the Americas. We performed very well, contributing to the Group's profit growth despite difficult market conditions.

- In **Private Banking**, we continued to leverage our scale, to benefit clients with our global platform, while fostering collaboration across markets and segments. We managed EUR 51 billion from customers in countries outside their local markets. Santander is leading the large investment flow between Latin America, Europe and the US.

  We continued to update our value proposition, widening our product range in line with market trends. We had a particular focus on alternative products (more than EUR 2.9 billion), collateralized lending, investment banking and socially responsible products (ESG). We also further improved our discretionary advisory service, which accounted for 9.5% of total assets under management (AuMs).

  We launched six funds during the year. Most recently in Q4, we launched EB Capital Preferred Futures (first private market fund marketed to our customers in Brazil) and the Laurion Private Credit Fund.

  Our real estate investment service is capturing a large part of the flow between Latin America, Europe and the US. It reached a total volume of EUR 321 million in transactions in the year.

  Our socially responsible investment (SRI) products, classified according to Article 8 or 9 under the SFDR or similar criteria applicable in Latin America, reached EUR 25 billion.

This year we received these awards:

- In **Santander Asset Management (SAM),** market volatility affected asset valuations and investment flows in general. Nevertheless, we continued to enhance our local and global product propositions.

  The arrival of our new SAM CEO led to organizational changes and a redesign of our strategy in order to put clients at the centre of our activities and remain a leading provider of investment solutions.

  We achieved great results in Latin America, maintaining or gaining market share (and reaching number 1 in Argentina) and developing a strategic plan in Brazil, in collaboration with Santander Brasil.

We showed resilience in Europe. After a very difficult start to the year, we managed to regain market share in Spain in Q4 by launching Objetivo range (subscriptions of more than EUR 2.7 billion) and improved our aggregate performance to end the year in the second quartile.

We made further headway with our ESG strategy. We offer 72 ESG products globally and our assets under management stood at EUR 37.5 billion. In November, we launched the Santander Prosperity fund along with RED (an NGO founded to fight AIDS with the help of the world's best brands). The fund will contribute 15% of its management fee to this purpose.

Our robust range of alternative products includes six strategies and 15 vehicles already launched. With it, we reached EUR 2.5 billion committed globally, including Direct Lending, Funds of Funds, Real Estate, Infrastructure and Renewable Energy, Trade Finance and VC Climate Tech strategies.

- In **Insurance**, we maintained a healthy growth rate in premiums, mainly in our Non-Related and Savings businesses. The credit-related business was slightly affected by the lower demand for credit in general but especially in Brazil.

Protection insurance sales were strong in Europe, as a result of optimized client communications and new products (e.g. credit policies for companies in Spain, auto comparison tool in Poland). Our new savings value proposition in Spain was particularly successful, enhancing the range of unit-linked, guaranteed interest and annuities products. The new products enable us to diversify our offering and provide our customers with innovative alternative to traditional savings solutions.

In the Americas, diversification of the non-credit insurance business continued strongly. New sales grew in the double digits owing to our strategy to strengthen services with more customer value and promote commercial dynamics for sustained growth on all channels. We launched a new Life and Accident Insurance offering in Brazil and a new unit-linked product offering in Mexico for the Select segment, which build on the growth potential of the savings business.

Motor vehicle insurance business grew 8% year-on-year. Our Autocompara platform, in Argentina, Brazil, Chile, Mexico and Uruguay, reached 1.4 million active policies.

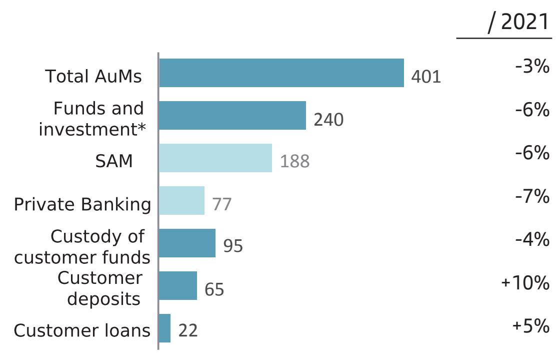
Our digital strategy continued to drive growth in policy sales through digital channels, now representing 20% of the total.

Business performance

Total assets under management amounted to EUR 401 billion, 3% lower year-on-year, dampened by market performance, particularly in Europe, but managed to absorb much of the market downturn.

Business performance: SAM and Private Banking

EUR billion and % change in constant euros. December 2022



Note: Total assets marketed and/or managed in 2022 and 2021.
(*) Total adjusted private banking customer funds managed by SAM.

- **Private Banking** client assets and liabilities reached EUR 259 billion, 1% lower than in 2021, because of custody valuation. Net new money amounted to EUR 11.7 billion (4.5% of total volume). Net profit was EUR 690 million, up 40% year-on-year, primarily backed by total income. Threshold Private Banking clients increased 8% to 114,000 clients.

- **SAM**'s total AuMs decreased 6% year-on-year to EUR 188 billion. Net sales recorded outflows of EUR 4.1 billion (2.2% of total AuMs), but with different underlying dynamics: in Latin America, total net sales were EUR 0.7 billion, and in Europe net sales were -EUR 2.2 billion, more heavily affected by the war in Ukraine. SAM's contribution to the Group's profit (including ceded fee income) was EUR 580 million, remaining stable year-on-year.

- In **Insurance**, gross written premiums amounted to EUR 11.7 billion (up 24% year-on-year). Protection premiums grew 7% despite declining demand in Latin America. Total fee income rose 7% (+10% excluding the impact from insurance portfolio buybacks in 2021), and net fee income from protection insurance was 9% higher. Total contribution to profit stood at EUR 1,458 million, +3% year-on-year (+18%, minus insurance earn-out one-offs and insurance portfolio buybacks).

Results

Underlying attributable profit was EUR 1,118 million in 2022, up 19% year-on-year. In constant euros, it was 15% higher (+36% excluding insurance one-offs in 2021):

- Total income increased 12% as a result of improved margins and net fee income.
- Total fee income generated, including ceded to the commercial network, amounted to EUR 3,689 million (31% of the Group's total fee income), a 3% increase year-on-year, despite the market impact on volumes.
- Administrative expenses and amortizations were 8% higher year-on-year, due to the investment carried out and the higher costs from increased commercial activity.
- As a result, net operating income increased 15% and the efficiency ratio improved 0.9 pp.

Total contribution to profit

EUR million and % change in constant euros

The total contribution to the Group (including net profit and total fees generated net of tax) was EUR 2,728 million, 10% higher than in 2021 in constant euros (+18%, minus insurance one-offs in 2021).

WM&I. Underlying income statement

EUR million and % change

			/ 2021	
	2022	**2021**	**%**	**% excl. FX**
Revenue	2,608	2,240	+16	+12
Expenses	-1,041	-914	+14	+8
Net operating income	**1,566**	**1,326**	**+18**	**+15**
LLPs	-14	-38	-63	-64
PBT	1,526	1,294	+18	+15
Underlying attrib. profit	**1,118**	**941**	**+19**	**+15**

Detailed financial information in section 4.6 'Appendix'.

Javier San Félix

CEO of PagoNxt

PagoNxt

Underlying attributable profit

-EUR 215 mn

"In our second year since inception, we continued with our strategy to bring innovative payments technology, better user experience and efficiency. I'm thrilled to see more and more customers trusting in PagoNxt's solutions and expertise, while we make progress laying the groundwork for further growth in the coming years"

Strategy

Scale up our global platform of **innovative payments and integrated value-added solutions** serving the payment needs for Grupo Santander and for open market customers worldwide

Business performance[1]

PagoNxt continued to expand, achieving **significant growth in 2022.** Getnet's Total Payments Volume globally was 27% higher than 2021 and active merchants grew to 1.32 million

Results

Revenue exceeded our growth target by reaching **EUR 953 million in 2022, +93%** (+72% in constant euros) versus 2021, fuelled by an increase in payments processed and active customers

1. In constant euros.

Strategy

PagoNxt aims at global leadership in payments, through a distinct, holistic and customer-centric value proposition. We are a one-of-a-kind paytech business that provides customers with a wide range of innovative payments and integrated value-added services.

We focus on several strategic and high-growth business segments:

Merchants: to provide global and integrated acquiring, processing and value-added solutions for physical and e-commerce merchants.

Getnet

International Trade: to deliver specialized cross-border trading solutions (payments, FX, cash management, trade finance) for businesses, in a large and global market yet to be fully digitalized.

Ebury OneTrade

Payments: to provide wholesale account-to-account payment processing and instant connectivity to schemes in multiple regions in a highly scalable model.

PaymentsHub

PagoNxt's technology platform and specialist teams serve Grupo Santander's payments needs and cater to open market opportunities beyond Santander's business with in-depth solutions for millions of businesses and people.

PagoNxt runs an efficient global operating model, that covers three core regions (Europe, South America and North America) with bank-grade security and compliance embedded in our customer products.

PagoNxt's strategy sets out to:

- scale up our global, cloud-native, secure and efficient platform, which is interconnected, in real-time, flexible, highly scalable, fully cloud and API-based to ensure access to our features through a single integration. We process and generate insights to help our customers and their businesses harness the full power of data to make decisions;
- accelerate commercial growth by continuing to strengthen our commerce and trade ecosystem, offerings and distribution on Santander's commercial platforms, especially for SMEs; and
- maximize the open market opportunity through direct commercialization and distribution partnerships (with integrated software vendors and others), increasing our market penetration in Europe, South America and North America and extending our footprint to additional strategic countries.

Business performance

Getnet, our stronghold business, continued expanding its reach across Latin America and Europe. Latin American countries with full acquiring propositions include Brazil, Mexico, Argentina, Chile and Uruguay, and our pan-European acquirer has active customers in 12 countries. Getnet was the 3rd largest Merchant Acquirer in Latin America and the 19th largest Merchant Acquirer Worldwide (per Nilson reports in September and October 2022 respectively, based on number of transactions).

In 2022, Getnet's Total Payments Volume (TPV) reached EUR 165 billion, +27% year-on-year (in constant euros), and active merchants grew to 1.32 million. Our merchant platform added innovative value-added services, deployed new global e-commerce capabilities and further developed specialized vertical solutions which it shares across countries. Highlights by market were:

- Getnet Brazil's TPV increased 16%, boosted by e-commerce. Our strategy in Brazil is also focused on driving profitable growth through our pre-payments products, value-added services and greater SME penetration. We are pursuing opportunities across all sales channels and enhancing open market sales through direct sales and digital channels.

- Getnet Europe, our pan-European acquirer, grew significantly in the year. TPV increased 39% and active merchants rose 33% year-on-year, mainly driven by the Spanish market and by the transfer of the former Santander Portugal acquiring business to Getnet Europe in November. We enhanced platform capabilities, with new payment methods, a vertical solution for airlines and a stronger value-added proposition for SMEs. We continued to develop our open market strategy and we are now operating in 12 countries.

- Getnet Mexico continued strongly, with increases of 35% in TPV and 12% in active merchants year-on-year, driven by higher average tickets in our merchant base and the strong performance of our open market distribution channels, which include several partnerships with financial institutions, integrated software vendors (ISVs) and payment ecosystems. We launched several innovative value-added services in Mexico.

- We are ramping up Getnet commercial activity in other Latin American countries. In 2022, we launched our acquiring businesses in Argentina and Uruguay and accelerated penetration in the Chilean market.

Ebury showed strong performance in its B2B offerings for the open market, driven by FX services. Active customers increased by 16% year-on-year.

Our One Trade platform made headway in its objective to become the international services (payments, FX, trade finance) platform for the Group, replacing the local systems with a single, common and interconnected technology solution. In 2022, it expanded into nine of our countries, replacing some of the previous services and deploying such new digital capabilities as instant payments to Europe or Brazil. One Trade was granted an Electronic Money Institution licence to operate in open markets in the EU.

PagoNxt continued to accelerate its roadmap to be Santander's wholesale payments processing provider, centralizing all types of payments (except cards). In 2022, payments services included Santander in Spain, Portugal and Santander Corporate and Investment Banking. The Payments Hub platform increased the number of currencies it processes to more than 30, with five clearing schemes.

On the consumer side, Superdigital continued to expand its consumer offering across Latin America. We rolled out our global platform in Argentina, Colombia and Peru, and we are gradually integrating our customer base in Brazil. We upgraded it to provide simpler and faster customer onboarding and higher efficiency with its global operating model.

Results

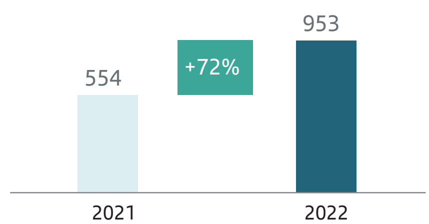
In 2022, underlying attributable loss decreased year-on-year to -EUR 215 million, from -EUR 253 million.

Total income was EUR 953 million, a 93% increase year-on-year (+72% in constant euros), backed by rising regional business activity and volumes, especially in our Merchant and Trade businesses (Getnet and Ebury).

PagoNxt outperformed its 50% revenue growth target for 2022.

PagoNxt. Revenue performance

Constant EUR million



In 2022, administrative expenses and amortizations reflected the ongoing investment plans to develop and implement global technology.

PagoNxt. Underlying income statement

EUR million and % change

			/ 2021	
	2022	2021	%	% excl. FX
Revenue	953	495	+93	+72
Expenses	-1,024	-673	+52	+45
Net operating income	**-71**	**-178**	**-60**	**-54**
LLPs	-44	-10	+336	+273
PBT	-141	-227	-38	-32
Underlying attrib. profit	**-215**	**-253**	**-15**	**-10**

Detailed financial information in section 4.6 'Appendix'.

4.6 Appendix

Primary segments

EUR million

	Europe				Spain		
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**
Net interest income	12,565	10,574	18.8	18.5	4,539	4,166	9.0
Net fee income	4,493	4,344	3.4	3.3	2,818	2,789	1.0
Gains (losses) on financial transactions [A]	821	756	8.6	8.1	612	526	16.4
Other operating income	151	261	(42.1)	(41.9)	265	268	(1.3)
Total income	**18,030**	**15,934**	**13.2**	**12.9**	**8,233**	**7,748**	**6.3**
Administrative expenses and amortizations	(8,523)	(8,319)	2.5	2.1	(3,998)	(4,052)	(1.3)
Net operating income	**9,507**	**7,615**	**24.8**	**24.8**	**4,236**	**3,696**	**14.6**
Net loan-loss provisions	(2,396)	(2,293)	4.5	4.8	(1,618)	(2,320)	(30.3)
Other gains (losses) and provisions	(1,629)	(1,288)	26.4	27.0	(539)	(514)	4.9
Profit before tax	**5,482**	**4,034**	**35.9**	**35.3**	**2,079**	**863**	**140.9**
Tax on profit	(1,492)	(1,213)	23.0	22.6	(518)	(236)	119.4
Profit from continuing operations	**3,989**	**2,820**	**41.5**	**40.8**	**1,560**	**627**	**149.0**
Net profit from discontinued operations	—	—	—	—	—	—	—
Consolidated profit	**3,989**	**2,820**	**41.5**	**40.8**	**1,560**	**627**	**149.0**
Non-controlling interests	(179)	(71)	154.0	160.6	—	—	—
Underlying profit attributable to the parent	**3,810**	**2,750**	**38.6**	**37.8**	**1,560**	**627**	**148.9**
Balance sheet							
Loans and advances to customers	591,280	590,610	0.1	2.5	256,397	248,211	3.3
Cash, central banks and credit institutions	216,310	219,155	(1.3)	0.4	129,113	130,773	(1.3)
Debt instruments	76,319	67,068	13.8	15.0	42,008	30,043	39.8
Other financial assets	47,737	37,250	28.2	28.1	43,555	34,553	26.1
Other asset accounts	26,564	29,793	(10.8)	(10.0)	17,995	18,677	(3.7)
Total assets	**958,209**	**943,875**	**1.5**	**3.5**	**489,067**	**462,256**	**5.8**
Customer deposits	659,554	619,486	6.5	8.8	341,701	292,251	16.9
Central banks and credit institutions	112,254	156,258	(28.2)	(27.3)	43,110	83,229	(48.2)
Marketable debt securities	71,731	73,629	(2.6)	0.4	23,674	28,582	(17.2)
Other financial liabilities	60,010	38,706	55.0	55.4	52,876	33,994	55.5
Other liabilities accounts	11,621	10,929	6.3	7.9	7,314	5,198	40.7
Total liabilities	**915,169**	**899,007**	**1.8**	**3.8**	**468,674**	**443,254**	**5.7**
Total equity	**43,040**	**44,868**	**(4.1)**	**(2.3)**	**20,394**	**19,002**	**7.3**
Memorandum items:							
Gross loans and advances to customers [B]	579,476	575,983	0.6	2.9	249,821	245,386	1.8
Customer funds	736,589	711,799	3.5	5.4	406,965	370,927	9.7
Customer deposits [C]	643,309	603,739	6.6	8.8	334,570	290,633	15.1
Mutual funds	93,280	108,060	(13.7)	(13.2)	72,395	80,295	(9.8)
Ratios (%), operating means and customers							
Underlying RoTE	9.28	6.81	2.47		7.89	3.40	4.49
Efficiency ratio	47.3	52.2	(4.9)		48.6	52.3	(3.7)
NPL ratio	2.37	3.12	(0.74)		3.27	4.72	(1.45)
Total coverage ratio	51.8	49.4	2.4		51.0	51.4	(0.4)
Number of employees	65,581	63,048	4.0		26,839	26,015	3.2
Number of branches	3,148	3,242	(2.9)		1,913	1,951	(1.9)
Number of loyal customers (thousands)	10,964	10,334	6.1		3,083	2,772	11.2
Number of digital customers (thousands)	17,450	16,238	7.5		5,899	5,412	9.0

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Primary segments

EUR million

	United Kingdom				Portugal		
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**
Net interest income	4,992	4,383	13.9	13.0	747	722	3.4
Net fee income	390	434	(10.1)	(10.8)	484	441	9.8
Gains (losses) on financial transactions [A]	31	(8)	—	—	56	142	(60.6)
Other operating income	6	6	(2.0)	(2.8)	8	8	2.7
Total income	**5,418**	**4,815**	**12.5**	**11.6**	**1,295**	**1,313**	**(1.3)**
Administrative expenses and amortizations	(2,685)	(2,592)	3.6	2.8	(502)	(563)	(10.9)
Net operating income	**2,733**	**2,223**	**22.9**	**21.9**	**793**	**750**	**5.8**
Net loan-loss provisions	(316)	245	—	—	(17)	(38)	(55.0)
Other gains (losses) and provisions	(517)	(319)	62.0	60.7	(1)	(26)	(97.0)
Profit before tax	**1,900**	**2,149**	**(11.6)**	**(12.3)**	**775**	**685**	**13.1**
Tax on profit	(505)	(612)	(17.5)	(18.2)	(240)	(223)	7.8
Profit from continuing operations	**1,395**	**1,537**	**(9.2)**	**(10.0)**	**536**	**463**	**15.7**
Net profit from discontinued operations	—	—	—	—	—	—	—
Consolidated profit	**1,395**	**1,537**	**(9.2)**	**(10.0)**	**536**	**463**	**15.7**
Non-controlling interests	—	—	—	—	(2)	(1)	22.0
Underlying profit attributable to the parent	**1,395**	**1,537**	**(9.2)**	**(10.0)**	**534**	**462**	**15.7**
Balance sheet							
Loans and advances to customers	251,892	261,414	(3.6)	1.7	39,126	39,280	(0.4)
Cash, central banks and credit institutions	65,962	72,499	(9.0)	(4.0)	9,634	9,692	(0.6)
Debt instruments	7,294	7,832	(6.9)	(1.7)	7,887	8,489	(7.1)
Other financial assets	601	389	54.8	63.4	1,095	1,586	(30.9)
Other asset accounts	3,292	5,667	(41.9)	(38.7)	1,481	1,209	22.5
Total assets	**329,042**	**347,801**	**(5.4)**	**(0.1)**	**59,223**	**60,257**	**(1.7)**
Customer deposits	230,829	242,739	(4.9)	0.4	41,899	42,371	(1.1)
Central banks and credit institutions	37,022	44,119	(16.1)	(11.4)	9,182	9,430	(2.6)
Marketable debt securities	44,088	40,796	8.1	14.1	3,288	2,633	24.9
Other financial liabilities	3,549	2,558	38.7	46.4	448	236	90.0
Other liabilities accounts	1,553	2,442	(36.4)	(32.9)	1,074	1,344	(20.1)
Total liabilities	**317,041**	**332,654**	**(4.7)**	**0.6**	**55,890**	**56,014**	**(0.2)**
Total equity	**12,001**	**15,147**	**(20.8)**	**(16.4)**	**3,333**	**4,244**	**(21.4)**
Memorandum items:							
Gross loans and advances to customers [B]	244,840	247,775	(1.2)	4.3	40,066	40,262	(0.5)
Customer funds	228,993	237,780	(3.7)	1.7	45,521	46,711	(2.5)
Customer deposits [C]	221,884	228,790	(3.0)	2.4	41,899	42,371	(1.1)
Mutual funds	7,109	8,991	(20.9)	(16.5)	3,623	4,340	(16.5)
Ratios (%), operating means and customers							
Underlying RoTE	10.70	11.47	(0.78)		15.03	11.39	3.64
Efficiency ratio	49.6	53.8	(4.3)		38.7	42.9	(4.1)
NPL ratio	1.21	1.43	(0.23)		2.99	3.44	(0.45)
Total coverage ratio	33.8	25.8	8.0		79.3	71.7	7.7
Number of employees	21,185	20,259	4.6		4,952	5,069	(2.3)
Number of branches	449	450	(0.2)		383	393	(2.5)
Number of loyal customers (thousands)	4,566	4,455	2.5		934	860	8.6
Number of digital customers (thousands)	6,980	6,635	5.2		1,115	1,000	11.5

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Primary segments

EUR million

	Poland				Other Europe			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	1,976	1,020	93.7	98.7	312	282	10.3	4.5
Net fee income	528	518	2.0	4.6	273	163	67.6	54.1
Gains (losses) on financial transactions [A]	93	77	20.6	23.8	29	19	53.7	18.1
Other operating income	(123)	2	—	—	(5)	(23)	(79.4)	(80.3)
Total income	**2,474**	**1,617**	**53.0**	**57.0**	**609**	**441**	**37.9**	**27.8**
Administrative expenses and amortizations	(692)	(663)	4.5	7.2	(646)	(450)	43.6	36.4
Net operating income	**1,782**	**955**	**86.7**	**91.6**	**(38)**	**(9)**	**329.9**	**—**
Net loan-loss provisions	(440)	(200)	120.1	125.8	(6)	19	—	—
Other gains (losses) and provisions	(553)	(404)	37.0	40.6	(18)	(25)	(27.7)	(32.7)
Profit before tax	**789**	**351**	**125.0**	**130.9**	**(61)**	**(15)**	**322.3**	**—**
Tax on profit	(247)	(141)	74.9	79.5	18	(1)	—	—
Profit from continuing operations	**542**	**210**	**158.8**	**165.5**	**(43)**	**(16)**	**176.9**	**375.4**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**542**	**210**	**158.8**	**165.5**	**(43)**	**(16)**	**176.9**	**375.4**
Non-controlling interests	(179)	(69)	157.9	164.6	1	—	—	—
Underlying profit attributable to the parent	**364**	**140**	**159.2**	**165.9**	**(42)**	**(16)**	**164.2**	**346.4**
Balance sheet								
Loans and advances to customers	29,659	29,817	(0.5)	1.4	14,206	11,889	19.5	13.0
Cash, central banks and credit institutions	8,898	2,968	199.8	205.5	2,703	3,224	(16.2)	(20.4)
Debt instruments	11,865	15,082	(21.3)	(19.8)	7,265	5,620	29.3	29.3
Other financial assets	628	503	24.8	27.2	1,857	219	748.8	582.5
Other asset accounts	1,616	1,419	13.9	16.0	2,180	2,821	(22.7)	(24.4)
Total assets	**52,665**	**49,788**	**5.8**	**7.8**	**28,211**	**23,773**	**18.7**	**14.0**
Customer deposits	39,299	37,919	3.6	5.6	5,827	4,204	38.6	31.5
Central banks and credit institutions	4,969	3,332	49.1	51.9	17,971	16,148	11.3	7.4
Marketable debt securities	681	1,618	(57.9)	(57.1)	—	—	—	—
Other financial liabilities	1,179	692	70.3	73.6	1,958	1,226	59.8	52.5
Other liabilities accounts	1,378	1,529	(9.8)	(8.1)	302	417	(27.6)	(27.9)
Total liabilities	**47,506**	**45,091**	**5.4**	**7.4**	**26,058**	**21,995**	**18.5**	**13.9**
Total equity	**5,159**	**4,697**	**9.8**	**11.9**	**2,153**	**1,778**	**21.1**	**15.2**
Memorandum items:								
Gross loans and advances to customers [B]	30,524	30,657	(0.4)	1.5	14,226	11,903	19.5	13.0
Customer funds	42,370	42,325	0.1	2.0	12,740	14,055	(9.4)	(10.8)
Customer deposits [C]	39,299	37,919	3.6	5.6	5,658	4,026	40.5	33.1
Mutual funds	3,071	4,406	(30.3)	(29.0)	7,082	10,029	(29.4)	(29.4)
Ratios (%), operating means and customers								
Underlying RoTE	11.93	4.38	7.55					
Efficiency ratio	28.0	41.0	(13.0)					
NPL ratio	3.80	3.61	0.19					
Total coverage ratio	74.0	73.9	—					
Number of employees	10,532	10,250	2.8					
Number of branches	395	440	(10.2)					
Number of loyal customers (thousands)	2,379	2,245	6.0					
Number of digital customers (thousands)	3,284	2,998	9.6					

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Primary segments

EUR million

	North America				United States			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	9,705	8,072	20.2	6.6	6,140	5,298	15.9	3.0
Net fee income	1,958	1,644	19.1	5.7	771	782	(1.4)	(12.3)
Gains (losses) on financial transactions [A]	204	224	(9.0)	(19.3)	164	152	8.3	(3.7)
Other operating income	449	914	(50.9)	(56.3)	548	1,044	(47.5)	(53.3)
Total income	**12,316**	**10,853**	**13.5**	**0.6**	**7,623**	**7,277**	**4.8**	**(6.8)**
Administrative expenses and amortizations	(5,871)	(4,967)	18.2	5.1	(3,599)	(3,197)	12.6	0.1
Net operating income	**6,445**	**5,886**	**9.5**	**(3.1)**	**4,025**	**4,080**	**(1.4)**	**(12.3)**
Net loan-loss provisions	(2,538)	(1,210)	109.8	85.5	(1,744)	(419)	316.4	270.3
Other gains (losses) and provisions	(118)	(145)	(18.9)	(27.4)	(20)	(116)	(83.0)	(84.9)
Profit before tax	**3,790**	**4,531**	**(16.4)**	**(26.0)**	**2,261**	**3,546**	**(36.2)**	**(43.3)**
Tax on profit	(869)	(1,016)	(14.5)	(24.2)	(478)	(800)	(40.3)	(46.9)
Profit from continuing operations	**2,921**	**3,515**	**(16.9)**	**(26.5)**	**1,784**	**2,746**	**(35.0)**	**(42.2)**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**2,921**	**3,515**	**(16.9)**	**(26.5)**	**1,784**	**2,746**	**(35.0)**	**(42.2)**
Non-controlling interests	(43)	(556)	(92.2)	(93.1)	—	(494)	(100.0)	(100.0)
Underlying profit attributable to the parent	**2,878**	**2,960**	**(2.8)**	**(14.1)**	**1,784**	**2,252**	**(20.8)**	**(29.6)**
Balance sheet								
Loans and advances to customers	171,519	137,428	24.8	16.3	130,390	103,548	25.9	18.7
Cash, central banks and credit institutions	35,607	34,857	2.2	(5.1)	20,000	24,033	(16.8)	(21.5)
Debt instruments	44,060	38,500	14.4	4.9	21,637	16,341	32.4	24.8
Other financial assets	14,668	12,555	16.8	6.7	5,241	4,258	23.1	16.0
Other asset accounts	22,741	21,394	6.3	(0.5)	17,837	17,638	1.1	(4.7)
Total assets	**288,595**	**244,734**	**17.9**	**9.5**	**195,106**	**165,819**	**17.7**	**10.9**
Customer deposits	168,748	121,989	38.3	28.4	124,209	83,159	49.4	40.8
Central banks and credit institutions	25,294	35,152	(28.0)	(33.4)	8,572	21,926	(60.9)	(63.1)
Marketable debt securities	41,063	38,061	7.9	0.9	32,685	31,482	3.8	(2.1)
Other financial liabilities	20,883	14,652	42.5	29.8	8,346	4,038	106.7	94.9
Other liabilities accounts	6,943	6,194	12.1	4.0	4,116	4,140	(0.6)	(6.3)
Total liabilities	**262,931**	**216,048**	**21.7**	**12.9**	**177,929**	**144,745**	**22.9**	**15.9**
Total equity	**25,664**	**28,686**	**(10.5)**	**(16.6)**	**17,177**	**21,074**	**(18.5)**	**(23.2)**
Memorandum items:								
Gross loans and advances to customers [B]	156,521	134,090	16.7	8.7	115,248	99,731	15.6	8.9
Customer funds	164,414	137,206	19.8	11.2	112,856	91,865	22.8	15.8
Customer deposits [C]	135,955	111,004	22.5	13.8	98,346	77,775	26.4	19.2
Mutual funds	28,459	26,202	8.6	0.1	14,510	14,090	3.0	(2.9)
Ratios (%), operating means and customers								
Underlying RoTE	11.06	12.73	(1.67)		9.40	13.21	(3.81)	
Efficiency ratio	47.7	45.8	1.9		47.2	43.9	3.3	
NPL ratio	3.03	2.42	0.61		3.25	2.33	0.93	
Total coverage ratio	93.3	134.9	(41.6)		90.3	150.3	(60.0)	
Number of employees	44,518	43,595	2.1		14,610	15,674	(6.8)	
Number of branches	1,854	1,859	(0.3)		485	488	(0.6)	
Number of loyal customers (thousands)	4,693	4,273	9.8		365	378	(3.4)	
Number of digital customers (thousands)	7,239	6,774	6.9		1,037	1,036	0.1	

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Primary segments

EUR million

	Mexico				Other North America			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	3,565	2,773	28.6	13.3	—	—	(43.5)	(43.5)
Net fee income	1,140	828	37.7	21.3	47	34	40.5	40.5
Gains (losses) on financial transactions [A]	39	72	(45.6)	(52.0)	—	—	—	—
Other operating income	(122)	(120)	1.4	(10.6)	22	(11)	—	—
Total income	**4,623**	**3,553**	**30.1**	**14.7**	**70**	**23**	**201.4**	**201.4**
Administrative expenses and amortizations	(2,076)	(1,643)	26.4	11.4	(196)	(127)	54.4	54.4
Net operating income	**2,547**	**1,910**	**33.3**	**17.5**	**(126)**	**(104)**	**21.6**	**21.6**
Net loan-loss provisions	(788)	(791)	(0.3)	(12.2)	(6)	—	—	—
Other gains (losses) and provisions	(94)	(19)	386.4	328.6	(5)	(10)	(55.7)	(55.7)
Profit before tax	**1,665**	**1,100**	**51.3**	**33.3**	**(137)**	**(114)**	**19.6**	**19.6**
Tax on profit	(407)	(223)	82.9	61.2	17	7	153.1	153.1
Profit from continuing operations	**1,257**	**878**	**43.3**	**26.3**	**(120)**	**(108)**	**11.5**	**11.5**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**1,257**	**878**	**43.3**	**26.3**	**(120)**	**(108)**	**11.5**	**11.5**
Non-controlling interests	(44)	(61)	(27.6)	(36.2)	1	—	—	—
Underlying profit attributable to the parent	**1,213**	**816**	**48.6**	**31.0**	**(119)**	**(108)**	**10.1**	**10.1**

Balance sheet								
Loans and advances to customers	41,080	33,860	21.3	9.0	48	20	142.5	142.5
Cash, central banks and credit institutions	15,254	10,593	44.0	29.4	354	231	53.1	53.1
Debt instruments	22,423	22,159	1.2	(9.1)	—	—	—	—
Other financial assets	9,257	8,297	11.6	0.3	170	—	—	—
Other asset accounts	4,622	3,474	33.0	19.6	282	282	(0.1)	(0.1)
Total assets	**92,636**	**78,383**	**18.2**	**6.2**	**853**	**533**	**60.1**	**60.1**
Customer deposits	44,309	38,820	14.1	2.6	230	11	—	—
Central banks and credit institutions	16,592	13,201	25.7	12.9	130	25	413.7	413.7
Marketable debt securities	8,378	6,579	27.3	14.4	—	—	—	—
Other financial liabilities	12,374	10,559	17.2	5.3	163	54	199.2	199.2
Other liabilities accounts	2,764	2,022	36.7	22.8	64	32	96.8	96.8
Total liabilities	**84,416**	**71,180**	**18.6**	**6.6**	**587**	**123**	**377.3**	**377.3**
Total equity	**8,220**	**7,203**	**14.1**	**2.6**	**266**	**410**	**(35.1)**	**(35.1)**
Memorandum items:								
Gross loans and advances to customers [B]	41,218	34,339	20.0	7.9	55	20	174.6	174.6
Customer funds	51,328	45,330	13.2	1.8	230	11	—	—
Customer deposits [C]	37,379	33,218	12.5	1.1	230	11	—	—
Mutual funds	13,949	12,112	15.2	3.5	—	—	—	—

Ratios (%), operating means and customers			
Underlying RoTE	16.92	13.63	3.30
Efficiency ratio	44.9	46.2	(1.3)
NPL ratio	2.32	2.73	(0.41)
Total coverage ratio	106.6	95.0	11.6
Number of employees	28,834	27,266	5.8
Number of branches	1,369	1,371	(0.1)
Number of loyal customers (thousands)	4,328	3,895	11.1
Number of digital customers (thousands)	6,029	5,544	8.8

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Primary segments

EUR million

	South America				Brazil			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	12,979	11,307	14.8	5.6	8,901	7,867	13.1	(3.7)
Net fee income	4,515	3,721	21.4	11.5	3,296	2,728	20.8	2.8
Gains (losses) on financial transactions [A]	1,291	716	80.4	76.9	736	376	96.0	66.7
Other operating income	(761)	(407)	87.0	130.7	(23)	(95)	(75.8)	(79.4)
Total income	**18,025**	**15,337**	**17.5**	**7.6**	**12,910**	**10,876**	**18.7**	**1.0**
Administrative expenses and amortizations	(6,675)	(5,380)	24.1	18.0	(4,180)	(3,236)	29.2	9.9
Net operating income	**11,350**	**9,958**	**14.0**	**2.3**	**8,730**	**7,641**	**14.3**	**(2.8)**
Net loan-loss provisions	(5,041)	(3,251)	55.1	37.2	(4,417)	(2,715)	62.7	38.4
Other gains (losses) and provisions	(544)	(474)	14.8	14.0	(259)	(316)	(18.1)	(30.4)
Profit before tax	**5,764**	**6,232**	**(7.5)**	**(16.9)**	**4,055**	**4,610**	**(12.0)**	**(25.2)**
Tax on profit	(1,549)	(2,359)	(34.3)	(42.8)	(1,232)	(2,027)	(39.2)	(48.3)
Profit from continuing operations	**4,215**	**3,873**	**8.8**	**(0.4)**	**2,822**	**2,583**	**9.3**	**(7.0)**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**4,215**	**3,873**	**8.8**	**(0.4)**	**2,822**	**2,583**	**9.3**	**(7.0)**
Non-controlling interests	(557)	(556)	0.1	(6.5)	(278)	(263)	5.7	(10.1)
Underlying profit attributable to the parent	**3,658**	**3,317**	**10.3**	**0.6**	**2,544**	**2,320**	**9.7**	**(6.7)**
Balance sheet								
Loans and advances to customers	144,812	123,920	16.9	8.4	86,202	73,085	17.9	5.5
Cash, central banks and credit institutions	52,358	43,134	21.4	15.9	40,858	28,400	43.9	28.6
Debt instruments	57,106	51,451	11.0	1.5	37,387	37,078	0.8	(9.8)
Other financial assets	19,854	23,809	(16.6)	(23.0)	5,682	10,129	(43.9)	(49.8)
Other asset accounts	18,795	15,491	21.3	13.2	14,037	10,755	30.5	16.7
Total assets	**292,925**	**257,805**	**13.6**	**5.6**	**184,165**	**159,446**	**15.5**	**3.3**
Customer deposits	137,661	120,500	14.2	7.0	89,957	74,475	20.8	8.0
Central banks and credit institutions	42,921	44,314	(3.1)	(10.8)	23,477	27,670	(15.2)	(24.1)
Marketable debt securities	35,063	23,461	49.5	36.9	23,997	13,737	74.7	56.2
Other financial liabilities	41,445	40,490	2.4	(5.7)	25,719	25,503	0.8	(9.8)
Other liabilities accounts	11,327	8,610	31.6	22.3	5,477	5,283	3.7	(7.3)
Total liabilities	**268,417**	**237,375**	**13.1**	**5.0**	**168,627**	**146,667**	**15.0**	**2.8**
Total equity	**24,508**	**20,430**	**20.0**	**12.3**	**15,539**	**12,779**	**21.6**	**8.7**
Memorandum items:								
Gross loans and advances to customers [B]	152,435	128,916	18.2	9.7	92,194	76,569	20.4	7.7
Customer funds	182,541	162,212	12.5	5.2	120,911	105,095	15.0	2.9
Customer deposits [C]	123,307	110,875	11.2	4.6	75,767	64,890	16.8	4.4
Mutual funds	59,234	51,337	15.4	6.6	45,144	40,205	12.3	0.4
Ratios (%), operating means and customers								
Underlying RoTE	18.77	20.22	(1.45)		19.23	21.44	(2.22)	
Efficiency ratio	37.0	35.1	2.0		32.4	29.7	2.6	
NPL ratio	6.20	4.50	1.70		7.57	4.88	2.69	
Total coverage ratio	76.0	98.3	(22.4)		79.5	111.2	(31.7)	
Number of employees	78,271	74,970	4.4		55,993	52,871	5.9	
Number of branches	3,653	3,819	(4.3)		2,847	2,964	(3.9)	
Number of loyal customers (thousands)	11,473	10,630	7.9		8,743	8,037	8.8	
Number of digital customers (thousands)	25,897	23,727	9.1		20,405	18,351	11.2	

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Primary segments

EUR million

	Chile				Argentina			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	1,772	1,982	(10.6)	(8.7)	1,778	1,065	67.0	171.5
Net fee income	468	394	18.8	21.3	542	420	28.9	109.6
Gains (losses) on financial transactions [A]	242	131	84.9	88.9	218	147	48.4	141.3
Other operating income	(33)	(52)	(36.4)	(35.0)	(705)	(245)	188.2	368.7
Total income	**2,449**	**2,455**	**(0.3)**	**1.9**	**1,833**	**1,388**	**32.1**	**114.8**
Administrative expenses and amortizations	(981)	(942)	4.1	6.4	(987)	(805)	22.6	99.4
Net operating income	**1,468**	**1,513**	**(3.0)**	**(0.9)**	**846**	**583**	**45.2**	**136.1**
Net loan-loss provisions	(399)	(341)	16.9	19.5	(132)	(140)	(5.9)	53.0
Other gains (losses) and provisions	(8)	(16)	(50.4)	(49.3)	(270)	(136)	98.7	223.0
Profit before tax	**1,062**	**1,156**	**(8.2)**	**(6.2)**	**443**	**306**	**44.9**	**135.6**
Tax on profit	(105)	(230)	(54.1)	(53.1)	(118)	(34)	247.7	465.4
Profit from continuing operations	**956**	**927**	**3.2**	**5.4**	**325**	**272**	**19.5**	**94.4**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**956**	**927**	**3.2**	**5.4**	**325**	**272**	**19.5**	**94.4**
Non-controlling interests	(279)	(291)	(4.1)	(2.0)	(1)	(2)	(50.1)	(18.9)
Underlying profit attributable to the parent	**677**	**636**	**6.5**	**8.8**	**324**	**270**	**20.0**	**95.1**
Balance sheet								
Loans and advances to customers	43,336	37,849	14.5	7.9	5,586	5,173	8.0	75.6
Cash, central banks and credit institutions	6,344	6,773	(6.3)	(11.7)	3,021	5,243	(42.4)	(6.3)
Debt instruments	11,977	10,955	9.3	3.1	5,317	1,358	291.7	536.9
Other financial assets	13,898	13,469	3.2	(2.7)	74	92	(19.3)	31.2
Other asset accounts	2,869	2,942	(2.5)	(8.1)	1,017	966	5.2	71.1
Total assets	**78,425**	**71,987**	**8.9**	**2.7**	**15,015**	**12,832**	**17.0**	**90.3**
Customer deposits	29,042	29,525	(1.6)	(7.3)	10,547	9,170	15.0	87.0
Central banks and credit institutions	13,906	12,109	14.8	8.3	1,080	649	66.5	170.7
Marketable debt securities	10,415	9,264	12.4	6.0	153	204	(24.8)	22.3
Other financial liabilities	14,650	13,841	5.8	(0.2)	811	1,013	(19.9)	30.2
Other liabilities accounts	4,832	2,543	90.0	79.1	514	443	16.0	88.6
Total liabilities	**72,845**	**67,283**	**8.3**	**2.1**	**13,105**	**11,479**	**14.2**	**85.6**
Total equity	**5,580**	**4,704**	**18.6**	**11.8**	**1,910**	**1,353**	**41.1**	**129.5**
Memorandum items:								
Gross loans and advances to customers [B]	44,588	38,930	14.5	8.0	5,781	5,454	6.0	72.4
Customer funds	38,014	37,847	0.4	(5.3)	14,499	11,891	21.9	98.3
Customer deposits [C]	28,889	29,484	(2.0)	(7.6)	10,547	9,170	15.0	87.0
Mutual funds	9,126	8,363	9.1	2.9	3,952	2,721	45.2	136.2
Ratios (%), operating means and customers								
Underlying RoTE	19.47	19.25	0.22		26.23	27.15	(0.92)	
Efficiency ratio	40.1	38.4	1.7		53.9	58.0	(4.2)	
NPL ratio	4.99	4.43	0.55		2.08	3.61	(1.53)	
Total coverage ratio	56.3	63.3	(7.0)		180.4	153.8	26.6	
Number of employees	9,773	10,574	(7.6)		8,251	8,620	(4.3)	
Number of branches	283	326	(13.2)		375	411	(8.8)	
Number of loyal customers (thousands)	855	832	2.8		1,671	1,593	4.9	
Number of digital customers (thousands)	1,982	2,017	(1.8)		2,867	2,730	5.0	

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Primary segments

EUR million

	Other South America				Digital Consumer Bank			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	527	393	34.4	17.1	4,022	4,041	(0.5)	(0.5)
Net fee income	210	179	17.4	4.5	843	821	2.7	2.8
Gains (losses) on financial transactions [A]	95	62	52.2	35.4	60	8	618.8	621.1
Other operating income	1	(15)	—	—	344	228	50.8	47.7
Total income	**832**	**618**	**34.7**	**18.2**	**5,269**	**5,099**	**3.3**	**3.2**
Administrative expenses and amortizations	(527)	(397)	32.8	21.4	(2,462)	(2,405)	2.4	2.4
Net operating income	**306**	**221**	**38.1**	**13.1**	**2,807**	**2,694**	**4.2**	**3.9**
Net loan-loss provisions	(94)	(55)	71.0	48.7	(544)	(527)	3.2	3.1
Other gains (losses) and provisions	(7)	(7)	13.2	5.0	(27)	(194)	(86.1)	(86.0)
Profit before tax	**205**	**160**	**27.8**	**2.2**	**2,237**	**1,973**	**13.4**	**12.8**
Tax on profit	(94)	(69)	35.7	17.6	(549)	(464)	18.5	18.0
Profit from continuing operations	**111**	**91**	**21.9**	**(8.0)**	**1,687**	**1,510**	**11.8**	**11.2**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**111**	**91**	**21.9**	**(8.0)**	**1,687**	**1,510**	**11.8**	**11.2**
Non-controlling interests	1	—	—	—	(379)	(346)	9.6	9.6
Underlying profit attributable to the parent	**112**	**91**	**23.6**	**(6.8)**	**1,308**	**1,164**	**12.4**	**11.7**
Balance sheet								
Loans and advances to customers	9,689	7,813	24.0	14.6	122,608	113,936	7.6	9.0
Cash, central banks and credit institutions	2,135	2,718	(21.4)	(29.3)	12,311	21,804	(43.5)	(43.0)
Debt instruments	2,425	2,061	17.6	2.8	7,644	5,280	44.8	46.3
Other financial assets	200	119	67.8	60.1	190	47	303.6	310.6
Other asset accounts	872	828	5.3	1.0	8,262	6,937	19.1	20.6
Total assets	**15,320**	**13,539**	**13.2**	**3.4**	**151,016**	**148,005**	**2.0**	**3.3**
Customer deposits	8,116	7,331	10.7	(3.1)	58,544	55,327	5.8	6.7
Central banks and credit institutions	4,457	3,886	14.7	13.7	39,169	37,600	4.2	6.3
Marketable debt securities	498	255	94.9	67.4	33,749	36,710	(8.1)	(7.4)
Other financial liabilities	265	134	97.8	87.7	1,820	1,397	30.3	31.8
Other liabilities accounts	504	340	48.1	32.6	4,704	4,565	3.1	3.8
Total liabilities	**13,840**	**11,946**	**15.8**	**5.6**	**137,986**	**135,598**	**1.8**	**2.9**
Total equity	**1,480**	**1,593**	**(7.1)**	**(13.6)**	**13,029**	**12,407**	**5.0**	**6.9**
Memorandum items:								
Gross loans and advances to customers [B]	9,872	7,963	24.0	14.5	124,976	116,580	7.2	8.5
Customer funds	9,117	7,378	23.6	8.2	61,625	57,824	6.6	7.4
Customer deposits [C]	8,105	7,331	10.6	(3.2)	58,544	55,327	5.8	6.7
Mutual funds	1,011	48	—	—	3,081	2,497	23.4	23.4
Ratios (%), operating means and customers								
Underlying RoTE					13.65	12.41	1.25	
Efficiency ratio					46.7	47.2	(0.4)	
NPL ratio					2.06	2.13	(0.07)	
Total coverage ratio					92.8	107.8	(15.0)	
Number of employees					16,193	15,840	2.2	
Number of branches					364	309	17.8	
Number of total customers (thousands)					19,746	19,438	1.6	

A. Includes exchange differences.
B. Minus reverse repurchase agreements.
C. Minus repurchase agreements.

Secondary segments

EUR million

	Retail Banking				Corporate & Investment Banking			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	34,880	30,596	14.0	7.2	3,544	2,921	21.3	17.6
Net fee income	7,650	7,045	8.6	3.3	1,988	1,744	14.0	9.4
Gains (losses) on financial transactions [A]	435	840	(48.2)	(50.8)	1,833	766	139.2	139.3
Other operating income	(280)	390	—	—	31	188	(83.7)	(85.1)
Total income	**42,684**	**38,869**	**9.8**	**3.2**	**7,395**	**5,619**	**31.6**	**27.4**
Administrative expenses and amortizations	(18,568)	(17,103)	8.6	4.0	(2,898)	(2,379)	21.8	17.3
Net operating income	**24,116**	**21,766**	**10.8**	**2.5**	**4,497**	**3,240**	**38.8**	**35.0**
Net loan-loss provisions	(10,210)	(7,081)	44.2	33.4	(251)	(151)	66.0	63.0
Other gains (losses) and provisions	(2,135)	(2,052)	4.0	3.2	(131)	(17)	654.6	855.4
Profit before tax	**11,772**	**12,632**	**(6.8)**	**(14.7)**	**4,115**	**3,071**	**34.0**	**30.1**
Tax on profit	(2,931)	(3,898)	(24.8)	(32.0)	(1,119)	(821)	36.3	27.8
Profit from continuing operations	**8,841**	**8,734**	**1.2**	**(6.9)**	**2,996**	**2,250**	**33.2**	**31.0**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**8,841**	**8,734**	**1.2**	**(6.9)**	**2,996**	**2,250**	**33.2**	**31.0**
Non-controlling interests	(895)	(1,345)	(33.5)	(37.9)	(192)	(137)	39.8	30.6
Underlying profit attributable to the parent	**7,946**	**7,389**	**7.5**	**(1.3)**	**2,805**	**2,113**	**32.7**	**31.0**

A. Includes exchange differences.

Secondary segments

EUR million

	Wealth Management & Insurance				PagoNxt			
Underlying income statement	**2022**	**2021**	**%**	**% excl. FX**	**2022**	**2021**	**%**	**% excl. FX**
Net interest income	825	476	73.2	67.7	22	1	0.0	0.0
Net fee income	1,291	1,247	3.5	(0.8)	881	493	78.6	59.7
Gains (losses) on financial transactions [A]	123	100	22.6	19.3	(14)	(1)	887.4	836.3
Other operating income	369	416	(11.3)	(14.2)	64	2	—	—
Total income	**2,608**	**2,240**	**16.4**	**12.1**	**953**	**495**	**92.7**	**72.0**
Administrative expenses and amortizations	(1,041)	(914)	13.9	8.2	(1,024)	(673)	52.2	44.5
Net operating income	**1,566**	**1,326**	**18.1**	**14.8**	**(71)**	**(178)**	**(60.4)**	**(54.2)**
Net loan-loss provisions	(14)	(38)	(62.9)	(63.8)	(44)	(10)	336.5	272.8
Other gains (losses) and provisions	(26)	6	—	—	(26)	(38)	(33.3)	(35.0)
Profit before tax	**1,526**	**1,294**	**17.9**	**14.6**	**(141)**	**(227)**	**(38.0)**	**(31.6)**
Tax on profit	(347)	(309)	12.4	9.9	(63)	(24)	158.3	95.0
Profit from continuing operations	**1,179**	**985**	**19.7**	**16.0**	**(203)**	**(251)**	**(19.0)**	**(14.5)**
Net profit from discontinued operations	—	—	—	—	—	—	—	—
Consolidated profit	**1,179**	**985**	**19.7**	**16.0**	**(203)**	**(251)**	**(19.0)**	**(14.5)**
Non-controlling interests	(60)	(44)	36.7	32.0	(12)	(2)	570.2	540.5
Underlying profit attributable to the parent	**1,118**	**941**	**18.8**	**15.3**	**(215)**	**(253)**	**(15.0)**	**(10.3)**

A. Includes exchange differences.

5. Research, development and innovation (R&D&I)

Research, development and innovation activity

Innovation and technological development are crucial to Santander's strategy. We focus on operational excellence and customer experience to meet the challenges that stem from digitalization.

The information we gather on new technology platforms helps us better understand the customer journey and design a more accurate digital profile which boosts confidence and increases customer loyalty.

In addition to competition from other banks, we must be mindful of new entrants to the financial system that use new technology to stand out from the crowd and gain a competitive advantage.

Developing a sound strategic technology plan must provide:

- greater capacity to adapt to customers' needs (customized products and services, full availability and excellent, secure service on all channels);
- enhanced processes for Santander's professionals to ensure greater reliability and productivity; and
- proper risk management that provides teams with the means to spot and assess all business, operational, reputational, regulatory and compliance risks.

As a global systemically important bank, Santander and its subsidiaries face increasing regulatory demands that impact system models and underlying technology, which require considerable investments to guarantee compliance and legal certainty.

As in previous years, the European Commission's 2022 EU Industrial R&D Investment Scoreboard (based on 2021 data) recognized our technological effort. We were the best Spanish company and the second best bank globally in R&D investment.

The equivalent investment in R&D&I to that considered in the ranking was EUR 1,325 million. See note 18 to the consolidated financial statements.

Technology strategy

To aid the Group's strategy to become the best open digital platform for financial services, our technology must boost efficiency and minimize risk through optimization, growth and value creation.

Our IT strategy ensures that our technology supports future business growth and is based on simplification, reusable components and composable architecture. It is consistent with the Group's strategic initiatives and global business and operating models.

To ensure our technology strategy is consistent in all Group entities, the Santander Architecture Review Board (SARB) holds monthly meetings that bring together units' chief technology officers (CTOs) to actively make key architecture decisions. It oversees the analysis of potential assets, migration to the cloud and the review of data lake reference architectures.

Consequently, Santander Common Architecture is flexible for the Group and enables the use of a global front- and back-end technology stack. It guides technological development and integration with such new digital capabilities as agile methodologies, the public and private Cloud, core systems development, and advanced technological skills (API - application programming interface-, artificial intelligence, robotics, blockchain, etc.) and data.

To implement our technology strategy, we use internal regulation, the Group's commitment and experience in working with our entities and a governance model that defines projects and initiatives to shape the strategy across our footprint.

The development of our technology and operations (T&O) model will help us cultivate new business, with a particular focus on global products and digital services. Some 6,000 Santander Global Technology & Operations (SGTO) professionals in Spain, the UK, Portugal, Poland, the US, Mexico, Brazil and Chile are gradually incorporating the global product portfolio agreed by the Group's entities, our global businesses and the T&O division. They guarantee not only the quality of digital services and products, but also their security.

SGTO has reaffirmed its commitment to R&D&I with technology that enables us to transform and modernize complex systems, such as core banking, to help businesses prosper by supporting their digital transformations.

Technological infrastructure

Santander has a network of high-quality data centres (CPDs) interconnected by a redundant communications system. They are spread across strategic markets to support and develop our operations. They combine traditional IT systems with the capabilities of a private, on-premise cloud, which, thanks to its swift adoption, enables us to integrate management of the business areas' technology, accelerate digitalization and achieve significant cost savings.

Santander has migrated more than 90% of its technology infrastructure to the cloud and expects to complete migration in 2023. Our cloud strategy enables us to enhance processes, innovate quickly and improve service quality. Our local Cloud Centres of Excellence (CCoEs), coordinated by Global CCoE, guarantee consistent and rigorous Cloud adoption across our entities. This minimizes risk in accordance with our Public Cloud policy. Migration will also contribute towards Santander's responsible banking goals as we expect it to reduce the energy our technology infrastructure consumes by 70%.

Cybersecurity

Cybersecurity is one of Santander's main priorities. It is crucial to support our purpose of helping people and businesses prosper, and to offer customers excellent digital services.

The cybersecurity services and capabilities we created under our three-year Security Transformation Plan (completed in 2020) have become business as usual (BAU) operations in line with the Group's Cybersecurity Framework.

We must continuously adapt cyber defences against more sophisticated threats and attack techniques. In 2021, we established key strategic cyber security pillars and initiatives to develop our cyber defences and avert new threats with cutting-edge technology.

In 2022, Santander took preventive measures to strengthen defence capabilities in a complex geopolitical backdrop. In particular, we developed control frameworks for Ransomware and Distribution Denial of Service (DDoS) threats, which dominated the external cyber threat landscape. We also adopted measures to make supply chains more secure, prevent data exfiltration and build up internal controls.

Internal and external auditors periodically review our information systems. The Group proactively identifies IT assets, systems and information (even those of third parties) and assesses their risk and protection levels to detect and remedy any potential weaknesses by using vulnerability scanning, penetration testing and red team simulations of real cyber-attacks.

Santander takes part in coordinated cyber exercises with public and private organizations. In September, Santander and FS-ISAC organized a Capture the Flag (CTF) competition among 35 teams - including two from Santander - from 28 organizations and financial institutions around the world.

In addition to regular testing and reviews, independent third party certification authorities review and certify our critical cybersecurity services. Certifications received include the International Organization for Standardization (ISO) 27001 and the Statement on Standards for Attestation Engagements (SSAE) 18.

Investing in specialized cybersecurity companies to drive technology and innovation is fundamental to our mission to generate value and trust in society and help create a more secure ecosystem. In 2022, Santander and Forgepoint Capital, a leading venture capital firm specializing in cybersecurity, announced a strategic alliance to drive investment and innovation in cybersecurity in Europe and Latin America.

For more details on the cybersecurity initiatives we ran in 2022, see the 'Acting responsibly towards customers' section of the 'Responsible banking' chapter. For details on the measurement, monitoring and control of cybersecurity-related risks, and their respective mitigation plans, see section 6.2 'Operational risk management' of the 'Risk management and compliance' chapter.

Digitalization and fintech ecosystem

We created PagoNxt in 2020 to make headway in our digital transformation, in addition to the technological strategy, infrastructure development and cybersecurity initiatives. Building on Santander's large-scale distribution and proven open-market capabilities, PagoNxt enables us to accelerate business for merchants and enhance their ecosystem with a Cloud-native, data-driven global payments platform that connects customers and businesses. For more details on PagoNxt see section 4 'Financial information by segment' in this chapter.

Moreover, Santander combined Santander Consumer Finance's scale and leadership in Europe with Openbank's platform. Openbank's technology (digital banking API, with a Banking-as-a-Service model) and data management capabilities drive growth by offering new services and operational enhancements.

For more details on our digital and innovative products and services for individuals and corporates, as well as references to cybersecurity policies, see section 3.4 'Acting responsibly towards customers' in the 'Responsible banking' chapter.

6. Significant events since year end

On 28 December 2022 the Law establishing a new temporary levy on credit institutions and financial credit institutions was published in Spain (see note 27 to the consolidated financial statements). On 1 January 2023, an estimated amount of EUR 225 million has been accounted for in accordance with IFRS Interpretations Committee (IFRIC) 21 due to this new levy.

In accordance with the agreement reached by the April 2022 general shareholders' meeting, on 1 February 2023 the board of directors approved a capital reduction, subject to regulatory authorization from the ECB, of EUR 170,203,286 through the redemption of 340,406,572 shares, representing 2.03% of the capital acquired in the First 2022 Share Buyback Programme.

7. Trend information 2023

This directors' report contains prospective information on the directors' plans, forecasts and estimates, based on what they consider to be reasonable assumptions. Readers of this report should take into account that such prospective information must not be considered a guarantee of our future performance. As the plans, forecasts and estimates are subject to numerous risks and uncertainties our future performance may not match initial expectations. These risks and uncertainties are described in the 'Risk management and compliance' chapter of this report and in note 53 of the consolidated financial statements.

→ Macroeconomic environment

Despite considerable factors of uncertainty in 2023 economic outlooks (such as geopolitics, in particular its impact on the supply of energy in Europe, and the restoration of global supply chains), our base scenario assumes inflation will begin to decelerate gradually in 2023 as a result of more restrictive central bank monetary policies and the easing of geopolitical tensions and global supply chain bottlenecks.

The expected economic cooling should slow down economic growth. This could result in a mild recession in some countries. We do not expect the slowdown to affect unemployment significantly. Until inflation shows clear signs of slowing down, we believe that central banks will continue to trend towards tighter monetary policy, and that interest rates in 2023 will remain around current levels. The only exception could be in Latin America, where some countries could start to cut rates in the second half of the year.

Our **macroeconomic forecast for 2023** by country/region is as follows:

Eurozone

A high inflationary environment that is eroding household purchasing power, monetary policy that still needs tightening, and the war in Ukraine (which seems unlikely to be resolved in the near future) are shaping 2023. However, concerns regarding the security of energy supply have subsided and global supply chain functioning has improved. As a result, although we expect slower economic growth in 2023 than in 2022, the outlook is better than it was a few months ago. The euro area's GDP is expected to grow modestly, around 1%. Inflation should fall but is likely to remain far from the ECB's 2% target. We therefore expect tighter monetary policy with higher official interest rates and measures to reduce the ECB's balance sheet.

Fiscal policy could turn slightly expansive as governments are extending some measures implemented in 2022 to offset the impact of higher energy prices. Consistency between monetary and fiscal policy will be a challenge. Eurozone tax reforms (suspended due to the pandemic) are underway, but won't take effect until 2024.

Geopolitics will be particularly important in the eurozone. Economic growth might be affected by the war in Ukraine and the EU's response to energy security and defence challenges.

Spain

We expect growth to slow down in 2023 due to lower household consumption as real incomes are squeezed. Energy price uncertainty and tighter financial conditions may delay some investment. We expect inflation to decrease, though we believe core inflation will take longer to do so. The unemployment rate may increase due to economic slowdown at the beginning of the year, but we expect it to be transitory.

UK

The economy is expected to be in recession in 2023. Though household and business support measures should avoid a deep recession, we expect consumption to fall as high inflation reduces disposable income. We also believe investment will fall considering outlooks of slumping demand. Inflation should fall from Q1, but remain above the Bank of England's target. We expect interest rates to remain around 4% during the year.

Portugal

The 2023 growth outlook depends on how much the more restrictive monetary policy impacts activity. Higher interest rates will affect domestic demand and reduce consumption; but the impact of this will depend on the labour market (we expect the unemployment rate to remain around its natural rate of 7%-8%) and the use of accumulated savings. Investment is expected to moderate as a result of higher interest rates and worse demand outlook. However, investment in energy transition could mitigate some of this effect. Inflation should begin to moderate, though wage pressures are expected to keep inflation above 2%.

Poland

The expected recession in 2023 is likely to be less severe than initially predicted, could reach its lowest point in Q1 2023. The subsequent recovery should lead to slightly positive growth in the year. Consumption is expected to be the most resilient component of demand while investment may fall. However, net exports is expected to contribute positively to GDP growth. We expect inflation to peak during the first quarter and then fall afterwards, although remaining above 10%. The Monetary Policy Council agreed to delay the inflation target, and it seems it will not raise rates above 6.75%.

US

US economic forecasts indicate 1% growth in 2023 affected by lower disposable income and higher interest rates. However, households and companies are in a solid position to stave off further downturn. We expect the Federal Reserve (Fed) will continue to raise interest rates in the next few months but then keep them stable for the rest of the year. Lower demand should drive inflation down; but we expect inflation to end the year above the Fed's target.

Mexico

We expect an economic slowdown, driven by weaker external demand (particularly from the US) and the impact of monetary policy tightening in the last two years. We believe the central bank's credibility and Mexico's strong macro basis will bring overall and medium-term inflation back within target and lead the central bank to stop raising interest rates. We expect a marginal increase in early 2023 but for rates to then remain stable until year end.

Brazil

We expect a slowdown driven by lower global economic growth and tighter credit conditions in 2021 and 2022. We expect uncertainty around Brazil's new government to clear up over the year. Strong monetary policy, which we believe will not raise rates further, should continue to lower inflation.

Chile

The economy is expected to continue the readjustment that began in 2022. GDP growth forecasts are negative due to rising interest rates in recent years and fiscal reform. We believe inflation will fall and the central bank will begin to cut rates, paving the way for a return to economic growth in 2024.

Argentina

Economic growth is expected to decline in 2023 amid weak global conditions and soaring domestic inflation. Compliance with the International Monetary Fund's economic stabilization programme will be key to keep refinancing debt maturities. Presidential elections could lead to some volatility.

→ Financial markets

The 2023 outlook suggests falling consumption and investment (due to inflation), higher interest rates and lower confidence will cause global economic activity to slowdown. Inflation should fall back slightly which could lead to central banks ending monetary policy tightening early in the year. We believe this could gradually boost financial markets over the year; but uncertainty still runs high.

There may be further upside risk to debt yields in early 2023; but we expect them to begin to fall in the second half of the year as the market prices in future rate cuts starting in 2024. We expect quantitative tightening (QT) in peripheral Europe will be gradual and the ECB will continue its Transmission Protection Instrument (TPI), which should cover medium-term spreads.

With the interest rate ceiling, equities should recover some value but not a great deal, as interest rates remain high and the economy continues to cool down.

In foreign exchange, we believe the euro's depreciation against the US dollar peaked in 2022. But we expect the euro to remain weak in the short term and then moderately strengthen.

In developing markets, all eyes remain on China which has moved away from zero-covid policies and is taking steps to resolve the housing crisis. Elsewhere, especially in Latin America, we expect cyclical slowdowns, high interest rates and low global liquidity to sustain this challenging environment.

We believe a risk to our central scenario is inflation falling less than forecasted. This could put pressure on central banks' terminal interest rates. We remain cautious; if this risk materializes, it could lead to financial market vulnerability in 2023.

We expect that the banking sector will be hit by the impact of slower economic growth and tighter credit conditions on customers' ability to pay in the private sector and on balance sheet growth.

Higher interest rates will be accompanied by the withdrawal of liquidity support measures. Consequently, entities will have to adjust to higher wholesale funding costs and lower loan and deposit growth, affected by economic slowdown.

Risks are skewed to the downside. They may come from non-bank financial players and include potentially disorderly asset price adjustments and market liquidity disruptions. However, most entities still have enough capital to cope.

Aside from the economic environment, banks must digitalize faster while recognizing and managing climate change risks.

Financial regulation

We expect the 2022 regulatory agenda to carry over into 2023, especially regarding prudential, sustainability and digital pillars, while retail issues will gain focus.

Prudential

The most notable debate will be about the Basel III reform being adopted in Europe. The trade off between the effect it will have on the banks and how much Europe will deviate from Basel will be a central issue. The Basel Committee published its final standards on financial institutions' treatment of crypto-asset exposures, which the EU and other jurisdictions are expected to begin to adopt.

Resolution

The European Banking Authority (EBA) is expected to begin its third revision of the Banking Recovery and Resolution Directive (BRRD). One of its aims is to improve the application of the framework and make it more suited to medium- and small-sized banks. The first Deposit Guarantee Schemes Directive (DGSD) revision is expected and should drive negotiations on the creation of a common European deposit guarantee fund.

Sustainability

The European Commission (EC) will work towards completing a green taxonomy and setting the four remaining environmental objectives relating to the transition to a circular economy, the sustainable use and protection of water and marine resources, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems. We expect progress with defining reporting standards in the EU (through the European Financial Reporting Advisory Group) and abroad (through the new International Sustainability Standards Board).

In 2023, the debate on green bonds and due diligence proposals will continue but an agreement could be reached. We expect the EBA to present its conclusions on the integration of climate and environmental risks into the prudential framework in 2023, in addition to making progress with EIOPA and ESMA in analysing greenwashing by European financial institutions.

Digital

EU negotiations on future regulation on the development, marketing and use of artificial intelligence (AI) will continue throughout 2023, with a focus on high-risk AI systems. The rules on enforcing the Digital Markets Act and on notification by potential gatekeepers will also continue to be developed.

We expect important discussions about data, which will play a central role in digital transformation. The draft Data Act addresses the sharing and re-use of internet of things (IoT) product data, the possibility of receiving compensation for data shared with third parties and the effective exchange of Cloud data processing service providers. The European Commission plans to publish its bill on Open Finance and data sharing in the financial sector to supplement the Payment Services Directive (PSD2).

Payments is an essential pillar in the digital world. The EC published a draft instant payments bill at the end of 2022 and it will be debated in 2023. It is also expected to publish its revision of the PSD2 directive. The ECB's debate on the digital euro will continue and, 2023 will be a key year, as it decides whether to initiate a so-called "digital euro realization phase" as a pilot programme to issue a digital euro in the future. In addition, the EC will present a legislative proposal on the digital euro, to establish a legal framework in preparation for its possible launch.

Internationally, the Financial Stability Board will publish proposed common rules on crypto-assets and specific rules for stablecoins.

Retail banking

Initiatives are under way to improve consumer protection and adapt standards to the digital environment. With regard to legislative actions, we expect the approval of the proposal to revise the consumer credit directive, the beginning of the mortgage credit directive review and a strategy plan for retail investor participation in markets. It aims to encourage investment beyond savings.

These are the main management priorities for 2023 in our core regions and segments:

Europe

Our strategy in Europe is to stay focused on customer experience, service quality and delivering a common operating model. Our top priorities for 2023 are:

- sustainable top-line growth by being customer-centric, achieving best-in-class customer satisfaction in all countries through simpler, enhanced propositions and end-to-end delivery channel transformation, and building on our scale (e.g. growing our global businesses and improving connectivity);
- strong discipline to keep cost growth below inflation and improve efficiency, with a more common operating model (e.g. shared services and platforms);
- continued low cost of risk through risk management;
- active capital management focused on capital deductions and reducing portfolios with low returns;
- green finance leadership for retail and corporates; and
- attract and retain the best talent and continue improving employee engagement to be a reference in the sector.

Our strategy remains customer-centric. To attract and engage more customers, we will focus on:

- improving customer experience to be market leaders in NPS with new products and a greater connectivity with other countries;
- building on our global and regional scale to grow our high value-added businesses;
- achieving operational excellence though simple and digital end-to-end processes which allow us to structurally reduce our cost to serve;
- developing our customer relationship model to offer a unique omnichannel experience and better customer service more efficiently; and
- continuing active and forward looking cost of risk management.

In the UK, our foundations are solid and we are well positioned to deliver strong financial results and RoTE. We aim to achieve our targets through:

- growth through customer loyalty and outstanding customer experience;
- simplification and digitalization of the business for improved efficiency and returns;
- engagement, motivation and development of a talented and diverse team; and
- being a responsible and sustainable business.

Our market position and progress allow us to focus on:

- continued commercial and digital transformation and better customer experience;
- focused business growth in the segments with the highest return on capital;
- continued leadership as the most efficient and profitable bank; and
- risk policy execution to keep our credit quality high and our capital position robust.

Our main objective is to deliver strong growth in a country with high potential to grow and increase profitability. We will focus on:

- better customer and employee experience;
- simpler processes, products and infrastructure to create a self-service bank;
- digital transformation to allow customers to bank remotely; and
- a new green financing offer to help our customers go green.

North America

In North America, we continue to build on our local individual strengths and capabilities in Mexico and the US while also capitalizing on the Group's scale and connectivity to:

- transform into a digital bank with branches in Mexico. In the US, continue to deliver high customer satisfaction and scale digital to our personal loans and deposits platforms;
- simplify our regional business model to reduce overlapping, increase efficiency and create a joint value proposition for better service and customer experience;
- identify business- and customer-oriented initiatives with a continued focus on positioning ourselves as a market leader with value-added products;
- improve cross-border coordination and cooperation while managing local operations according to their specific market strategies;
- capitalize on ESG capabilities to support global clients achieve energy transition and wider green goals; and
- continue consolidating regional IT under a single leadership, seeking a faster time to market by improving technology and infrastructure, talent, quality and processes.

Our strategy stands on four pillars: simplification, transformation, network collaboration and profitable growth. We have several initiatives in each of our business lines which focus on delivering quality services to our customer and accretive profitability for our shareholders.

- Simplification: rationalize businesses and products with limited scale and profitability (e.g. Home Loans), reducing the number of legacy depository products and exiting non-core commercial portfolios.
- Transformation: leverage Group digital and data capabilities to modernize our depository platform to drive scalability, lower cost to serve and support a "digital-first" omnichannel platform with a national deposit growth model.
- Network collaboration: leverage the Group's connectivity to drive top-line growth (Auto, CIB, and Wealth) and achieve scale synergies (Technology & Operations).
- Profitable growth: deploy capital to support core growth businesses while maintaining focus on capital efficiency.

Our aim is to become the best bank for our customers. We will focus on:

- advancing our technological transformation to improve our digital channels;
- continuously simplifying our products, processes and operations to transform our service model, building on technology and data to improve customer experience;
- growing our customer base and increasing loyalty through integrated digital products and offerings, new service models and development of a mass-market value proposition;
- remaining the market leader with value-added products for corporates and by building on existing relations to attract more customers, particularly individuals; and
- maintaining profitable growth trends.

South America

The Group's priorities in South America are:

→ strengthening connectivity between countries, capturing new business opportunities and sharing best practices regionally;

→ maintaining profitable growth through higher loyalty and customer attraction;

→ expanding our joint Corporate and CIB offerings;

→ strengthening our payments businesses leveraging our global platforms; and

→ promoting inclusion and sustainability.

Santander Brasil will focus on:

- continuing to develop the best integrated distribution platform in the market in order to strengthen connectivity between businesses and capture opportunities more swiftly;
- increasing and capitalizing on our customer base. primarily through greater loyalty, to drive growth;
- simplifying products and processes and boosting operational efficiency and customer experience;
- keeping credit quality under control by continually anticipating trends and enhancing risk models; and
- focusing on profitability and adapting to new demands through innovation.

Santander Chile will focus on:

- staying #1 in NPS by continually improving customer service;
- continuing to consolidate our leadership position in transactional services and loans for our corporate customers;
- transforming our business to provide a platform to help customers grow their businesses, for example through Workcafé Startup and Community or Getnet;
- continuing to strengthen our mass market position, with Life and Superdigital; and
- driving our ESG strategy, increasing green finance and financially empowering our customers.

In Argentina, our strategy is to:

- expand our customer base through our multi-channel approach, especially digital channels;
- develop our financial platform and increase collaboration between businesses;
- increase market share in personal lending, agro loans and consumer credit;
- strive for operational excellence to provide a unique customer experience; and
- position ourselves as a leading bank in sustainable finance and financial inclusion.

In Uruguay, our priorities for 2023 are to:

- increase volumes growth, market share and customer activity;
- improve efficiency and maintain high profitability;
- continue broadening our product offering with new businesses and a transformed technology model; and
- accelerate our commercial transformation to a simpler, more customer-centric digital model.

- In Peru, we aim to expand our global, corporate and retail customer bases through Consumer and Surgir and to drive greater loyalty and satisfaction. We will focus on expanding and increasing profitability our vehicle finance businesses and strengthen our microfinance business.

- In Colombia, we will focus on profitable products in corporates and CIB, consolidating our consumer finance entity with a new mix of new and used vehicles and promoting our Prospera microcredit business.

Digital Consumer Bank

Our priorities for 2023 are to:

→ increase our leadership in global digital consumer lending by building on SCF's footprint as Europe's #1 consumer finance company and on Openbank's technology and low cost of funding;

→ focus on profitable growth and transformation; and

→ enhance our ESG and green finance proposition in auto lending and consumer credit.

- To increase our leadership, we will:
  - **Auto:** continue progressing with strategic initiatives to build a world-class digital offering in mobility; aid OEMs' transformation journeys with online lending, leasing, renting and subscription offerings; and provide our partners with innovative finance and sale solutions on dealer websites and in auto marketplaces.
  - **Consumer (non-auto):** gain market share through specialization and with tech platforms that build on our leadership in Europe in buy now, pay later (BNPL) services, checkout lending, credit cards and direct loans.
  - **Digital Bank:** continue increasing loyalty among our Openbank and SC Germany Retail customers and boosting digital banking.
- In green finance, our focus is on financing the acquisition of non-polluting vehicles, solar panels, bikes, heating systems and energy efficient solutions.
- To enhance growth, we will focus on:
  - developing our operational model to defend our best-in-class efficiency with:
    a) a simpler legal and operational structure;
    b) single IT platforms;
    c) an operational back-office centre of excellence; and
    d) an optimized sales distribution network.
  - reducing sensitivity to rising interest rates with greater deposit acquisition and faster loan re-pricing; and
  - progressing in transformational projects: new Stellantis partnership, acquisition of Mitsubishi Bank Germany and capturing opportunities with OEMs and digital players in auto. In consumer, full transition to Zinia tech stack and branding, execute pan-European agreements, leapfrog growth through integrators and sign flagship deals with major global tech companies.

SECONDARY SEGMENTS

SCIB

Our ambition in 2023 is to continue transforming our business and become strategic advisers to our customers by:

- accelerating profitable growth, diversifying our customer base, enhancing advisory offering and content, broadening and improving our market product capabilities and accelerating capital rotation;
- **US:** increasing our size with a strategy based on our areas of expertise and knowledge to elevate our business;
- **Europe:** turning CIB into a regional leader (top 5-10) in all products; and
- **Latin America:** strengthening our leadership and moving from a multi-country to a pan-regional focus to become the main CIB player in most countries and products.

PagoNxt

PagoNxt's plan for 2023 includes these objectives:

- continuing to increase our revenue, driven by greater payment volumes processed, customer base across all our businesses and usage of our value-added services;
- accelerating open market activity via partnerships and direct marketing. Getnet will continue to enter into distribution agreements with integrated software vendors and local/regional banks beyond Santander, and our Trade businesses will continue to pursue direct marketing;
- consolidating our Getnet franchise, growing Santander's merchant acquiring business through collaboration with the Group in Europe, North America and South America and with SCIB, with a focus on launching in all our European markets;

  As a multi-regional provider with an increasingly global presence, we will continue to share innovation between regions, expand our products and value-added services, and tailor our solutions to merchants' local needs; and
- scaling our global platform: Getnet will accelerate product development capabilities by converging interoperable tech assets. The One Trade and Payments Hub platforms will continue to expand across the Group in a software-as-a-service (SaaS) model, following our plan to migrate all payments (except cards), FX and trade finance services to a global platform.

WM&I

In 2023, key management aims and initiatives are:

In **Private Banking**:

- increasing our teams' connectivity to enhance our leading platform in Europe, the US and Latin America;
- creating a more sophisticated value proposition to enable a 360º client view and broaden our product range;
- launching an initiative centred on Offshore Mass Affluent customer segment to serve them from the US; and
- implementing a global top talent management initiative to enhance service to our clients.

In **Santander Asset Management:**

- partnering our retail network to become investment Centre of Excellence in Private Banking, improving our service model and offering tailored solutions;
- leveraging our expertise, reputation and global distribution capabilities and creating an independent company to accelerate growth and decision-making to become a relevant player in Alternatives Products;
- boosting sales in the institutional segment by increasing our market share of third-party AuMs and maximizing collaboration opportunities across the Group;
- enabling digital investment platforms in all countries; and
- completing our ESG methodology implementation, strengthening our product and service offerings, incorporating ESG standards in investment processes, increasing our engagement and voting activities, and delivering on public commitments.

In **Insurance**:

- enhancing our distribution model and consolidating our protection value proposition for individuals and SMEs and our life-savings proposition for both accumulation (e.g. unit-linked) and decumulation (e.g. annuities) products;
- improving customer experience and portfolio lifetime through innovative programmes;
- using data analytics to optimize digital journeys and pay claims faster, where we already have examples of same-day payments;
- boosting our motor platforms: Autocompara and Santander Auto; and
- building on our joint venture partners' strengths to guarantee the best product offering for our customers across all countries.

8. Alternative performance measures (APMs)

In addition to the financial information prepared under IFRS, this consolidated directors' report contains financial measures that constitute alternative performance measures (APMs) to comply with the guidelines on alternative performance measures issued by the European Securities and Markets Authority on 5 October 2015 and non-IFRS measures.

The financial measures contained in this consolidated directors' report that qualify as APMs and non-IFRS measures have been calculated using our financial information but are not defined or detailed in the applicable financial information framework or under IFRS and therefore have neither been audited nor reviewed by our auditors.

We use these APMs and non-IFRS measures when planning, monitoring and evaluating our performance. We consider these APMs and non-IFRS financial measures to be useful metrics for management and investors to facilitate operating performance comparisons from period to period. While we believe that these APMs and non-IFRS financial measures are useful in evaluating our business, this information should be considered as supplemental in nature and is not meant as a substitute of IFRS measures. In addition, the way in which Santander defines and calculates these APMs and non-IFRS measures may differ from the calculations used by other companies with similar measures and, therefore, may not be comparable.

The APMs and non-IFRS measures we use in this document can be categorized as follows:

Underlying results

In addition to IFRS results measures, we present some results measures which are non-IFRS measures and which we refer to as underlying measures. These underlying measures allow, in our view, a better year-on-year comparability as they exclude items outside the ordinary course of business which are grouped in the non-IFRS line net capital gains and provisions and are further detailed at the end of section 3.2 'Results' of this chapter.

In addition, the results by business areas in section 4 'Financial information by segment' are presented only on an underlying basis in accordance with IFRS 8. The use of this information by the Group's governance bodies and reconciled on an aggregate basis to our IFRS consolidated results can be found in note 51.c to our consolidated financial statements.

Profitability and efficiency ratios

The purpose of the profitability and efficiency ratios is to measure the ratio of profit to equity, to tangible equity, to assets and to risk-weighted assets, while the efficiency ratio measures how much general administrative expenses (personnel and other) and amortization costs are needed to generate revenue.

The goodwill adjustments have been removed from the RoTE numerator as, since they are not considered in the denominator, we believe this calculation is more correct.

Ratio	Formula	Relevance of the metric
RoE (Return on Equity)	Profit attributable to the parent / Average stockholders' equity [A] (excl. minority interests)	This ratio measures the return that shareholders obtain on the funds invested in the bank and as such measures the bank's ability to pay shareholders.
Underlying RoE	Underlying profit attributable to the parent / Average stockholders' equity [A] (excl. minority interests)	This ratio measures the return that shareholders obtain on the funds invested in the bank excluding results from operations outside the ordinary course of business.
RoTE (Return on Tangible Equity)	Profit attributable to the parent [B] / Average stockholders' equity [A] (excl. minority interests) - intangible assets	This is used to evaluate the profitability of the company as a percentage of its tangible equity. It is measured as the return that shareholders receive as a percentage of the funds invested in the bank less intangible assets.
Underlying RoTE	Underlying profit attributable to the parent / Average stockholders' equity [A] (excl. minority interests) - intangible assets	This very common indicator measures the profitability of the tangible equity of a company arising from underlying activities, i.e. excluding results from operations outside the ordinary course of business.
RoA (Return on Assets)	Consolidated profit / Average total assets	This metric measures the profitability of a company as a percentage of its total assets. It is an indicator that reflects the efficiency of the bank's total assets in generating profit over a given period.
Underlying RoA	Underlying consolidated profit / Average total assets	This metric measures the profitability of a company as a percentage of its total assets excluding results from operations outside the ordinary course of business. It is an indicator that reflects the efficiency of the bank's total assets in generating underlying profit over a given period.
RoRWA (Return on Risk-Weighted Assets)	Consolidated profit / Average risk-weighted assets	The return adjusted for risk is a derivative of the RoA metric. The difference is that RoRWA measures profit in relation to the Group's risk-weighted assets.
Underlying RoRWA	Underlying consolidated profit / Average risk-weighted assets	This relates the underlying consolidated profit (excluding results from operations outside the ordinary course of business) to the Group's risk-weighted assets.
RoRAC (Return on Risk-Adjusted Capital)	Underlying consolidated profit / Average economic capital	This is the return on economic capital required internally (necessary to support all risks inherent in our activity).
Economic Value Added	Underlying consolidated profit – (average economic capital x cost of capital)	Economic value added is the profit generated in excess of the cost of economic capital employed. This measures risk-adjusted returns in absolute terms, complementing the RoRAC approach.
Efficiency (Cost-to-income)	Operating expenses [C] / Total income	One of the most commonly used indicators when comparing productivity of different financial entities. It measures the amount of resources used to generate the bank's operating income.

A. Stockholders' equity = Capital and Reserves + Accumulated other comprehensive income + Profit attributable to the parent + Dividends.
B. Excluding the adjustment to the valuation of goodwill.
C. Operating expenses = Administrative expenses + amortizations.

Profitability and efficiency [A B] (EUR million and %)	2022	2021	2020
RoE	**10.67%**	**9.66%**	**-9.80%**
Profit attributable to the parent	9,605	8,124	-8,771
Average stockholders' equity (excluding minority interests)	89,986	84,133	89,459
Underlying RoE	**10.67%**	**10.29%**	**5.68%**
Profit attributable to the parent	9,605	8,124	-8,771
(-) Net capital gains and provisions	—	-530	-13,852
Underlying profit attributable to the parent	9,605	8,654	5,081
Average stockholders' equity (excluding minority interests)	89,986	84,133	89,459
RoTE	**13.37%**	**11.96%**	**1.95%**
Profit attributable to the parent	9,605	8,124	-8,771
(-) Goodwill impairment	—	-6	-10,100
Profit attributable to the parent (excluding goodwill impairment)	9,605	8,130	1,329
Average stockholders' equity (excluding minority interests)	89,986	84,133	89,459
(-) Average intangible assets	18,164	16,169	21,153
Average stockholders' equity (excl. minority interests) - intangible assets	71,822	67,964	68,306
Underlying RoTE	**13.37%**	**12.73%**	**7.44%**
Profit attributable to the parent	9,605	8,124	-8,771
(-) Net capital gains and provisions	—	-530	-13,852
Underlying profit attributable to the parent	9,605	8,654	5,081
Average stockholders' equity (excl. minority interests) - intangible assets	71,822	67,964	68,306
RoA	**0.63%**	**0.62%**	**-0.50%**
Consolidated profit	10,764	9,653	-7,708
Average total assets	1,720,273	1,563,899	1,537,552
Underlying RoA	**0.63%**	**0.65%**	**0.40%**
Consolidated profit	10,764	9,653	-7,708
(-) Net capital gains and provisions	—	-530	-13,866
Underlying consolidated profit	10,764	10,183	6,158
Average total assets	1,720,273	1,563,899	1,537,552
RoRWA	**1.77%**	**1.69%**	**-1.33%**
Consolidated profit	10,764	9,653	-7,708
Average risk-weighted assets	606,952	572,136	578,517
Underlying RoRWA	**1.77%**	**1.78%**	**1.06%**
Consolidated profit	10,764	9,653	-7,708
(-) Net capital gains and provisions	—	-530	-13,866
Underlying consolidated profit	10,764	10,183	6,158
Average risk-weighted assets	606,952	572,136	578,517
RoRAC [C]	**14.50%**	**14.22%**	**8.68%**
Consolidated profit	10,764	9,653	-7,708
(-) Net capital gains and provisions	—	-530	-13,866
Underlying consolidated profit	10,764	10,183	6,158
Average economic capital	74,215	71,602	70,922
Economic value added [C]	**2,446**	**2,969**	**-2,353**
Underlying consolidated profit	10,764	10,183	6,158
(-) Average economic capital x cost of capital	-8,317	-7,215	-8,511
Average economic capital	74,215	71,602	70,922
Cost of capital	—	10.08 %	12.00 %
Efficiency ratio	**45.8%**	**46.2%**	**47.0%**
Underlying operating expenses	23,903	21,415	20,967
Operating expenses	23,903	21,415	21,130
Net capital gains and provisions impact in operating expenses [D]	—	—	-163
Underlying total income	52,154	46,404	44,600
Total income	52,117	46,404	44,279
Net capital gains and provisions impact in total income [D]	37	—	321

A. Averages included in the RoE, RoTE, RoA and RoRWA denominators are calculated using 13 months (from December to December).
B. The risk-weighted assets included in the denominator of the RoRWA metric are calculated in line with the criteria laid out in the CRR (Capital Requirements Regulation).
C. The 2021 and 2020 economic capital requirements have been recalculated based on the 2022 methodology to facilitate their comparison.
D. Following the adjustments in note 51.c to the consolidated financial statements.

Efficiency ratio by business area (EUR million and %)

	2022			2021		
	%	Total income	Operating expenses	%	Total income	Operating expenses
Europe	**47.3**	**18,030**	**8,523**	**52.2**	**15,934**	**8,319**
Spain	48.6	8,233	3,998	52.3	7,748	4,052
United Kingdom	49.6	5,418	2,685	53.8	4,815	2,592
Portugal	38.7	1,295	502	42.9	1,313	563
Poland	28.0	2,474	692	41.0	1,617	663
North America	**47.7**	**12,316**	**5,871**	**45.8**	**10,853**	**4,967**
US	47.2	7,623	3,599	43.9	7,277	3,197
Mexico	44.9	4,623	2,076	46.2	3,553	1,643
South America	**37.0**	**18,025**	**6,675**	**35.1**	**15,337**	**5,380**
Brazil	32.4	12,910	4,180	29.7	10,876	3,236
Chile	40.1	2,449	981	38.4	2,455	942
Argentina	53.9	1,833	987	58.0	1,388	805
Digital Consumer Bank	**46.7**	**5,269**	**2,462**	**47.2**	**5,099**	**2,405**

Underlying RoTE by business area (EUR million and %)

	2022			2021		
	%	Underlying profit attributable to the parent	Average stockholders' equity (excl. minority interests) - intangible assets	%	Underlying profit attributable to the parent	Average stockholders' equity (excl. minority interests) - intangible assets
Europe	**9.28**	**3,810**	**41,054**	**6.81**	**2,750**	**40,347**
Spain	7.89	1,560	19,786	3.40	627	18,453
United Kingdom	10.70	1,395	13,038	11.47	1,537	13,392
Portugal	15.03	534	3,553	11.39	462	4,054
Poland	11.93	364	3,047	4.38	140	3,200
North America	**11.06**	**2,878**	**26,025**	**12.73**	**2,960**	**23,250**
US	9.40	1,784	18,968	13.21	2,252	17,044
Mexico	16.92	1,213	7,168	13.63	816	5,991
South America	**18.77**	**3,658**	**19,491**	**20.22**	**3,317**	**16,405**
Brazil	19.23	2,544	13,232	21.44	2,320	10,818
Chile	19.47	677	3,479	19.25	636	3,303
Argentina	26.23	324	1,237	27.15	270	996
Digital Consumer Bank	**13.65**	**1,308**	**9,583**	**12.41**	**1,164**	**9,380**

Credit risk indicators

The credit risk indicators measure the quality of the credit portfolio and the percentage of non-performing loans covered by provisions.

Ratio	Formula	Relevance of the metric
NPL ratio (Non-performing loans ratio)	$\frac{\text{Credit impaired loans and advances to customers, customer guarantees and customer commitments granted}}{\text{Total Risk}^{A}}$	The NPL ratio is an important variable regarding financial institutions' activity since it gives an indication of the level of risk the entities are exposed to. It calculates risks that are, in accounting terms, declared to be credit impaired as a percentage of the total outstanding amount of customer credit and contingent liabilities.
Total coverage ratio	$\frac{\text{Total allowances to cover impairment losses on loans and advances to customers, customer guarantees and customer commitments granted}}{\text{Credit impaired loans and advances to customers, customer guarantees and customer commitments granted}}$	The total coverage ratio is a fundamental metric in the financial sector. It reflects the level of provisions as a percentage of the credit impaired assets. Therefore it is a good indicator of the entity's solvency against customer defaults both present and future.
Cost of risk	$\frac{\text{Allowances for loan-loss provisions over the last 12 months}}{\text{Average loans and advances to customers over the last 12 months}}$	This ratio quantifies loan-loss provisions arising from credit risk over a defined period of time for a given loan portfolio. As such, it acts as an indicator of credit quality.

A. Total risk = Total loans and advances and guarantees to customers (including credit impaired assets) + contingent liabilities that are credit impaired.

Credit risk (I) (EUR million and %)	2022	2021	2020
NPL ratio	**3.08%**	**3.16%**	**3.21%**
Credit impaired loans and advances to customers, customer guarantees and customer commitments granted	34,673	33,234	31,767
Gross loans and advances to customers registered under the headings 'financial assets measured at amortized cost' and 'financial assets designated at fair value through profit or loss' classified in stage 3 (OCI), excluding POCI (Purchased or Originated Credit Impaired) that is currently impaired	32,617	31,288	30,318
POCI exposure (Purchased or Originated Credit Impaired) that is currently impaired	271	358	497
Customer guarantees and customer commitments granted classified in stage 3	1,776	1,578	941
Doubtful exposure of loans and advances to customers at fair value through profit or loss	9	10	11
Total risk	1,124,121	1,051,115	989,456
Impaired and non-impaired gross loans and advances to customers	1,058,688	995,646	939,795
Impaired and non-impaired customer guarantees and customer commitments granted	65,433	55,469	49,662

Credit risk (II) (EUR million and %)	2022	2021	2020
Total coverage ratio	**68%**	**71%**	**76%**
Total allowances to cover impairment losses on loans and advances to customers, customer guarantees and customer commitments granted	23,418	23,698	24,272
Total allowances to cover impairment losses on loans and advances to customers measured at amortized cost and designated at fair value through OCI	22,684	22,964	23,577
Total allowances to cover impairment losses on customer guarantees and customer commitments granted	734	734	695
Credit impaired loans and advances to customers, customer guarantees and customer commitments granted	34,673	33,234	31,767
Gross loans and advances to customers registered under the headings 'financial assets measured at amortized cost' and 'financial assets designated at fair value through profit or loss' classified in stage 3 (OCI), excluding POCI (Purchased or Originated Credit Impaired) that is currently impaired	32,617	31,288	30,318
POCI exposure (Purchased or Originated Credit Impaired) that is currently impaired	271	358	497
Customer guarantees and customer commitments granted classified in stage 3	1,776	1,578	941
Doubtful exposure of loans and advances to customers at fair value through profit or loss	9	10	11

Cost of risk	**0.99%**	**0.77%**	**1.28%**
Underlying allowances for loan-loss provisions over the last 12 months	10,509	7,436	12,173
Allowances for loan-loss provisions over the last 12 months	10,836	7,436	12,431
Net capital gains and provisions impact in allowances for loan-loss provisions	-327	—	-258
Average loans and advances to customers over the last 12 months	1,059,872	968,931	952,358

NPL ratio by business area (EUR million and %)

	2022			2021		
	%	Credit impaired loans and advances to customers, customer guarantees and customer commitments granted	Total risk	%	Credit impaired loans and advances to customers, customer guarantees and customer commitments granted	Total risk
Europe	**2.37**	**15,186**	**639,996**	**3.12**	**19,822**	**636,123**
Spain	3.27	9,598	293,197	4.72	13,403	283,953
United Kingdom	1.21	3,059	253,455	1.43	3,766	262,869
Portugal	2.99	1,247	41,755	3.44	1,442	41,941
Poland	3.80	1,268	33,350	3.61	1,210	33,497
North America	**3.03**	**5,629**	**185,614**	**2.42**	**3,632**	**149,792**
US	3.25	4,571	140,452	2.33	2,624	112,808
Mexico	2.32	1,047	45,107	2.73	1,009	36,984
South America	**6.20**	**10,381**	**167,348**	**4.50**	**6,387**	**141,874**
Brazil	7.57	7,705	101,801	4.88	4,182	85,702
Chile	4.99	2,384	47,811	4.43	1,838	41,479
Argentina	2.08	122	5,844	3.61	198	5,481
Digital Consumer Bank	**2.06**	**2,583**	**125,339**	**2.13**	**2,490**	**116,989**

Coverage ratio by business area (EUR million and %)

	2022			2021		
	%	Total allowances to cover impairment losses on loans and advances to customers, customer guarantees and customer commitments granted	Credit impaired loans and advances to customers, customer guarantees and customer commitments granted	%	Total allowances to cover impairment losses on loans and advances to customers, customer guarantees and customer commitments granted	Credit impaired loans and advances to customers, customer guarantees and customer commitments granted
Europe	**51.8**	**7,871**	**15,186**	**49.4**	**9,800**	**19,822**
Spain	51.0	4,890	9,598	51.4	6,887	13,403
United Kingdom	33.8	1,033	3,059	25.8	971	3,766
Portugal	79.3	990	1,247	71.7	1,033	1,442
Poland	74.0	938	1,268	73.9	895	1,210
North America	**93.3**	**5,250**	**5,629**	**134.9**	**4,901**	**3,632**
US	90.3	4,127	4,571	150.3	3,943	2,624
Mexico	106.6	1,116	1,047	95.0	958	1,009
South America	**76.0**	**7,886**	**10,381**	**98.3**	**6,279**	**6,387**
Brazil	79.5	6,128	7,705	111.2	4,651	4,182
Chile	56.3	1,343	2,384	63.3	1,164	1,838
Argentina	180.4	220	122	153.8	305	198
Digital Consumer Bank	**92.8**	**2,397**	**2,583**	**107.8**	**2,684**	**2,490**

Cost of risk by business area (EUR million and %)

	2022			2021		
	%	Underlying allowances for loan-loss provisions over the last 12 months	Average loans and advances to customers over the last 12 months	%	Underlying allowances for loan-loss provisions over the last 12 months	Average loans and advances to customers over the last 12 months
Europe	**0.39**	**2,396**	**612,142**	**0.39**	**2,293**	**591,703**
Spain	0.61	1,618	265,051	0.92	2,320	251,155
United Kingdom	0.12	316	262,973	(0.09)	(245)	258,636
Portugal	0.04	17	40,286	0.09	38	39,805
Poland	1.43	440	30,721	0.67	200	29,777
North America	**1.49**	**2,538**	**169,980**	**0.93**	**1,210**	**130,635**
US	1.35	1,744	128,834	0.43	419	97,917
Mexico	1.95	788	40,348	2.44	791	32,434
South America	**3.32**	**5,041**	**151,705**	**2.60**	**3,251**	**125,089**
Brazil	4.79	4,417	92,188	3.73	2,715	72,808
Chile	0.93	399	42,953	0.85	341	40,344
Argentina	2.91	132	4,541	3.01	140	4,667
Digital Consumer Bank	**0.45**	**544**	**119,524**	**0.46**	**527**	**115,156**

Other indicators

The market capitalization indicator provides information on the volume of tangible equity per share. The loan-to-deposit ratio (LTD) identifies the relationship between net customer loans and advances and customer deposits, assessing the proportion of loans and advances granted by the Group that are funded by customer deposits.

The Group also uses gross customer loan magnitudes excluding reverse repurchase agreements (repos) and customer deposits excluding repos. In order to analyse the evolution of the traditional commercial banking business of granting loans and capturing deposits, repos and reverse repos are excluded, as they are mainly treasury business products and highly volatile.

Ratio	Formula	Relevance of the metric
TNAV per share (Tangible net asset value per share)	$\frac{\text{Tangible book value}^{A}}{\text{Number of shares excluding treasury stock}}$	This is a very commonly used ratio used to measure the company's accounting value per share having deducted the intangible assets. It is useful in evaluating the amount each shareholder would receive if the company were to enter into liquidation and had to sell all the company's tangible assets.
Price to tangible book value per share (X)	$\frac{\text{Share price}}{\text{TNAV per share}}$	This is one of the most commonly used ratios by market participants for the valuation of listed companies both in absolute terms and relative to other entities. This ratio measures the relationship between the price paid for a company and its accounting equity value.
LTD (Loan-to-deposit)	$\frac{\text{Net loans and advances to customers}}{\text{Customer deposits}}$	This is an indicator of the bank's liquidity. It measures the total loans and advances to customers net of loan-loss provisions as a percentage of customer deposits.
Loans and advances (minus reverse repos)	Gross loans and advances to customers minus reverse repos	In order to aid analysis of the commercial banking activity, reverse repos are excluded as they are highly volatile treasury products.
Deposits (minus repos)	Customer deposits minus repos	In order to aid analysis of the commercial banking activity, repos are excluded as they are highly volatile treasury products.
PAT + After tax fees paid to SAN (in Wealth Management & Insurance)	Net profit + fees paid from Santander Asset Management and Santander Insurance to Santander, net of taxes, excluding Private Banking customers	Metric to assess Wealth Management & Insurance's total contribution to Group's profit.

A. Tangible book value = Stockholders' equity (excl. minority interests) - intangible assets.

Others (EUR million and %)	2022	2021	2020
TNAV (tangible book value) per share	**4.26**	**4.12**	**3.79**
Tangible book value	70,459	70,346	65,568
Number of shares excl. treasury stock (million)	16,551	17,063	17,312
Price to tangible book value per share (X)	**0.66**	**0.71**	**0.67**
Share price (euros)	2.803	2.941	2.538
TNAV (tangible book value) per share	4.26	4.12	3.79
Loan-to-deposit ratio	**101%**	**106%**	**108%**
Net loans and advances to customers	1,036,004	972,682	916,199
Customer deposits	1,025,401	918,344	849,310
PAT + After tax fees paid to SAN (in WM&I) (Constant EUR million)	**2,728**	**2,486**	
Profit after tax	1,179	1,016	
Net fee income net of tax	1,549	1,470	

Impact of exchange rate movements on profit and loss accounts

The Group presents, at both the Group level as well as the business unit level, the real changes in euros in the income statement as well as the changes excluding the exchange rate effect (i.e. in constant euros), as it considers the latter facilitates analysis, since it enables business movements to be identified without taking into account the impact of converting each local currency into euros.

Said variations, excluding the impact of exchange rate movements, are calculated by converting P&L lines for the different business units comprising the Group into our presentation currency, the euro, applying the average exchange rate for 2022 to all periods contemplated in the analysis. The table below shows the average exchange rates of the main currencies in which the Group operates.

Impact of exchange rate movements on the balance sheet

The Group presents, at both the Group level as well as the business unit level, the real changes in euros in the balance sheet as well as the changes excluding the exchange rate effect for loans and advances to customers minus reverse repurchase agreements and customer funds (which comprise deposits and mutual funds) minus repurchase agreements. As with the income statement, the reason is to facilitate analysis by isolating the changes in the balance sheet that are not caused by converting each local currency into euros.

These changes excluding the impact of exchange rate movements are calculated by converting loans and advances to customers minus reverse repurchase agreements and customer funds minus repurchase agreements, into our presentation currency, the euro, applying the closing exchange rate on the last working day of 2022 to all periods contemplated in the analysis. The table below shows the period-end exchange rates of the main currencies in which the Group operates.

Exchange rates: 1 euro/currency parity

	Average		Period-end	
	2022	2021	2022	2021
US dollar	1.051	1.182	1.068	1.133
Pound sterling	0.853	0.859	0.887	0.840
Brazilian real	5.421	6.372	5.650	6.319
Mexican peso	21.131	23.980	20.805	23.152
Chilean peso	916.688	897.123	909.200	964.502
Argentine peso	134.786	112.383	189.116	116.302
Polish zloty	4.683	4.564	4.684	4.597

Impact of inflation on operating expenses

Santander presents, for both the Group and the business units included in the primary segments, the changes in operating expenses, as well as the changes excluding the exchange rate effect, and the changes of the latter excluding the effect of average inflation in 2022. The reason is that the two latter facilitate analysis for management purposes.

Inflation is calculated as the arithmetic average of the last twelve months for each country and, for the regions, as the weighted average of each country comprising the region's inflation rate, weighted by each country's operating expenses in the region. The table below shows the average inflation rates calculated as indicated for each of the regions and countries.

Average inflation 2022

%

Europe	**9.1%**
Spain	8.4%
United Kingdom	9.0%
Portugal	7.8%
Poland	14.3%
North America	**8.0%**
US	8.0%
Mexico	7.9%
South America	**19.0%**
Brazil	9.3%
Chile	11.6%
Argentina	70.7%
Digital Consumer Bank	**8.4%**
Total Group	**11.6%**

Risk management and compliance

1. Risk management and compliance

Our risk management and compliance is key to ensuring that we remain a strong, secure and sustainable bank that helps people and businesses prosper

1.1 Executive summary and 2022 highlights

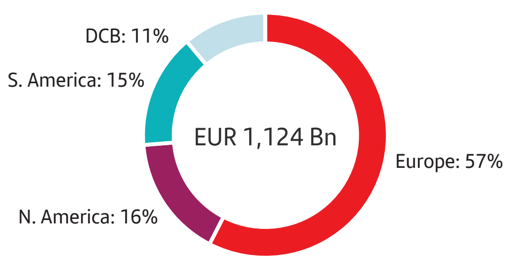
This section outlines Santander's risk management and risk profile in 2022 based on key risk indicators and their performance. Additional information on each risk type can be accessed using the links provided for each section.

Credit risk

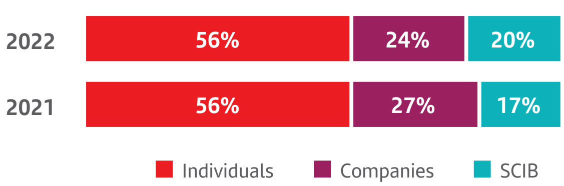
> Section 3

Our proactive risk management and effective control of our portfolios have allowed us to maintain a medium-low risk profile in this uncertain environment.

Total credit risk with customers by region[1]



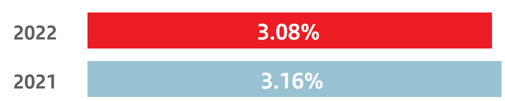
Total credit risk with customers by segment



Despite the increase in the cost of risk mainly due to the uncertainty generated by the macroeconomic environment, the NPL[2] ratio maintained a positive performance in 2022.

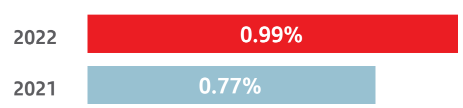
Non-performing loans ratio

Loan growth coupled with positive portfolio performance and portfolio sales drove the NPL ratio down.



Cost of risk[3]

The ratio was slightly below 100 bp, due to the positive performance of Spain, Portugal and Mexico in the year.



[1] 'Others' not included represent 1% (Corporate Centre).
[2] Non-performing Loans
[3] Cost of risk is the ratio of 12-month loan-loss provisions to average lending on the same period.

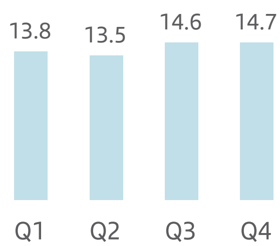
Market, structural and liquidity risk

> Section 4

Risk levels in trading remained relatively low, in an environment of greater volatility than in 2021.

2022 Avg. Value at Risk (VaR)

EUR million.



Max.
EUR 21.5mn

Min.
EUR 9.2mn

VaR remained stable averaging EUR 14 million in the year. It peaked in July 2022 (EUR 21.5 million) due to supply chain disruptions, the rise in interest rates and energy prices.

▼152% The liquidity ratio (LCR) remained above the regulatory threshold.

We managed liquidity buffers effectively to maintain a sound risk profile (within regulatory limits) and a profitable balance sheet.

Our subsidiaries have a strong balance sheet and a stable funding structure, supported by a large customer deposit base.

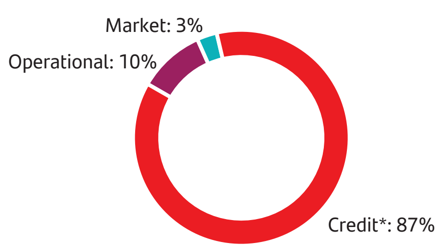
Grupo Santander issued EUR 35,000 million in senior debt and mortgage covered bonds in order to obtain liquidity. This type of issuances has been reactivated within the Eurozone as a result of the current economic conjuncture.

Capital risk

> Section 5

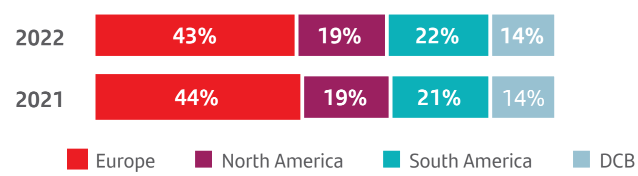
RWA[4] by risk type

Credit, which is our core business, stands out among RWA.



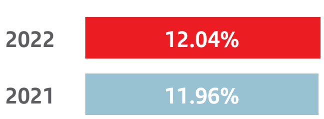
RWA by region

Diversified and balanced distribution.



DCB: Digital Consumer Bank.
Others not included represent 2% in 2022 and 2021 (Corporate centre).

Fully loaded CET1[5]



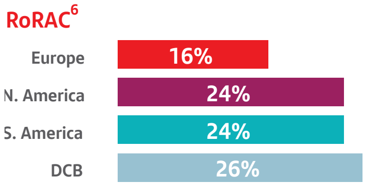
▲12.04%

▲8 bp in 2022

The CET1 ratio placed at the top of our 11-12% target due to strong organic capital generation through underlying profit and efficient RWA management.

The strength of our diversified retail banking business model is demonstrated by the positive outcome in the eight regulatory stress tests since 2008.

RoRAC[6]



▼14.5%

▼50 bp in 2022 at Group's RoRAC

RoRAC at Group level and by geography in 2022 are at levels above the cost of capital and reflect an optimal level of return on capital and value creation for our shareholders. The profit achieved in the year, a solid risk management culture and a balanced geographic and business diversification are the main drivers behind this positive performance.

4 Risk weighted assets.
5 CET1 in 2021 Include acquisition of SC USA minority interest and Amherst Pierpont Securities completed at the beginning of 2022.
6 The Group's total RoRAC includes the operative units and the Corporate Centre, reflecting the Group's economic capital and its return.
(*) Credit risk included counterparty credit risk, securitizations and amounts below the thresholds for deduction.

Operational risk

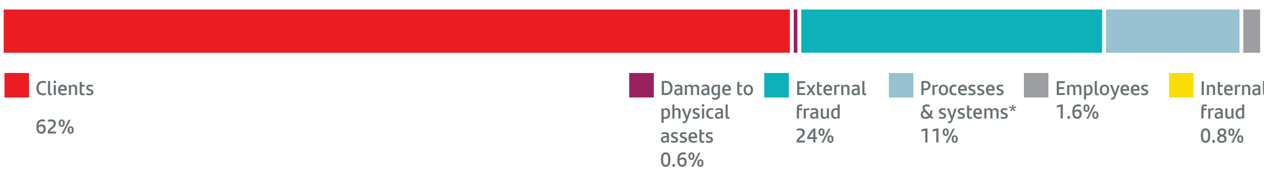
> Section 6

Our operational risk profile remained stable in 2022. With the goal of reinforcing controls, during this year our priorities were:

In 2022, we improved our operational risk model by enhancing the risk appetite framework, the holistic risk assessment programme, the assessment methodology of the global cybersecurity transformation plan, as well as the contingency, business continuity and crisis management plans.

Several initiatives to mitigate the most relevant operational risks in 2022 were launched, such as IT, third party, fraud and cyber, and to adapt to regulatory changes, focusing on Operational Resilience, Basel principles related to operational risk, ESG requirements and capital models.

Operational losses by Basel category



(*) Processes & systems include the following categories: Execution, delivery and process management, and Business disruption and system failures.

Compliance and conduct risk

> Section 7

Main initiatives in 2022:

- Transformation: Continued development of compliance and conduct function strategic transformation plan; exploring Big Data and Machine Learning analysis techniques on voice data from customers and public data from media, support of the digital strategy through: digital channels, Beyond Banking* and limited launch of investment services related to crypto-assets; transformational project to remodel Group's Control Room.
- More effective process overhaul: homogeneous management methodologies and tools in subsidiaries: Heracles, Capability Maturity Model (CCM), Annual compliance program, product and service approval, common reputational risk reporting tools Group-wide, and strengthening governance through a risk-based approach to oversee our subsidiaries.

*Non-banking services program that we currently offer in the United Kingdom, especially for individuals and SMEs.

- Compliance & conduct risk management by the first line of defence: We followed the enforcement of international sanctions in response to the war in Ukraine; enhanced control environments for conduct with customers; continuous improvement of reputational risk management and control processes; and participation in climate stress testing and environmental and climate Thematic review by the ECB.
- Risk culture: Diversity and inclusion initiatives; the General Code of Conduct simplification for employees and other stakeholders; we promoted employee training and awareness as part of our growing commitment to ethics and compliance in corporate culture.

Model risk

> Section 8

- We launched MRM Next, a new strategic plan to manage model risk to strengthen our model risk culture.
- We continued to enhance our regulatory models - Internal Rating Based Approach (IRB) and Internal Model Approach (IMA) - according to the Basel Committee requirements.

Strategic risk

> Section 9

- Strategic management focused on monitoring the macroeconomic consequences of the war in Ukraine, inflationary pressure, monetary and fiscal policies and our transformation initiatives.
- We made progress with strategy planning, top risk identification and monitoring, business model analysis, new product validation, risk analysis for corporate development transactions and strategic projects.
- We also optimized reporting to senior management on strategic risk.

Climate and environmental risk

> Section 10

- We keep integrating climate and environmental risk into our key risk management processes. A quantitative metric was designed for the energy sector complementing our metric for thermal coal, which will be included in our risk appetite statement in 2023.
- We broadened the scope of credit risk materiality assessments and made them more granular. We began preliminary materiality assessments for climate-related environmental risk to identify credit portfolios that may have a potential impact in terms of biodiversity.
- In 2022, we coped with strict supervisory demands as stress testing and Thematic Review, involving several risk and compliance factors. Overall, we have completed these exercises satisfactorily, and action plans were implemented to cover the improvement points detected.
- We enhanced credit approval procedures, with tighter risk policy for sensitive sectors and activities. In particular, the Risk function developed a target operating model called The Climate Race, which aligns credit approval procedures across the Group regarding climate and environmental risk.

Grupo Santander's risk profile could be affected by the macroeconomic environment, regulation and competition.

This financial information, prepared with the same Group-wide principles, aggregates figures for our various markets and business subsidiaries, based on accounting data and internal management system reporting.

The segments shown are differentiated by the geographical area where profits are earned and by type of business. The financial information of each reportable segment is prepared by aggregating the figures for the Group's various geographical areas and business units. The information relates to both the accounting data of the units integrated in each segment and that provided by internal management information systems. In all cases, the same general principles as those used in the Group are applied.

Additional information on Grupo Santander's provisions, legal proceedings, taxes and other risks, are available in the notes to the consolidated financial statements.

For more details on segments, see section '4.1 Description of segments' of the 'Economic and financial review' chapter.

1.2 2022 key achievements

Our risk and compliance functions are forward-looking and proactive. They follow a straightforward, robust strategy, reinforced with lessons learned from the crisis that enable us to be better prepared.

Management of risk from the war in Ukraine

- Special situations protocol activated, with numerous initiatives on policy, customer support, donations, risk appetite and other matters
- Tighter monitoring of risk and enhanced reporting on key indicators and most affected sectors/customers
- Sanctions management strengthened to meet regulatory requirements and support decision-making – 400% escalation increase
- Deep dive on Ukraine war and related reputational impacts for the Group. Implementation of Group wide mitigation actions

Operational excellence

- Customer-centric, with a simpler onboarding value proposition
- Greater digitalization and automation of credit risk to boost customer experience ('Time to yes'/'Time to cash')
- Progress on the implementation of One FCC across prioritised units
- Risk and compliance data strategy execution (data lakes)
- Leveraging hubs in regions to improve risk management effectiveness:
  - Cybersecurity in Europe to enhance monitoring and alert management
  - Control room enhancement for further implementation
  - Model validation in North America
- ECB's Climate stress test and the SSM's Thematic review completed
- Consolidation in de-risking our balance sheet in key countries

Creating value

- Capital accuracy: Optimal model enhancement and other initiatives
- Successful management of mounting regulatory activity
- Cost of risk kept below 1%, even amid unprecedented macroeconomic crisis of rising inflation, interest rates and commodity-prices
- Canal Abierto[1] further embedded by regulatory compliance Function, with policy rollout across units
- Boost advanced analytics techniques in risk management: conduct and customer voice, reputational and credit risk
- Enhanced subsidiary oversight in reputational risk and best practices sharing

New ways of working

- Model Risk reinforced with a unique platform (Monet) & all units with a single way of working through a unique policy
- Greater flexibility, with an average of 60% remote working, plus permanent hot-desking
- Agile initiatives and new visualization and collaborative tools
- Redefined behaviours and positive risk culture promoted across the Group

1. Grupo Santander's whistleblowing channel, through which employees can report financial and accounting wrongdoing as well as violations of the General Code of Conduct and our corporate behaviours anonymously and confidentially.

1.3 Santander's top and emerging risks

Through the top risks exercise, we evaluate the most relevant and emerging risks, which could affect our strategic plan, under different theoretical stress scenarios with low likelihood of occurrence. In this way, we identify, evaluate and monitor those risks that may have a significant impact on our profitability, solvency or strategy. Proactive risk management is essential to avoid possible negative impacts and deviations from the established objectives, which, if they occur, would be mitigated with previously defined action plans.

The identification of our top risk involves both the first and second line of defence, in which both the subsidiaries and the corporate centre participate. The risks identified are integrated into the idiosyncratic scenarios of the Group's Internal Capital Adequacy Assessment Process (ICAAP), the Internal Liquidity Adequacy Assessment Process (ILAAP), and recovery and resolution plans.

In 2022, most top risk stemmed acutely from inflation pressure, the war in Ukraine, new government levies on banks, climate change and environmental risk management. Here are some core risks and associated action plans:

Macroeconomic and geopolitical environment

Some of the many macroeconomic and geopolitical factors posing risk to our strategy include changes in monetary and fiscal policy, geopolitical instability, the war in Ukraine, and commodity prices. We analyse situations that we do not include in our base scenario because of their low likelihood (per our top risk and emerging risk methodology described above); however, they can become global risk scenarios that may affect particular areas where we operate in Europe and the Americas. For example:

- Global monetary policies overreaction if inflationary pressures do not recede, which could lead to lower-than-expected growth.
- Industrial impact in Europe, in the event of power supply distortions.
- Increased financial stress due to the decline in asset prices, higher risk premiums and a recalculation of risk-free rates of return, with higher cost of risk as a result of tight monetary policy coupled with expansionary fiscal plans.
- Geopolitical uncertainty due to a possible escalation of the war, growing Euroscepticism, among other geopolitical developments in Europe.

Macroeconomic and geopolitical uncertainty can hinder our growth, lower asset quality and slow down one or many of our markets, potentially impacting our profitability. And because it can also affect our customers' income, losses could mount up if we couldn't recover loans.

Economic volatility can make our estimates seem inaccurate, which in turn may affect the reliability of the process, and the adequacy of our loan-loss provisions seem insufficient.

In response to this uncertainty, Grupo Santander has robust risk policies and processes and a proactive risk management that allow our risk profile to remain within the limits in alignment with Group's risk appetite.

We remain resilient against macroeconomic risk because of our geographical diversification and a wide range of products. The mitigating measures we took in 2022 helped reduce risk severity. They include:

- frequent monitoring meetings to review risk profile, business trends, markets and macroeconomic conditions;
- playbooks designed and implemented to ensure a quick, forward-looking and proactive response to changing circumstances;
- ensuring the means to proactively detect credit impairment and get customers the support they need through specific solutions, identifying better vulnerable customers in new context, with Collections and Recoveries support;
- helping our customers develop sustainable, energy-efficient alternatives; and
- ALCO and Market committee meetings to monitor structural and FX risk and the coverage of our capital ratios in all major currencies.

Growing legislative and regulatory pressure

With a unique business model based on maintaining a significant market share in our core geographies, Grupo Santander is subject to varied regulation. Our status of global systemically important bank (G-SIB) implies high capital requirements that could intensify with subsequent reform or if supervisors revise current requirements. New laws, like levies on credit institutions, that impact on our business and relations with customers could stymie profitability and return on equity, increase funding costs, and undermine our resilience to economic disruption and ability to extend credit.

Many legislative or regulatory action may result in new requirements or more stringent standards, particularly with respect to capital and liquidity. This could directly affect the Group or our subsidiaries, negatively impacting our solvency and/or liquidity levels.

The key mitigation measures for this risk are:

- Initiatives included in the capital plan, in line with the continuous improvement of our regulatory models within the IRB 2.1 project framework (project for the implementation of the Group's EBA Repair Program), as well as to mitigate the possible impacts of Basel guidelines.
- Multidisciplinary working groups to anticipate outcomes of these measures, in collaboration with the banking associations and through the dialogue with regulators and other stakeholders.

Climate and environmental risk

Climate and environmental risk continues to raise concern for several reasons: (i) the macroeconomic and geopolitical situation (e.g. the war in Ukraine, economic slowdown, new energy landscape, etc.) adds pressure to meet commitments and targets in support of a transition to a low-carbon economy; (ii) more climate-aware customers, shareholders and investors; (iii) banks in the US and elsewhere are assessing legal and reputational risk in belonging to platforms of climate-material sectors; (iv) the threat of biodiversity loss to the economy; and (v) new requirements in policies and institutional frameworks.

The transition and physical risks associated with climate change can have negative implications for the Group because of:

- higher credit exposure and companies with inconsistent business models with low-carbon economic transition;
- operational risk, since severe weather can directly disrupt business and operations both for our customers and for the Group;
- challenges to meet several jurisdictions' supervisory expectations, which became more substantial, precise and extensive in 2022, with stricter timescales, and could harm our green product offering subject to different rules and taxonomies under development;
- damaged reputation and relations with customers due to our practices and decisions in relation to climate change and the environment, or due to the practices or engagement of our customers in sectors and initiatives linked to causing or worsening climate change; and
- a lack of hard, quality data on climate change to be able to give reliable, accurate reporting.

To tackle these challenges, the Group has mitigation plans. In particular:

- Because climate risk is intertwined with other core risk types, we continue to integrate climate risk into our strategy and management through better processes, robust governance, internal taxonomy (based on the EBA's Pillar III guidelines), risk appetite statement, stress testing, ESG policy, risk profile assessments, etc.
- In alignment with other areas, risk and compliance advise on efficient green product design and transition plans to help our customers go green (or greener).
- Our climate stress testing and scenario analysis, such as those developed in the ECB's 2022 Climate Stress Test and Thematic Review on Climate & Environmental Risk, heightened our understanding of exposure to this risk and provided greater insight to potentially improve risk management and decision-making.
- Multidisciplinary working groups to anticipate outcomes, in collaboration with banking associations and regulators and other stakeholders.

The automotive industry

As the auto industry transforms in response to gradual changes in legislation, technology, climate and consumption, it has become a more significant source of risk to the Group in recent years.

This transformation could affect our auto finance business (EUR 160 billion of exposure in 2022), which is mainly distributed in SCIB, Digital Consumer Bank and SC USA), in view of:

- a transition from fuel to electric engines and environmental aspects related to emissions and transition risk from political and regulatory decisions (e.g. traffic restrictions in city centres for highly polluting cars);
- growing customer preferences for car leasing, subscription, car sharing and other services instead of vehicle ownership;
- greater market concentration in certain manufacturers, distributors and other agents;
- more online sales channels; and
- self-driving vehicles.

The auto industry has also suffered with supply chain disruption and shortages of batteries, semi-conductors and others in the wake of the pandemic and the war in Ukraine.

In an adverse scenario, the auto lending business could be impacted by a short supply of new vehicles affecting guarantees, residual used car value and loan delinquency.

To manage such threats, the Group:

- continuously monitors auto loan portfolios and dealers, used car prices (especially diesel vehicles), forward-looking analyses of the auto market, check provisions adequacy, commercial focus on leasing, alliances, fleet financing, and innovative product development;
- implements specific plans to address particular concerns: profitability in agreements with manufacturers and campaigns to support distributors; loyalty programmes to boost renewals; rentals and leases, car subscription; digital solutions; plans to lower inventory; used car sales; 'buy now, pay later' (BNPL) and market penetration by insurers; and
- aids the green transition, decarbonization of car fleets and installation of electric vehicle charging stations in the auto industry.

A transforming auto industry could create many opportunities for the Group to:

- help develop the supply of new electric and low or zero-emissions vehicles, which would be positive for the environment, lower emissions and transition risk stemming from public policies and regulation (e.g. aid for charging stations, better legislation to develop electric vehicle infrastructure and traffic restrictions for highly polluting vehicles).
- create new business models with ecological, smart and autonomous vehicles; support competitiveness and investment in the industry, including new mobility companies, with the support of the banking sector.
- capitalize on the growing demand for logistics services, fast delivery and online shopping that suggests that commercial and industrial vehicle sales will rise.
- public support measures for financing of new fleets with low or zero emissions, for example through European funds.

Central bank digital currencies (CBDCs), *stablecoins* and disintermediation

Digital versions of fiduciary currencies issued by central banks and stablecoins could have potential impacts on the financial system, such as replacing or diminishing bank's current accounts, which could affect the volume, structure, and cost of funding for commercial banks.

Most central banks are exploring issuing digital currencies (CBDCs), through pilot projects focusing in this field. The focus is, above all, on retail CBDCs that offer citizens a digital, central bank liability for payments. Most central banks are yet to make a decision on CBDCs; but in Brazil, China and Sweden, they are already running tests. The ECB is making significant headway with the digital euro. According to the ECB's roadmap, the ECB could be ready to take a decision on whether to issue a digital euro by the end of 2026.

In addition, both CBDCs and stablecoins could be seen as a new standard of payment and bank deposits, which could inadvertently increase disintermediation across the financial system. This could exacerbate financial instability in times of economic stress if bank deposits are substituted with CBDCs, which could be seen as more secure. It is not clear what services and business models banks and other payment providers will be able to provide based on these instruments.

The benefits of digital currencies, also unclear, will depend on each country or region’s payments system, economic development, financial inclusion and consumer habits. CBDCs could open up the opportunity to develop innovative digital asset and payment services.

To mitigate CBDCs risk, the Group:

- participates in the debate on CBDCs with domestic and foreign authorities in order to explain their risk to banks and to financial stability (as well as the importance of mitigating it), and make sure they will enable banks to continue creating value for customers;

- monitors central banks’ projects, stablecoin markets and consumer behaviour; and

- participates in multidisciplinary working groups with banking associations and regulators to anticipate outcomes.

2. Risk management and control model

Our risk management and control model is underpinned by common principles, a solid risk culture, robust governance and advanced management processes on risk factors

2.1 Risk principles and culture

The principles on which Grupo Santander's risk management and control are based are detailed below. They take into account regulatory requirements, best market practices and are mandatory:

1. **All employees are risk managers** who must understand the risks associated with their functions and not assume risks that will exceed the Group's risk appetite or have an unknown impact.
2. **Senior managers** must make sure we keep our risk profile within risk appetite limits, with consistent risk conduct, action, communications, and oversight of our risk culture.
3. **Independent risk management and control functions**, according to our three lines of defence model (See section 2.3 'risk and compliance governance').
4. **We take a forward-looking, comprehensive approach** towards all businesses and risk types.
5. **We keep thorough and timely reporting** to properly pinpoint, assess, manage and disclose risks.

Risk culture - *Risk Pro*

The Group's risk culture, which is called Risk Pro (or 'I AM RISK' in the UK and the US), is a core element of both our corporate culture, The Santander Way, and our purpose of helping people and businesses prosper.

What Risk Pro comes down to is each employee's accountability for the risks inherent in their activities and our contribution to the adequately identify, assess and manage all risks.

For more details, see the section 'A strong and inclusive culture. The Santander Way' of the 'Responsible Banking' chapter.

2.2 Key risk types

Grupo Santander's risk classification is based on our corporate risk framework and includes (for further information, each risk type definition can be accessed using the links provided):

Credit risk	Operational risk
Market risk	Financial crime risk
Liquidity risk	Model risk
Structural risk	Reputational risk
	Strategic risk

Environmental and climate-related drivers

Environmental and climate-related risk drivers are considered as factors that could impact the existing risks in the medium-to-long-term.

2.3 Risk and compliance governance

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

Lines of defence

Our model of three lines of defence effectively manages and controls risks:

1st Formed by business and support areas, which are primarily accountable for managing the risk exposure they originate, recognizes, measures, monitors and reports on risks according to risk management policies, models and procedures. Risk origination must be consistent with the approved risk appetite and related limits.

2nd Comprised by risk and compliance & conduct functions, independently oversees and challenges risk management at the first line of defence to make sure we keep risks within the risk appetite limits approved by senior management and promote a robust risk culture in the Group.

3rd Internal audit function, which is fully independent to give the board and senior managers assurance of high-quality and efficient internal controls, governance and risk management to preserve our value, solvency and reputation.

Risk, compliance & conduct, and internal audit are sufficiently separate and autonomous functions, with direct access to the board and its committees.

Risk and compliance committees' structure

The board of directors has final oversight of risk and compliance management and control promoting a sound risk culture and reviewing and approving risk appetite and frameworks, with support from its risk, regulation and compliance committee and its executive committee.

The Group's risk and compliance governance keeps risk control and risk-taking areas separated.

For more details, see section 4.8 'Risk supervision, regulation and compliance committee activities in 2022' on 'Corporate governance' chapter.

The **Group chief risk officer (Group CRO)**, who leads the application and execution of our risk strategy and promotes proper risk culture, is in charge of overseeing all risks, as well as challenging and advising business lines on risk management.

The **Group chief compliance officer (Group CCO)**, who handles compliance risk and leads the application and execution of the compliance and conduct risk strategy and provides the Group CRO with a complete overview on the situation of risks being monitored.

The Group CRO and the Group CCO report directly to both the risk supervision, regulation and compliance committee and the board of directors.

Board level:	**Board of directors**		
	Risk management	Risk control	
	Executive committee	**Risk supervision, regulation and compliance committee**	
Executive level:	**Executive risk committee (ERC)**	**Risk control committee (RCC)**	**Compliance and conduct committee**
Chair:	CEO	Group CRO	Group CCO
Frequency:	Weekly	Monthly	Monthly
Fora:	• Model approval forum • Risk proposal forum	• Market, structural, liquidity and capital risk control forum • Credit risk control forum • Provisions forum	• Corporate product governance forum • Financial crime compliance forum • Reputational risk forum

The executive risk, risk control and compliance and conduct committees (described below) are executive committees with powers delegated from the board.

Executive risk committee (ERC)

The ERC manages risk with board-given authority to accept, amend or escalate actions and transactions that may pose significant risk to the Group. It makes the highest-level risk decisions, mindful of risk appetite. It is formed by executive directors and other senior managers from the risk, finance and compliance & conduct functions. The Group CRO can veto the committee's resolutions.

Risk control committee (RCC)

The RCC, which provides a holistic overview of risk, makes sure business units are managing risk within risk appetite. It also identifies, monitors and assesses the impact of current and emerging risks on the Group's risk profile. It is formed by senior officers from the risk, compliance & conduct, finance and accounting & management control functions, among others. Subsidiary-level CROs participate on a regular basis to report to the committee on risk profile.

Compliance and conduct committee

The committee monitors and reviews compliance and conduct risk management. It also oversees corrective measures for new risks and risks detected among management-related deficiencies. It is formed by senior managers representing the compliance & conduct, risk and accounting and management control functions, among others. The chair holds the casting vote over the committee's resolutions.

Executive-level committees delegate some duties to management and control fora and meetings (see table above) that:

- inform the Group CRO, the Group CCO, the risk control committee, and the compliance and conduct committee if risks are being managed within risk appetite;
- regularly monitor each key risk type; and
- oversee measures to meet supervisors and auditors' expectations;

The risk and compliance & conduct functions' internal regulation effectively creates the right environment to manage and control all risk types.

Grupo Santander can also implement extra governance measures for special situations, as it did with Brexit and the covid-19 crisis. Since the beginning of the war in Ukraine, we strengthened the monitoring of all risks, with special attention to the situation in Poland, monitoring of macroeconomic performance, vulnerable sectors/customers, cybersecurity, among other. In addition, the compliance team have continuously reviewed the application of the sanctions. Santander has no presence in, or hardly any direct exposure to, Russia and Ukraine. Our special situations governance enabled the Group to remain resilient against the consequences of the war in Ukraine.

The Group's relationship with its subsidiaries

Grupo Santander's subsidiaries have a model for managing risk, compliance and conduct that is consistent with the frameworks approved by the group's board of directors, which they adhere to through their own boards and can only adapt to higher standards according to local law and regulation. Furthermore, the Group's aggregate oversight area advises subsidiaries on internal regulation and operations. This reinforces a common risk management model across Santander.

In 2022, we continued to build on our Group-subsidiaries' model through a regional approach, benefiting from the Group's global scale to find synergies under a common operating and platform model; to streamline processes; and tighten control mechanisms to grow our business.

The Group CRO, the Group CCO and regional heads of risk are involved in appointing, setting objectives for, reviewing and compensating their country-unit counterparts to evaluating that risks are adequately controlled. Each subsidiary's CRO/CCO interacts regularly with the regional head of risk, the Group CRO and the Group CCO in regional or country control meetings.

Local and global risk and compliance areas also meet to address special matters. Country and regional units work closely to effectively strengthen group-subsidiary relations through these common initiatives:

- restructuring based on subsidiary benchmarks, strategic vision, and advanced risk management infrastructures and practices.
- exchange of best practices that will strengthen processes, drive innovation and result in a quantitative impact.
- search for talent in risk and compliance teams with internal mobility through the global risk talent programme and strong succession plans.

For more details on our relationship with our subsidiaries, see section 7. 'Group structure and internal governance' of the 'Corporate Governance' chapter.

2.4 Risk management processes and tools

Grupo Santander has these processes and tools to carry out effective risk management:

Risk appetite and structure of limits

Risk appetite is the aggregate level and types of risk we deem prudent for our business strategy, even in unforeseen circumstances. In Grupo Santander, these principles influence risk appetite:

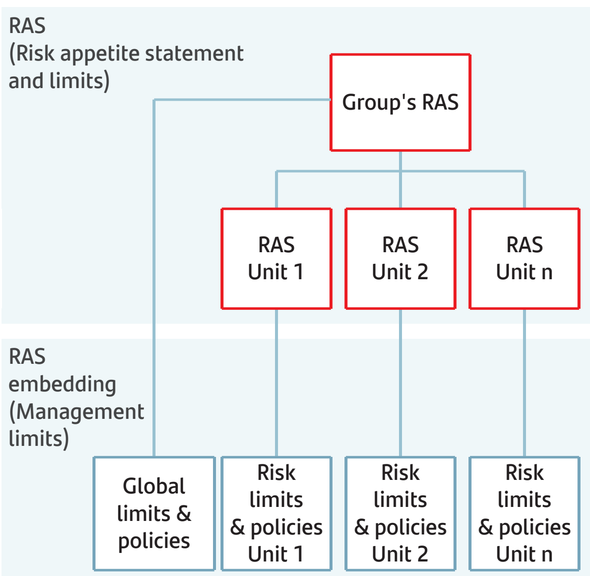
- **Risk appetite is part of the board's duties.** It prepares the risk appetite statement (RAS) for the whole Group every year. In a cascading down process, each subsidiary's board also sets its own risk appetite.
- **Comprehensiveness and forward-looking approach.** Our appetite includes of all material risks that we are exposed to and defines our target risk profile for the current and medium term with a forward-looking view considering stress scenarios.

To promote that all material risks are adequately represented, we use corporate methodologies to identify and assess the risk to which we are exposed to and are inherent to our activities (top risks and risk control self-assessment- RCSA- among others).

For more details on these exercises see sections 'Management and control model' 6.2 Operational risk management and 1.3 Santander's top and emerging risks.

Additionally, specific workshops are held with the specialized first and second lines for each risk type, to review and enhance the risk appetite metrics.

- **Common standards embedded in the day-to-day risk management.** The Group shares the same risk appetite model, which sets common requirements for processes, metrics, governance bodies, controls and standards. It also ensures an effective and traceable embedding of our appetite into more granular management policies and limits across our subsidiaries.



- **Continuous adaptation** to market best practices, regulatory requirements and supervisors' expectations.

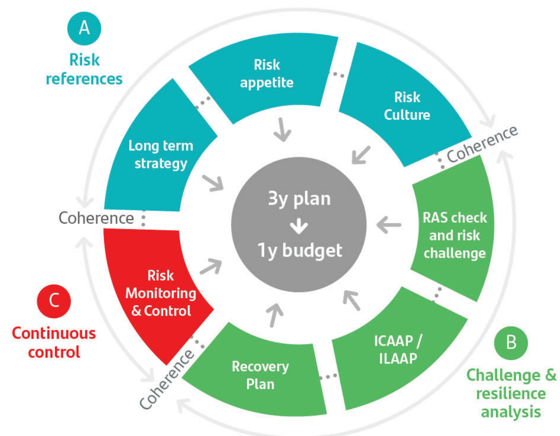
- **Aligning with business plans and strategy.** The risk appetite is a key point of reference for strategic and business planning. We verify that the three-year strategic plans, the annual budget, and capital and liquidity planning are within the limits set in the RAS before we approve them.

We promote that strategic and business plans are aligned with our risk appetite by:

- considering the risk appetite, long-term strategic view and the risk culture when drafting strategic and business plans.

- challenging business and strategic plans against the risk appetite. Misalignments trigger a review of either the three-year strategic plan (to make sure we stay within RAS limits) or risk appetite limits, with independent governance.

- monitoring regularly that we comply with the risk appetite limits. We follow a three lines of defence model for constant oversight, with specialized control functions that report on risk profile and compliance with limits to the board and its committees every month.



Our risk appetite and business model rests on:

- a medium-low, predictable target risk profile, centred on retail and commercial banking, internationally diversified operations and a strong market share;

- stable, recurrent earnings and shareholder remuneration, sustained by a sound base of capital, liquidity and sources of funding;

- autonomous subsidiaries that are self-sufficient in terms of capital and liquidity to ensure their risk profiles will not compromise the Group's solvency;

- an independent risk function and a senior management actively engaged in supporting a robust control environment and risk culture; and

- a conduct model that protects our customers and our Simple, Personal and Fair culture.

The risk appetite is expressed through qualitative statements and quantitative limits and metrics that measure bank's risk profile at present and under stress. Those metrics cover all material risks that we have exposure to, and take into account key risk typologies, according to our corporate risk framework. We articulate them in five axes that provide us with a holistic view of all risks we incur in the development of our business model:

Key risks

Risk Appetite axes	Credit risk	Market risk	Liquidity risk	Structural risk	Operat. risk	Financial Crime Risk	Model risk	Reputat. risk	Strategic risk
P&L volatility	Control of P&L volatility of business plan under baseline and stressed conditions (aligned with ICAAP stress test)								
Solvency	Control of capital ratios under baseline and stressed scenarios (aligned with ICAAP)								
Liquidity	Control of liquidity ratios under base and stress scenarios (aligned with ILAAP)								
Concentration	Control of credit concentration on top clients, portfolios and industries								
Non financial risks	Control on non financial risks aimed to minimize events which could lead to financial loss, operative, technological, legal and regulatory breaches, conduct issues or reputational damage								

Key initiatives in 2022

This year we included new metrics for data management risk and public cloud information in our risk appetite. We enhanced controls and metrics to closely follow our environmental commitments.

Risk profile assessment (RPA)

The identification and evaluation of risks is the cornerstone for its proper management, control and reporting. It encompasses all those processes that raise risks and vulnerabilities, both internal and external, to which the Group is exposed, as well as the quantitative and/or qualitative determination of its relevance. The risk framework defines the key types, which are reviewed annually in the light of the outcome of the Group's main identification and assessment exercises.

We systematically assess the risk profile of the Group and its subsidiaries using a single methodology, RPA, which is based on the fundamental principles of the risk identification and assessment model: accountability, efficiency, comprehensive risk coverage, materiality and decision oriented. The calculation of the risk profile under RPA methodology generates results through a scoring system that classifies the profile into four categories of materiality: 'low', 'medium-low', 'medium-high' and 'high', to make sure the board-approved Group risk appetite remains within medium-low and predictable risk profile.

The risk profile is represented at different levels:

- By risk type, where we measure exposure under base and stressed conditions, mainly through a set of metrics and indicators calibrated with international standards.
- By Group/Unit, which gives an aggregated view of risks that Group and their subsidiaries are exposed, also considering emerging risks that could impact business planning and strategic objectives.

During 2022, we added new credit and strategic risk metrics to capture ESG criteria in the risk profile to align with our ESG and green finance commitments. We also included early warning indicators and intraday liquidity buffers to make risk profile more forward-looking in an ever-changing environment.

By the end of 2022, the Group's risk profile remains at medium-low, despite pressures from high inflation, rising interest rates and the effects of the war in Ukraine which have impacted most risk types. Nonetheless, our cautious and proactive risk management led to strong profitability and good credit indicators while liquidity risk profile remains strong. The control environment also remained satisfactory.

Scenario analysis

Scenario analyses are an important risk management tool at all levels, since it allows us to periodically assess the resilience of our balance sheet and our capital adequacy under stressful conditions. We use findings to review risk appetite and draw up actions to mitigate expected losses or, if needed, to reduce capital and liquidity.

Scenario analyses also enable senior management to identify and understand the nature and scope of the vulnerabilities to which the Group is exposed to in the development of its business plan.

Our Research department plays a key role in determining scenarios, macroeconomic variables and others that can affect our risk profile in our markets.

To make stress testing more consistent and robust:

- Our three lines of defence and senior management are involved in oversight and governance of scenario analyses.
- The models we develop estimate future metric values (e.g. credit losses).
- Our backtesting and reverse stress challenges model outcomes regularly.
- Our teams contribute with expert opinions and a vast understanding of portfolios.
- And we thoroughly monitor models, scenarios, assumptions, results and mitigating management measures.

In the context marked by the war in Ukraine, scenario analyses have been key for the identification and management of potential impacts, such as, rising inflation, energy crisis and interest rate hikes. During 2022 we improved the ability of foresight to pinpoint lines of action, adapt our strategy and remain solvent. To this end, focus was made on sectoral analysis, for which we developed a methodology and tool for the projection of financial statements of companies allowing us to analyse their behaviour under different macroeconomic scenarios, quantify the impacts of the energy crisis and thus being able to carry out anticipated portfolio management.

We have repeatedly obtained excellent quantitative and qualitative scores in the European Banking Authority's (EBA) stress tests.

How we use scenario analysis

We conduct a systematic review of our risk exposure under base, adverse and favourable scenarios that predict an impact on solvency and liquidity. These exercises are fundamental to our processes:

- **Regulatory exercises** based on instructions from EU and domestic supervisors.
- **Business planning** to help set the Group's risk strategy and profile, with:
  - internal capital and liquidity adequacy assessment processes (ICAAP and ILAAP) that measure capital and liquidity in various scenarios;
  - budget and strategy planning to apply a new risk approval policy, based on the Group's risk profile, specific portfolios and business lines;
  - our annual recovery plan, which specifies which tools Santander could use to survive a severe financial crisis. The plan's financial and macroeconomic stress scenarios have various levels of severity, plus idiosyncratic and systemic events; and
  - risk appetite, with stressed metrics to determine how much risk we can assume.
- **Recurrent risk management** also uses scenario analyses for:
  - provisions estimates: Since 1 January 2018, scenario analysis, models and methodologies have covered International Financial Reporting Standards (IFRS 9) requirements;
  - regular credit and market risk stress testing that simulate changes in expected losses to estimate required capital and absorb unexpected losses; and

For more details on scenario analysis, see sections 3.2 'Credit risk management', 4.2 'Market risk management' and 4.6 'Liquidity risk management' and Note 53 section 'Expected loss estimation' to the consolidated financial statement.

  - climate change scenario analyses, with the scenarios defined by Network for Greening the Financial System (NGFS) and others that we've created to calculate climate change impacts.

In 2022, we participated in the stress tests led by the ECB, classified as a learning exercise within the industry, and will be integrated into the Supervisory Review & Evaluation Process (SREP) exercise. Santander UK has also participated in a similar exercise following the requirements of the Prudential Regulation Authority (PRA). On the other hand, improvements related to environmental and climate-related risks have been carried out in the ICAAP 2022 exercise, where the climate scenario has been integrated into the internal projection methodology.

For more details, see 'Monitoring' in section 10.2 'Climate and environmental risk management' in this chapter

Risk reporting structure

To remain fully abreast of our risk profile, top management gets regular reporting from the Enterprise-wide risk management team on current and future risks so it can make the right decisions in a timely manner.

Reporting covers all risks in our corporate risk framework, with all necessary considerations for their proper review. We issue weekly and monthly reports for senior managers, as well as monthly subsidiary risk reports and detailed overviews of each risk type.

Our risk reporting structure balances data collection, analysis and feedback on forward-looking measures, risk appetite and limits, and emerging risk to give an overview of all risks and make sure information and metrics are high-quality and consistent with the corporate data framework.

We continue to enhance our reporting with simpler, automated processes and tighter controls that adapt to new needs. In 2022, we reported on the macro-economic impact of the war in Ukraine and commodity prices, our measures to support vulnerable customers and continuous monitoring of conflict-related sanctions policies. We included information on strategic initiatives to strengthen new business units and environmental risk management, with a special focus on climate change and other risks.

2.5 Models & Data Unit

In 2022, Santander continued to use data and advanced analytics to develop our business strategy. Strong leadership and connection with business units helped us focus on commercial priorities.

We embed data and models in four ways:

1. Business models. Business heads worked with models teams to pinpoint use cases that could enhance customer experience and stimulate growth. In addition, we have a vast matrix of use cases in all our markets and businesses. We have close to 1,000 cases to attract customers, increase their loyalty and enhance their experience, including the Next Best Offer model in all our regions.

2. Risk models. We developed early warning models that delve deeper into the behaviour of our portfolios to manage them better and boost business units' response. We also continued to work on the IRB 2.1 programme. We submitted EBA Repair Programme models to the ECB and met all regulatory and supervisory expectations.

3. In data, we prioritized managing business units' most valuable data. We enhanced data exchange within and between subsidiaries.

4. In data architecture, we're building a Group-wide 360º view of our customers to boost customer knowledge and offer the products and services they need more effectively.

We use cutting-edge technology, unconventional data and model automation to be more efficient, enhance quality, and tackle our customers' and employees' challenges.

We maintain our commitment to promoting transformation in banking through the responsible use of advanced analytics (machine learning and AI). We took part in a Banco de España study published in June 2022 on explainable machine learning models[7].

[7] Accuracy of Explanations of Machine Learning Models for Credit Decisions – Banco de España

3. Credit risk

3.1 Introduction

Credit risk is the risk of financial loss due to the failure to pay or impaired credit of a customer or counterparty Santander has financed or maintains a contractual obligation with. It includes counterparty risk, country risk and sovereign risk. It is our most significant risk in terms of exposure and capital consumption.

3.2 Credit risk management

We take a holistic view of the credit risk cycle, including the transaction, the customer and the portfolio, in order to identify, analyse, control and decide on credit risk.

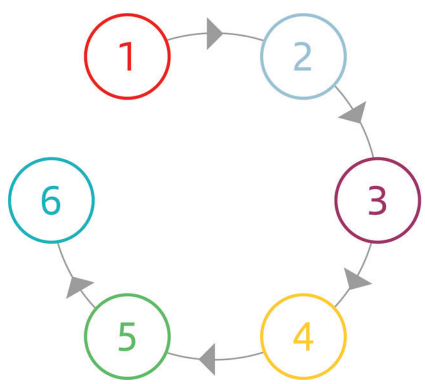
Credit risk identification facilitates active and effective portfolio management. We classify external and internal risk in each business to adopt any corrective or mitigating measures through:

Planning

Our planning helps us set business targets and draw up action plans within our risk appetite statement.
Business and risk areas prepare holistic strategic commercial plans (SCP) that describe commercial strategies, risk policies, resources and infrastructure for managing credit portfolios.

Risk assessment and credit rating

Risk approval generally depends on the applicant's ability to repay the debt, regardless of any collateral or personal guarantees we require. We review their regular sources of income, including funds and net cash flows from any businesses.
Our credit quality assessment models are based on credit rating engines, different in each of our segments, which we monitor to calibrate and adjust the decisions and ratings they assign.



Scenario analysis

Scenario analysis reveals potential risk in credit portfolios under various macroeconomic conditions so we can develop strategies to prevent future deviations from set targets.

Monitoring

Our holistic, regular monitoring allows us to track credit quality, spot risk trends early and check credit performance against original targets based on performance forecasts, ratings and other particulars for each customer. In our subsidiaries, local teams use new transaction and CRM databases and advanced early-alarm analytics that help determine an appropriate course of action for each customer according to their assigned rating and segment.

Mitigation techniques

We generally approve risk according to a borrower's ability to make due payment, regardless of any additional collateral or personal guarantees we may require to modulate exposure.
We always consider guarantees or collateral as a reinforcement measure in a credit transaction to mitigate a loss if the borrower defaults on their payment obligation.

Collections and recoveries

Collections & Recoveries develops a global management strategy based on local economic conditions, business models and other recovery-related particulars, with a full approach and general action lines for our subsidiaries.
For effective and efficient recoveries management, the area segments customers based on certain aspects, using new digital channels that help create value.

For more details see section 'Credit risk management', in Note 53 to the consolidated financial statement

ATOMiC: Credit risk target operating model

Advanced Target Operating Model in Collaboration (ATOMiC), as part of our new credit risk strategy, has transformed credit risk management, while we continue to work every day. It strengthens our control environment and our ability to anticipate and handle uncertainty caused by complex, unforeseen events (like the Covid-19 crisis or the war in Ukraine) and to adapt to new regulation.

During 2022, ATOMiC focused on keeping advancing in digitalization and innovation (including advanced modelling techniques), on addressing new challenges derived from the political, social and economic instability, technological disruption, regulatory agenda and the transformation towards more sustainable habits, as well as continue to support the Group's five major strategic lines:

1. Customer First: Digital processes and useful solutions to boost customer experience and loyalty and grow our customer base. As part of our New to Bank strategy, Customer First explores new horizons, using new information sources (non-traditional data), digital payment solutions and fraud checks that make it easier for new customers to affiliate with us with less required information.
2. Sustainable profits: Efficient control of costs and exceptions and strong governance to increase volume and expected (risk-adjusted) returns.
3. Responsible banking: Environmental, social and climate change risk embedded in decision-making.
4. Forward-thinking: Stronger planning, forecasting and credit risk data models to anticipate unforeseen events and enhance risk sensitivity analysis, so we can better align decision-making with customer behaviour based on complete information.
5. Effective exploration of opportunities for shared services and fintech.

ATOMiC's a 'living' strategy that we revise annually. In 2022 the Group planned transformation initiatives in subsidiaries with ATOMiC Pro to tackle new challenges based on four key levers: Advanced Target Operating Models (updated TOMs), Business Success Case Studies that help us understand best practices implemented in the Group, KPIs (metrics that help measure the contribution and impacts of ATOMiC on the credit portfolios) and local transformational initiatives that more rapidly promote the implementation of the strategic lines of credit risk in the Group.

Each country unit decides which initiative it undertakes, creating its own plan and targets to achieve the Group's objectives. Local credit risk strategies are defined based on the starting situation of each country, its budgetary needs and readjusting the global objectives to its own reality and particularities. Their strategies combine to define the Group's ambition and strategy regarding credit. ATOMiC positions us better to handle unexpected events, as we constantly strengthen our control framework in terms of:

- risk appetite limits and risk profile;
- forward-looking metrics and concentration limits per customer and sector;
- measures that help determine in advance the risk policies and actions to be implemented with clusters of customer, taking into account the environment (playbooks).
- specific measures for each segment, from individuals to Corporate Investment Banking (CIB), such as sectoral exercises with new macroeconomic scenarios, and review of admission cut-off scores.
- enhanced forecasting, proactive monitoring and recovery management by the Collections & Recoveries area.

3.3 Key metrics

2022 general performance

2022 was a year marred by the worst inflation in decades in Europe and North America, with great uncertainty caused by the war in Ukraine. Our performance was largely affected by monetary policy in our markets. We had to make credit risk control more forward-looking to be ready for future shifts.

The first quarter of 2022 saw the start of war Ukraine. Despite not having a presence or hardly any direct exposure in Russia or Ukraine, the Group tightened monitoring of all risks, with particular attention to Poland, due to its geopolitical situation, and with the customers of every unit whose operations could be affected by the conflict. While the war cast uncertainty and slowed economic activity, our credit portfolio continued to grow, led by our units in Europe and in a South America propped up by a stronger Brazilian real. Credit quality indicators remained stable; delinquency increased in light of the regulatory 'new definition of default' (NDD).

In the second quarter of 2022, we continued to follow geopolitics closely, monitoring key indicators and the most affected customers by the rising prices of energy, oil and commodities. Credit volumes stayed high even though interest rate hikes to curb inflation slowed down the economy, along with global supply chain disruptions, new covid-19 outbreaks and the war's effect on prices. Retail banking activity was moderate, but wholesale banking activity increased. Positive performance in Europe, helped by portfolio sales in Spain and Portugal, set NPLs back on a downward trend.

In the third quarter, the war in Ukraine continued to make waves in the global economy, and the higher energy and commodity prices and interest rates prompted us to run impact analyses to identify the most affected customers. Credit portfolio growth was boosted by corporates and large corporates. Our NPL ratio rose slightly due to loan performance in the Americas, which was partially offset by positive results in Europe and at Digital Consumer Bank (DCB).

In the last quarter, the economy continued to present an inflationary scenario, although economic activity is proving more resilient than expected. The Group continued to closely monitor economic effects from the war in Ukraine in order to take preventive action. Exposure remained stable from previous quarter, slightly declining in Europe due to higher interest rates and offsetting by growth in North America, South America and DCB. The NPL ratio remained stable, driven by good performance of our portfolios in Europe and DCB together with new non-performing portfolio sales, mainly in Spain.

In December 2022, credit risk with customers rose 7%, like-for-like, from 2021, in part because the currencies in our core markets increased in value and the consolidation of Amherst Pierpont Securities (APS) since April 2022. Still, all core subsidiaries grew in local currency.

Our credit risk remained diversified, with a strong balance between mature and emerging markets: Europe[8] (57%), South America (16%), North America (15%) and Digital Consumer Bank (11%).

Loan book growth offset the rise of credit impaired loans to EUR 34,673 million (+4.3% vs 2021) and lowered our NPL ratio to 3.08% (-8 bp vs 2021).

The Group recognized loan-loss provisions of EUR 10,509 million in compliance with IFRS 9, which were 41.3% higher from the year ended in December 2021. The pressure from the macroeconomic environment led to build additional provisions, mainly in Spain, the UK and the US, and higher provisions in Brazil (driven by unsecured individual portfolio performance and a single name in SCIB in the fourth quarter) and in Poland (due to CHF mortgages), which have been netted by the still good behaviour in the North American and the DCB portfolios.

Santander's loan-loss allowances totalled EUR 23,418 million. This brought our NPL coverage ratio to 67.5%, down from 71.3% in December 2021. At the end of 2022, approximately 35.4% of net loans to customers were mortgages to individuals, which by and large are found in Spain and the UK and consist of low-risk home mortgages, with low NPL ratios . A low-risk profile means fewer losses.

All support measures (moratoria) that the Group took in response to the covid-19 pandemic have expired, with positive behaviour thanks to economic recovery in in 2021, and improved sanitary-health conditions in our main geographies. Government liquidity programmes also remained in force in 2022, of which 77% of total credit granted was in Spain (77% was ICO-secured), and 12% of total credit was in the UK, with 98% government-secured.

In order to relief the mortgage payment burden for vulnerable customers after interest rates increase, the Group is following the government measures launched by Spain, Portugal and Poland. These measures propose, among others, extending the term of mortgages to align customers' instalments with their payment capacity.

[8] 'Others' not included make up the remaining 1% (Corporate Centre)

The tables below show the results of the key metrics of customer credit risk:

Main credit risk metrics[A]

Data as of 31 December

	Credit risk with customers[B] (EUR million)			Credit impaired loans (EUR million)			NPL ratio (%)		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
Europe	**639,996**	**636,123**	**606,997**	**15,186**	**19,822**	**20,272**	**2.37**	**3.12**	**3.34**
Spain	293,197	283,953	272,154	9,598	13,403	14,053	3.27	4.72	5.16
UK	253,455	262,869	252,255	3,059	3,766	3,138	1.21	1.43	1.24
Portugal	41,755	41,941	40,693	1,247	1,442	1,584	2.99	3.44	3.89
Poland	33,350	33,497	31,578	1,268	1,210	1,496	3.80	3.61	4.74
North America	**185,614**	**149,792**	**131,626**	**5,629**	**3,632**	**2,938**	**3.03**	**2.42**	**2.23**
US	140,452	112,808	99,135	4,571	2,624	2,025	3.25	2.33	2.04
Mexico	45,107	36,984	32,476	1,047	1,009	913	2.32	2.73	2.81
South America	**167,348**	**141,874**	**129,590**	**10,381**	**6,387**	**5,688**	**6.20**	**4.50**	**4.39**
Brazil	101,801	85,702	74,712	7,705	4,182	3,429	7.57	4.88	4.59
Chile	47,811	41,479	42,826	2,384	1,838	2,051	4.99	4.43	4.79
Argentina	5,844	5,481	4,418	122	198	93	2.08	3.61	2.11
Digital Consumer Bank	**125,339**	**116,989**	**116,381**	**2,583**	**2,490**	**2,525**	**2.06**	**2.13**	**2.17**
Corporate Centre	**5,824**	**6,337**	**4,862**	**894**	**903**	**344**	**15.35**	**14.38**	**7.08**
Total Group	**1,124,121**	**1,051,115**	**989,456**	**34,673**	**33,234**	**31,767**	**3.08**	**3.16**	**3.21**

	NPL coverage ratio (%)			Loan-loss provisions[C] (EUR million)			Cost of risk[D] (%/risk)		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
Europe	**51.8**	**49.4**	**50.3**	**2,396**	**2,293**	**3,344**	**0.39**	**0.39**	**0.58**
Spain	51.0	51.4	47.5	1,618	2,320	2,123	0.61	0.92	0.86
UK	33.8	25.8	44.7	316	(245)	677	0.12	(0.09)	0.27
Portugal	79.3	71.7	66.5	17	38	193	0.04	0.09	0.51
Poland	74.0	73.9	70.7	440	200	330	1.43	0.67	1.10
North America	**93.3**	**134.9**	**182.5**	**2,538**	**1,210**	**3,917**	**1.49**	**0.93**	**2.92**
US	90.3	150.3	210.4	1,744	419	2,937	1.35	0.43	2.86
Mexico	106.6	95.0	120.8	788	791	979	1.95	2.44	3.03
South America	**76.0**	**98.3**	**97.4**	**5,041**	**3,251**	**3,923**	**3.32**	**2.60**	**3.32**
Brazil	79.5	111.2	113.2	4,417	2,715	3,018	4.79	3.73	4.35
Chile	56.3	63.3	61.4	399	341	594	0.93	0.85	1.50
Argentina	180.4	153.8	275.1	132	140	226	2.91	3.01	5.93
Digital Consumer Bank	**92.8**	**107.8**	**113.3**	**544**	**527**	**957**	**0.45**	**0.46**	**0.83**
Corporate Centre	**1.5**	**3.6**	**89.0**	**(10)**	**155**	**31**	**(0.14)**	**2.45**	**0.54**
Total Group	**67.5**	**71.3**	**76.4**	**10,509**	**7,436**	**12,173**	**0.99**	**0.77**	**1.28**

A. Management perimeter according to the reported segments.
B. Includes gross loans and advances to customers, guarantees and documentary credits.
C. Post write-off recoveries (EUR 1,460 million).
D. Cost of risk is the ratio of 12-month loan-loss provisions to average lending of the same period.
Santander Spain 2021 and 2020 have been recalculated taking into consideration new perimeter (European branches).

Reconciliation of key figures

As illustrated in the table below, Santander's 2022 consolidated financial statements disclose loans and advances to customers before and after provision allowances. Credit risk also includes off-balance sheet risk.

Credit risk section | Balance sheet item from consolidated financial statement

A. Includes gross loans and advances to customers, guarantees and documentary credits.
B. Before loan-loss allowances.

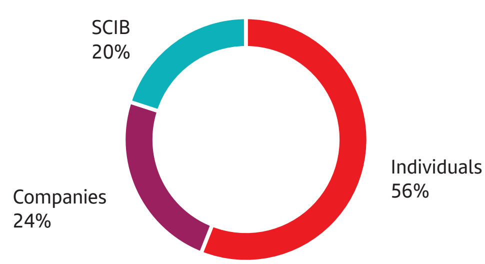
Distribution by region and segment

Santander segments credit risk into three customer groups in each market:

- **Individuals:** All natural persons that are not self-employed individuals, subdivided by income level to manage risk properly by customer type.
- **SME, commercial banking and institutions:** Companies and self-employed individuals, state-owned entities and private not-for-profit entities.
- **Santander Corporate and Investment Banking (SCIB):** Corporate customers, financial institutions and sovereigns on a closed list that is revised annually through analysis of business type, geographic diversification, product types, revenue volume for Santander, and other factors.

The graph below breaks down credit risk (including gross loans and advances to customers, guarantees and letters of credit):

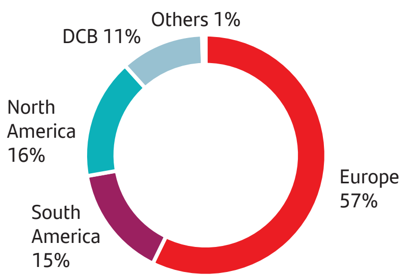
Credit risk distribution

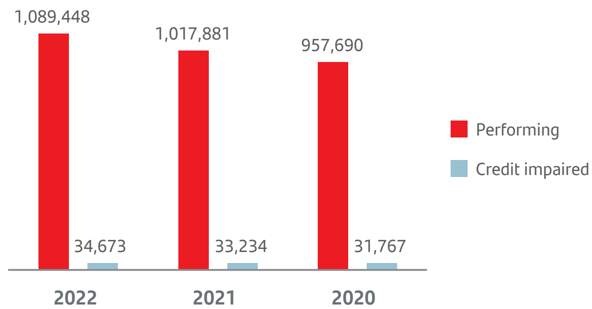


Below is a breakdown of performing and impaired loans by region:

Total

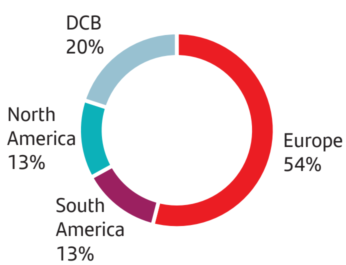
Total
Eur Mn
1,124,121

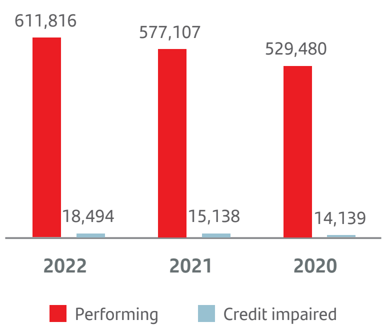




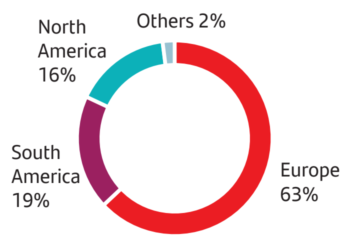
Segments

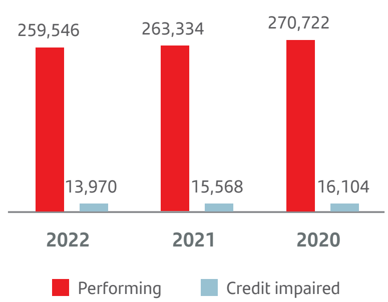
Individuals
Eur Mn 630,310



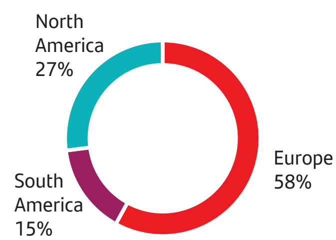


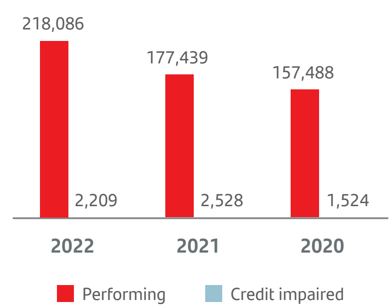
SME, Commercial Banking and Institutions
Eur Mn 273,516





SCIB
Eur Mn 220,295





'Others' include Corporate Centre.
Performing and non-performing was resegmented for 2021 and 2020.

- **Europe:** the NPL ratio fell 75 bp to 2.37% from 2021 because impaired loans decreased significantly in the UK, and in Spain and Portugal due to the portfolio sales.
- **North America:** NPLs increased by 61 bps to 3.03% year on year, mainly due to the new definition of default and because NPLs had grown at SC USA and the loan book had stabilized once customer relief programmes created in the public health crisis and government stimulus packages had expired.
- **South America:** The NPL ratio rose 170 bp from 2021 to 6.20%, due to increases in Brazil (by unsecured individual portfolio performance and a single name in SCIB, in the fourth quarter) and Chile, offset by the decrease in Argentina.
- **Digital Consumer Bank:** The NPL ratio decreased 7 bp to 2.06%, despite the decrease in automobile financing.

For more details, see section 3.4. 'Details of main geographies'.

Financial asset impairment

The IFRS 9 impairment model applies to financial assets valued at amortized cost; debt instruments valued at fair value with changes in other comprehensive income; leasing receivables; and commitments and guarantees not valued at fair value. The portfolio of financial instruments subject to IFRS 9 has three credit risk categories (or stages), according to the level of credit risk of each instrument:

Observed credit risk deterioration since the initial recognition of the financial instrument

Risk category	Stage 1	Stage 2	Stage 3
Classification criteria	Financial instruments with no significant increase in risk since initial recognition.	Financial instruments with a significant credit risk increase since initial recognition but with no materialized impairment event.	Financial instruments with true signs of impairment as a result of one or more events resulting in a loss.
Provisions recognised	The impairment provision reflects expected credit losses from defaults over twelve months from the reporting date.	The impairment provision reflects expected losses from defaults over the financial instrument's residual life.	The impairment provision reflects expected losses for credit risk over the instrument's expected residual life. In this stage, the calculation takes into account that loss events have already occurred and therefore the single scenario is the certainty that they will materialize in losses.

Impairment provisions include expected credit risk losses over the expected residual life of purchased or originated impaired (POCI) financial instruments.

The table below shows Grupo Santander's credit risk exposure by stage and geography:

Exposure by stage and by geography[A]

EUR million

	Stage 1	Stage 2	Stage 3	Total
Europe	**560,636**	**39,451**	**15,186**	**615,274**
Spain	254,994	12,351	9,598	276,943
UK	221,566	20,445	3,059	245,070
Portugal	35,490	5,018	1,247	41,755
Poland	30,362	1,636	1,268	33,266
North America	**148,497**	**11,355**	**5,629**	**165,481**
US	107,738	8,914	4,571	121,223
Mexico	40,714	2,442	1,047	44,203
South America	**145,517**	**11,061**	**10,381**	**166,958**
Brazil	85,636	8,125	7,705	101,466
Chile	43,033	2,350	2,384	47,766
Argentina	5,494	229	122	5,844
Digital Consumer Bank	**118,019**	**4,718**	**2,583**	**125,320**
Corporate Centre	**1,907**	**2,561**	**894**	**5,362**
Total Group	**974,575**	**69,147**	**34,673**	**1,078,396**

A. Does not include EUR 29,543 million from reverse repos and EUR 16,183 million from balances not subject to impairment accounting.

Stage 3 financial instruments (showing impairment) performed as follows:

2020 - 2022 Impaired credit assets

EUR million

	2022	2021	2020
Impaired credit (start of period)	**33,234**	**31,767**	**33,799**
Net entries	13,257	10,027	10,277
Perimeter	—	—	(44)
FX and others	417	529	(3,336)
Write-off	(12,235)	(9,089)	(8,930)
Impaired credit (end of period)	**34,673**	**33,234**	**31,767**

2020 - 2022 Allowances

EUR million

	2022	2021	2020
Allowances (start of period)	**23,698**	**24,271**	**22,965**
Stage 1 and 2	9,983	10,491	8,872
Stage 3	13,714	13,780	14,093
Gross provision for impaired assets and write-downs	11,665	8,824	13,263
Provision for other assets	305	(6)	139
FX and other	(14)	(302)	(3,166)
Write-off	(12,235)	(9,089)	(8,930)
Allowances (end of period)	**23,418**	**23,698**	**24,271**
Stage 1 and 2	9,272	9,983	10,491
Stage 3	14,146	13,715	13,780

To quantify expected losses from credit events, we use up to five unbiased and weighted future scenarios that could affect our ability to collect contractual cash flows. They consider the time-value of money, information from past events, and current conditions and projections of GDP, house pricing, unemployment and other important macroeconomic factors.

We calculate impairment losses using parameters (mainly EAD[9], PD[10], LGD[11] and discount rate) based on internal models and regulatory and management expertise. As they are far from being a simple adaptation, we define and validate them according to IFRS 9 guidelines.

For more information regarding Financial asset impairment, see 'Credit risk management' in section '2. Main aggregates and variations' on Note 53 to the consolidated financial statement.

Forbearance

Grupo Santander's internal forbearance policy is a standard for our subsidiaries locally and follows regulations and supervisory expectations such as the EBA Guidelines on the management of credit impaired and forborne exposures.

Its rigorous criteria for assessing and monitoring forbearances ensure the strictest possible care and diligence in recoveries. Forbearance must aim at recovering outstanding debt, with payment obligations adapted to customers' circumstances. Forborne debt should remain classified as 'doubtful' or put on a watch-list for sufficient time in order to determine both associated risk and reasonable certainty about recovery of ability to pay. We never use forbearance to delay recognition of loss or misstate risk of default.

For years, the sound economic conditions in our core markets sent forborne assets on a downward trend. But 2021 was a turning point, as forbearance grew 24% due to customers' financial struggles during the pandemic. In 2022, forbearance reduced slightly to EUR 34,173 million. 44% of forborne assets qualify as 'non-performing', with an average coverage of 44%.

Key forbearance figures

EUR million

	2022	2021	2020
Performing	18,988	20,504	14,164
Impaired credit	15,185	15,538	14,995
Total forborne	34,173	36,042	29,159
% Total coverage[A]	**24%**	**23%**	**28%**

A. Total forbearance portfolio loan-loss allowances/total forborne portfolio.

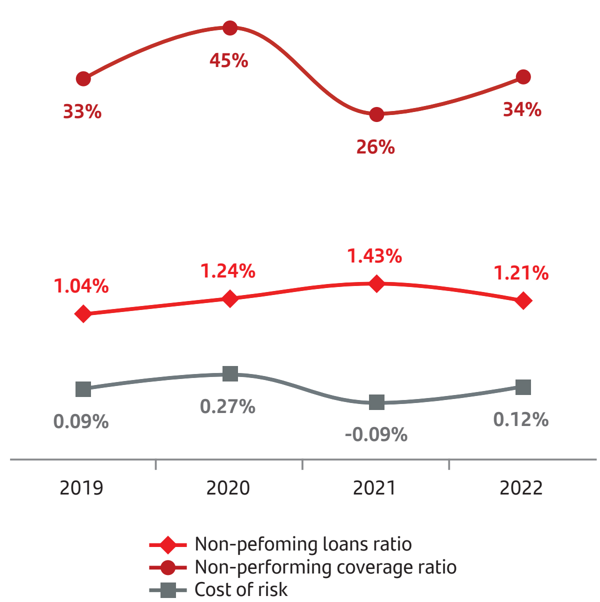
3.4 Details of main geographies

United Kingdom

General overview

Credit risk with customers in the UK (excluding Santander Consumer UK and Santander London Branch) declined year-on-year by 3.6% (+1.8% in local currency) to EUR 253,455 million. 22.5% of Santander's credit risk with customers is in the UK.

At 1.21%, the NPL ratio fell 22 bp from December 2021, due to a significant drop in the corporates segment following covid relief measures and the positive performance of the real estate market. The profile of the different segments remains stable.

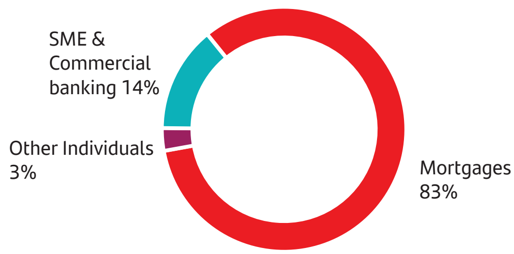


[9] Exposure at Default
[10] Probability of Default
[11] Loss Given Default

The Santander UK portfolio is divided into:

Portfolio segments[A]

Dec. 22 data



A. Excluding SCF UK and London Branch

Mortgage portfolio performance

We closely monitor the mortgage portfolio due to its size for both Santander UK and the Group.

As of December 2022, the mortgage portfolio of Santander UK grew by 5.5% in local currency to EUR 209,872 million. It comprises residential mortgages granted to new and existing customers which are first lien mortgages. There are no second or more liens on mortgaged properties.

The high loan origination rate from 2021 carried on into 2022, with very low credit risk. The economy slowdown and the interest rate hikes have moderated the increasing pace of house price increases from the second half of the year.

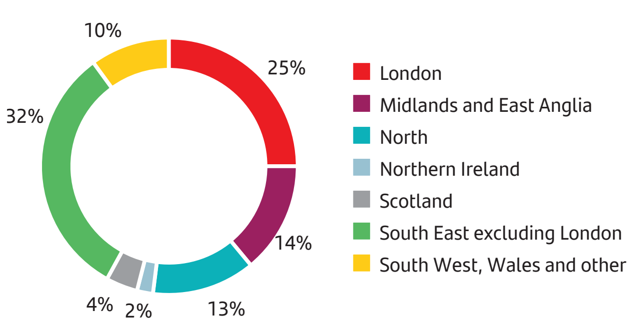
In the second quarter of 2022, interest rate hikes increased customers' monthly instalments on mortgages with a variable rate (nearly 12% of the loan book) or a mixed rate after the fixed-rate period (normally between two and five years) expired. Higher instalments are being mitigated, in part, by our conservative assessments of customers' ability to pay in order to approve them for a mortgage. Also, we are already taking measures to aid customers.

Under Santander's risk management principles, properties are appraised independently before we approve a new mortgage. In line with market practice and legislation, property values used as collateral for granted mortgages are updated quarterly by an independent agency's automatic appraisal system.

We have credit exposure predominantly in south east UK and the London metropolitan area.

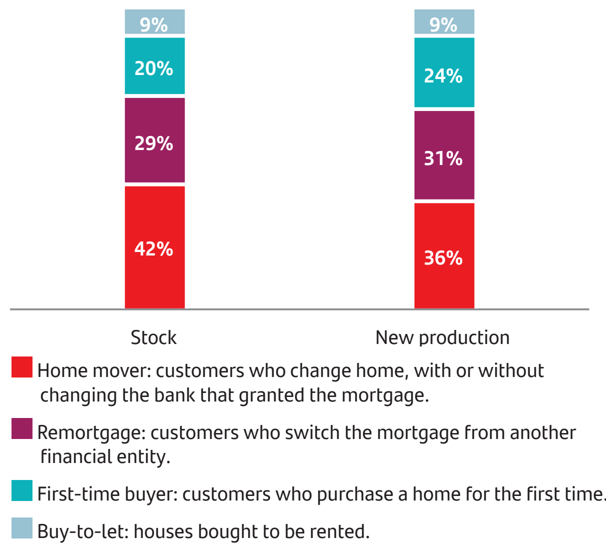
Mortgage exposure by region

Dec. 22 data



The chart below breaks down the portfolio by borrower type:

Mortgage portfolio loan type



In addition to traditional mortgages, Santander UK's wide range of products include:

- **Interest-only loans (22%):** customers make a monthly interest payment and repay the loan principal at maturity. These mortgages require borrowers to have an appropriate repayment vehicle, such as a pension plan or an investment fund. This mortgage is common in the UK. To mitigate inherent risk, Santander UK has restrictive approval policies, such as a maximum loan-to-value (LTV) ratio of 50% and an assessment of the ability to pay both interest and capital.
- **Flexible loans (4%):** loan agreements allow borrowers to modify monthly payments or draw down additional funds up to a set limit under various conditions.
- **Buy-to-let (9%):** a small portion of the total portfolio, 'buy-to-let' mortgages are subject to strict risk approval policies.

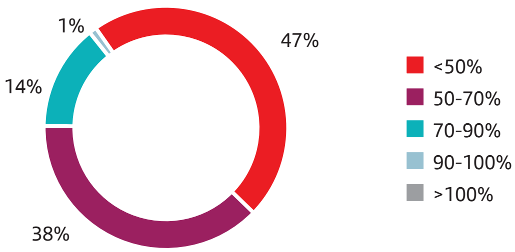
By late December 2022, NPL ratio of the mortgage portfolio had remained stable at 0.98% (-2 bp YoY), reflecting its strength.

With our prudent approval policies, simple average LTV stood at 39%. 1% of mortgages have an LTV of between 90% and 100%. Our policies also helped prevent risk quality deterioration in new mortgages.

The chart below shows the LTV structure of residential mortgages as of December 2022:

Loan to value

Dec.22 data



Loan to value: relation between the amount of the loan and the appraised value of the property. Based on indices.

Our credit risk policies forbid 'high risk' loans (e.g. subprime mortgages) and set out strict credit quality requirements for transactions and customers.

Spain

General overview

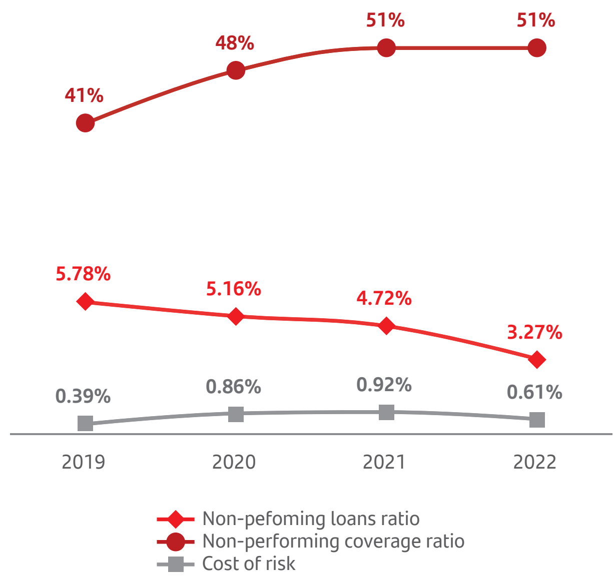
Santander España's credit risk totalled EUR 293,197 million (26% of the Group's total). It is appropriately diversified in terms of products and customer segments.

Spain's macroeconomic outlooks are of high uncertainty, with high inflation, higher rates and lower purchasing power of households as some negative factors. Positive factors include boosted tourism when the end of the pandemic has been declared together with a better than expected macro economic performance.

Lending trends were disparate across segments. Consumer credit and mortgage lending both grew considerably. But with corporates, lending remained stable, and with SMEs, it declined because customers still holding credit lines backed by Spain's Official Credit Institute (ICO) needed less new credit.

Total credit risk grew by 3.3% since December 2021. A large number of companies still hold the ICO loans that were granted during the pandemic, which amounted to EUR 25,428 million. The extension of the ICO loans in 2022 and the new support programmes were less relevant compared to 2020.

3.27% of the credit portfolio was non-performing —145 bp lower than in December 2021 — due to, overall, the portfolio positive performance, helped by extensions of borrower relief programmes, special loan management and portfolio sales. Year-on-year, the coverage ratio remained at 51% and cost of risk fell 31 bp to 0.61%.

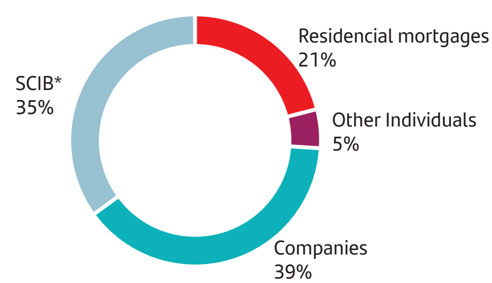


Figures for 2019, 2020 and 2021 have been recalculated to include data from European branches.

Santander España's portfolio is divided into these segments:

Portfolio segmentation

Dec.22 data



(*) SCIB includes the European branches.

Residential mortgages performance

Santander España's residential mortgages portfolio amounted to EUR 62,472 million, 21% of total credit risk. 99.5% are secured by the property as collateral.

Residential mortgages[A]

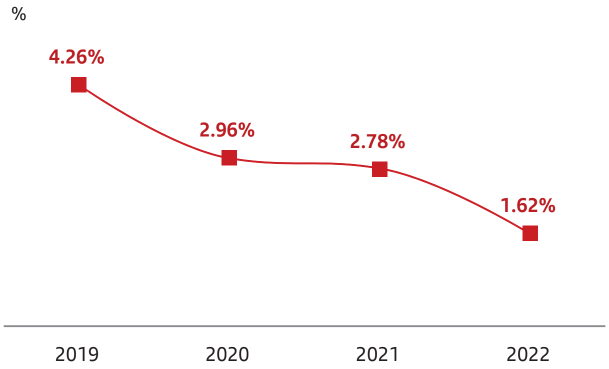
EUR million

	2022	2021	2020
Gross Amount	**62,472**	**60,948**	**58,079**
Without mortgage guarantee	288	419	387
With mortgage guarantee	62,184	60,529	57,692
of which credit impaired loans	**1,033**	**1,798**	**1,784**
Without mortgage guarantee	24	115	75
With mortgage guarantee	1,009	1,683	1,709

A. Excluding SC España's mortgage portfolio (EUR 1,216 million in December 2022 with EUR 55 million in doubtful loans, and EUR 1,376 million with EUR 62 million in doubtful loans in 2021)

1.62% of mortgages to households to purchase a home were non-performing, down 116 bp from last year, mainly explained by the NPL portfolio sales.

NPL ratio, mortgages to households



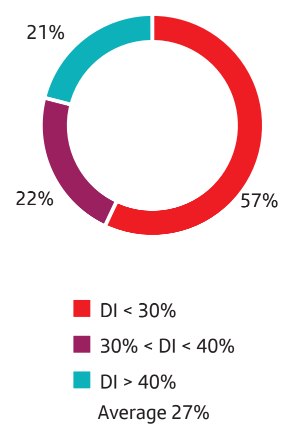
In 2022, new mortgage origination had climbed 9% year on year, due to higher consumer demand. The risk of the portfolio remains medium-low:

- principal repayment begins on the start date of all mortgages;
- early repayment is common, and average transaction life is shorter than the term in the loan agreement;
- the portfolio has high-quality collateral, which is almost entirely from first-time home buyers;
- its average debt-to-income ratio is still near 26%;
- 93% of mortgages have an LTV (the ratio of total risk to the latest available appraisal) below 80%;
- all customers applying for a residential mortgage are subject to a rigorous credit risk and solvency assessment by credit analysts to determine if their income will be sufficient to pay loan instalments and stable until the end of the mortgage term.

By midyear, the instalments of customers with a variable interest rate (75% of the portfolio) began to rise because of the higher Euribor, the ECB's benchmark rate. This has been partially offset by our conservative pre-approval assessment of the ability to pay, and we are already taking measures to aid customers aligned with the Código de Buenas Prácticas for vulnerable customers and middle class.

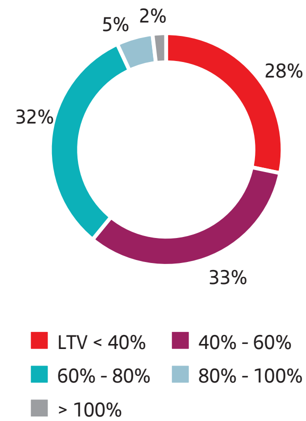
Debt to income*

Dec.22 data



Loan to value**

Dec.22 data



(*) Debt to income: ratio of annual instalments to the customer's net income.
(**) Loan to value: ratio of the total risk to latest available home appraisal.

Corporate and SME financing

Credit risk with SME and corporates in commercial banking, declined 2.3% from December 2021 to EUR 112,255 million, mainly due to a 4.3% drop in SME lending. Corporates and SME are Santander España's largest segment, at 39% of its total credit risk, at the same level as the SCIB portfolio, which in 2022 has come to include the branches of Europe.

Most corporates and SMEs are assigned a credit analyst to monitor loan payment throughout the risk cycle. Our corporate and SME portfolio is highly diversified and not concentrated in any industry.

In 2022, portfolio indicators were stable following the considerable growth in 2020 supported by ICO-secured loans, which are now being repaid steadily following the liquidity support scheme's grace period and extensions.

By late 2022, 5.79% of corporate and SME loans were non-performing, down 171 bp from 2021, because of the proactive management of NPL supported by portfolio sales, mainly in SMEs.

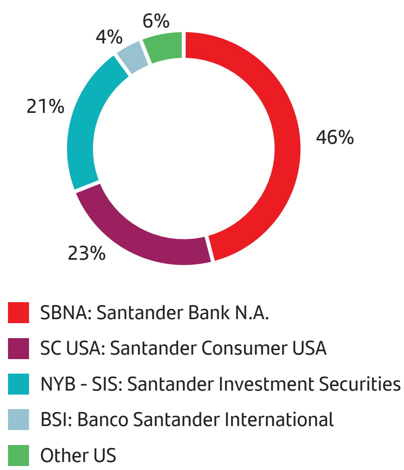
United States

General overview

In December 2022, Santander US's credit risk stood at EUR 140,452 million, 12.5% of the Group's total credit risk. Santander US includes these business units:

Business units segmentation

Dec.22 data



The recovery of the US continues, albeit slowly after the Federal Reserve (Fed) withdrew economic stimulus. Growing concerns over rising inflation, driven by demand and low unemployment, prompted the Fed to raise its benchmark rate.

In December 2022, Santander US's lending grew 24.6% year on year, due overall to the integration of the Amherst Pierpont Securities (APS) portfolio, which began in April. CIB lending grew at the New York Branch, in SC USA and in SBNA due to, in part, a stronger US dollar. Excluding the exchange rate impact, Santander US's total growth was 17.4%.

With stimulus withdrawn and interest rates hikes, 3.25% of total credit was non-performing, a 92 bp increase, due to more NPLs in SC USA. Cost of risk also rose 92 bp year-on-year to 1.35%.

Santander US is focused on supporting customers and making inroads with its strategy to enhance customer experience and capital allocation to businesses. Integrating Amherst Pierpont will boost our wholesale product offering and value proposition and our positioning in structured products, fixed-income issuances and securitizations in the US.

Leases carried out exclusively under the Stellantis Group agreement (primarily with highly creditworthy customers) dropped 1.8% to EUR 13,400 million, providing stable and recurring earnings. Proactive risk management and residual value mitigation measures remain a priority.

Key business units performance

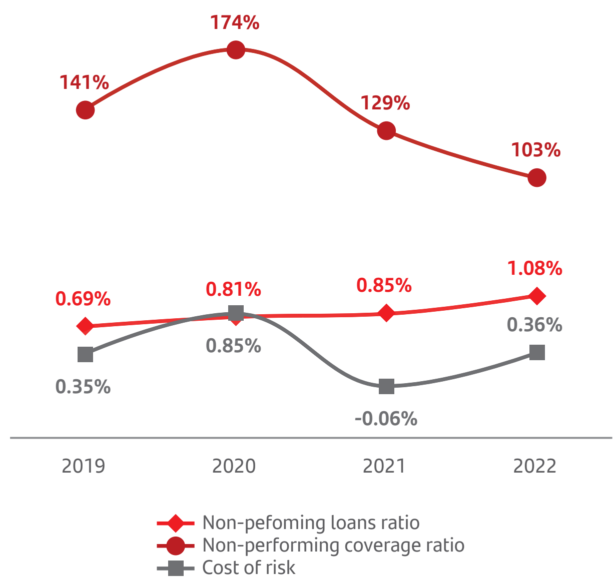
Santander Bank N.A.

SBNA lending amounted to EUR 64,718 million (6% of the Group's credit risk) and grew 12.8% across all segments, helped by a stronger US dollar. In constant euros, loan book growth was 6.3%.

Retail and commercial banking is Santander Bank N.A.'s core business (81% of lending), split between individuals (54%) and corporates (46%).

Santander Bank N.A.'s core strategic objectives include continuing to improve customer experience, growing its customer and deposit base with digital initiatives to transform business and branches, and using its deposit base to build up its Commercial Real Estate business. To maximize returns and growth, retail and commercial banking mainly consists of consumer credit, auto-lending and auto-leasing, but not mortgages or any kind of loans or lines of credit secured by collateral.

In December 2022, NPL rate stood at 1.08%, a 23 bp year-on-year increase. Cost of risk rose 0.36%, once provisions normalized after the additional provisions released in 2021, driven by the relief and fiscal stimulus programmes then in place.



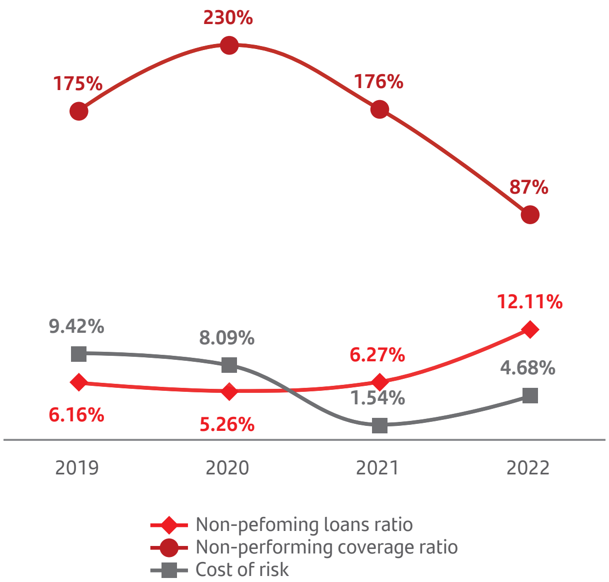
Santander Consumer USA

Santander Consumer USA's (SC USA) risk indicators are higher than other Santander US units due to the nature of its core auto-lending and leasing business.

SC USA lending amounted to EUR 31,961 million (3% of the Group's total) and increased 7.8% in 2022. In constant euros, portfolio grew 1.6%.

It remains focused on improving return-to-risk with pricing suited to the credit quality of the customer/transaction. It has also been enhancing dealer experience. In 2022, auto loan originations did not change year on year due to more expensive used vehicles and a limited supply of new vehicles.

In December 2022, risk indicators stabilized when covid relief programmes for customers and government stimulus ended, and due to new definition of default . NPL ratio rose to 12.11%, a 584 bp year-on-year increase, and cost of risk was 4.68%, up 314 bp from 2020. The coverage ratio fell 89 pp year-on-year to 87%, according to the estimated portfolio losses.



Brazil

General overview

2022 in Brazil was marked by economic instability and high inflation rates, although it has been declining in the second half of the year, standing at 5.8% in December (the lowest rate since February 2021).

Santander Brasil's credit risk amounted to EUR 101,801 million, up 19% from 2021; in constant euros, it grew 6.2%. As of December 2022, Santander Brasil accounted for 9% of Santander's loan book.

Santander Auto set a market penetration record, with 28% of new auto loan agreements. With an individuals market share of 23%, it is a now a leading auto lender.

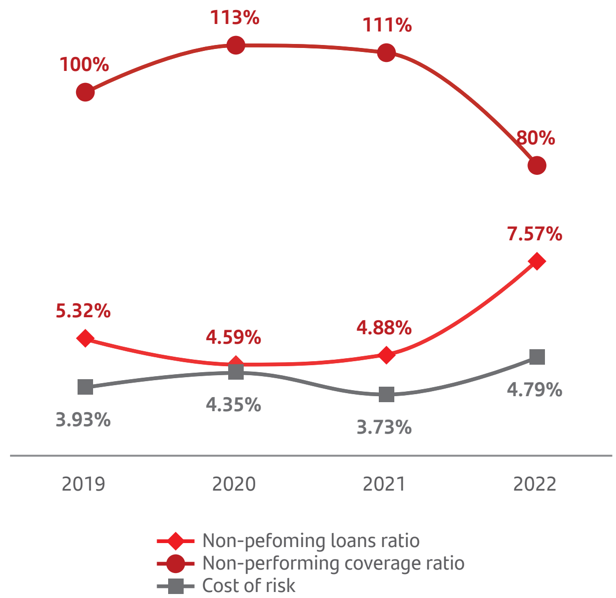
SME lending grew steadily, as practically all subsegments grew in originations, especially among low-risk borrowers. As of August, the relaunch of Government Guarantee Programmes for all subsegments has contributed to the aforementioned increase in production, in order to combat the effects of generalized macroeconomic volatility.

Lending to corporates saw robust growth. New originations had sound risk profiles, which helped keep credit quality indicators within targets and reinforced the portfolio's profitability.

Our digital business continued to grow. 90% of all sales were done online. 'Gente', our virtual assistance channel with artificial intelligence, has over 18 million hits per month.

Santander Brasil's leadership in wholesale banking makes it one of Brazil's top corporate banks, owing to its global experience in infrastructure, agribusiness and equities. It has led the national banking sector in FX derivatives for the last eight years; it is also Brazil's largest trader of commodities.

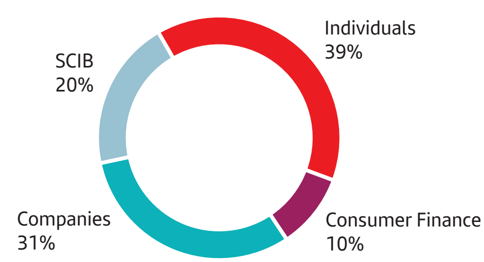
Because of inflation, benchmark rate ("Selic") hikes and other macroeconomic variables, together with the performance of retail unsecured portfolio and a single name in SCIB in the fourth quarter, at December, loan-loss provisions amounted to EUR 4,417 million, 63% higher than in 2021; in constant euros, they increased by 38%. As a result, cost of risk increased from 3.73% at the end of 2021 to 4.79%.



Santander Brasil's loan book is distributed as follows:

Portfolio segmentation

Dec.22 data



It is diversified, with a distinct retail profile. 80% of total credit is retail lending, consumer financing and corporate lending.

Portfolio performance

Cost of risk rose among individuals without collateral, but the portfolio mix was robust. The NPL ratio rose from 4.88% in December 2021 to 7.57% in December 2022, and the coverage ratio decreased to 111% from 80%.

The individuals portfolio grew year on year, despite the restrictive measures in place amid the macroeconomic downturn in the second half of 2021.

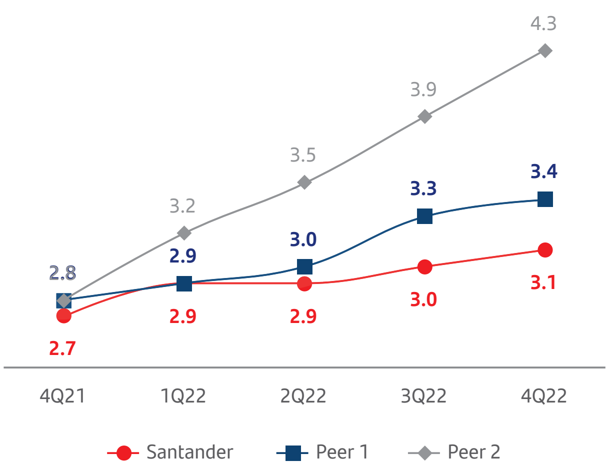
For SMEs, Santander Brasil took measures for loan approvals and reviewed strategy to ensure sufficient credit quality and prevent impairment of aggregate risk metrics.

Credit volume in the corporates portfolio showed sustainable and steady growth, in line with forecasts. Its credit profile improved and helped increase profitability.

One of the core credit risks indicator Santander Brasil uses to measure credit quality and prevent the impairment of the portfolio is the 'Over 90 ratio[12]'. Standing at 3.1% as of December 2022 (+40 bp year on year), Santander Brasil's Over 90 ratio has remained below the average of its competitors.

Over 90 total (%)

Dec. 22 data



3.5 Other credit risk details

Credit risk from financial markets activities

This section covers the credit risk generated by treasury activity with customers (especially credit institutions), with money market funding and counterparty risk products to meet the needs of customers and the Group's own needs in their management.

Counterparty credit risk is the risk that a customer will default before the final settlement of a transaction's cash flows. It creates a bilateral credit risk because it can affect both parties to a transaction. It is also uncertain because it depends on market factors, which can be volatile.

We manage counterparties with several credit risk models based on their characteristics and needs. Model segmentation is organized by business and risk treatment and based on counterparty disclosures as well as the credit risk cycle. The exposure that the counterparty credit risk model covers includes derivatives contracts, repurchase agreements, securities and commodities lending, long settlements and margin lending.

An infrastructure that can quickly and dynamically measure current and potential exposure with various degrees of aggregation and granularity to generate detailed reports is important for decision-making.

To measure exposure, we use two methods: 'Mark-to-market' (MtM) (replacement cost of derivatives), plus potential future exposure ('add-on'); and the Monte Carlo simulation for certain countries and products. We also calculate capital at risk and unexpected loss (e.g. economic capital, net of collateral and recoveries, after deducting expected loss).

At market close, we recalculate exposure by adjusting transactions to a new time horizon, adapting potential future exposure, and applying netting, collateral and other mitigants. That way, we can check exposure daily against the limits approved by senior management within risk appetite. For risk control, we use a real-time integrated system that shows the exposure limit with a counterparty, for any product and term, in all subsidiaries.

Counterparty credit risk can also give rise to 'wrong-way' risk if exposure to a portfolio or a counterparty increases but credit quality declines. 'Wrong-way' risk arises in the event that the exposure to a portfolio or to a counterparty increases when its credit quality deteriorates. In other words, there is a wrong-way risk when there is an increase in the risk of default and, therefore, the exposure to the counterparty increases.

Regarding settlement risk, this occurs when the settlement of a transaction involves a bilateral exchange of flows or assets between two counterparties. For example, when a counterparty buys dollars in exchange for euros, the settlement of the transaction implies that one party gives euros and receives an equivalent amount of dollars from the other. Settlement risk is the risk that one of the parties will default on their settlement commitments.

Counterparty risk exposures: over-the-counter (OTC) transactions and organized markets (OM)

By December 2022, with netting and collateral agreements, the positive market value of total counterparty risk exposure (under management criteria) was EUR 13,249 million (net exposure of EUR 45,157 million).

In trading, the market value of derivatives has been rising since December 2021 due to interest rate hikes, higher exchange rates for major currencies (EUR, USD and GBP) and changes in other factors that have the greatest impact on the Group's counterparty credit risk.

Counterparty risk: exposure in terms of market value and credit risk equivalent, including the mitigation effect[A]

EUR million

	2022	2021	2020
Market value with netting effect and collateral[B]	13,249	5,491	5,235
Net CRE[C]	45,157	31,444	30,139

A. Figures under internal risk management criteria. Listed derivatives have a market value of zero. No collateral is received for these types of transactions.
B. Includes the mitigation of netting agreements and deducting the collateral received.
C. CRE (credit risk equivalent): net value of replacement plus the maximum potential value, less collateral received.

[12] Assets with more than 90 days arrears / credit portfolio. Excluding commitments and guarantees and pulling effect.

The chart below shows counterparty risk products (especially interest rate and FX hedging instruments) by nominal risk:

Counterparty risk by nominal[A]

EUR million

	2022	2021	2020
	Nominal	Nominal	Nominal
Credit derivatives[B]	14,765	17,164	14,530
Equity derivatives	26,177	79,062	53,821
Fixed income derivatives	13,320	4,409	11,370
Exchange rate derivatives	1,069,870	947,061	863,001
Interest rate derivatives	5,538,173	4,915,150	4,917,944
Commodity derivatives	13,496	12,022	3,732
Total OTC derivatives	**6,479,325**	**5,786,114**	**5,695,339**
Derivatives organised markets[C]	**196,476**	**188,755**	**169,059**
Repos	**259,946**	**129,085**	**146,984**
Securities lending	**52,270**	**48,346**	**46,418**
Total counterparty risk[D]	**6,988,017**	**6,152,300**	**6,057,800**

A. Figures under internal risk management criteria.
B. Credit derivatives acquired including hedging of loans.
C. Refers to transactions involving listed derivatives (proprietary portfolio). Listed derivatives have a market value of zero. No collateral is received for these types of transactions.
D. Spot transaction not included.

As the following table shows, most of Santander's derivatives reach maturity in up to five years, and repurchase agreements and securities lending in up to one year.

Counterparty risk: Distribution of nominal risk by maturity[A]

EUR million. Dec.22 data

	Up to 1 year	Up to 5 years	Up to 10 years	More than 10 years	TOTAL
Credit derivatives[B]	23%	44%	30%	3%	14,765
Equity derivatives	60%	39%	1%	—%	26,177
Fixed income derivatives	98%	2%	—%	—%	13,320
Exchange rate derivatives	51%	31%	12%	6%	1,069,870
Interest rate derivatives	35%	39%	16%	10%	5,538,173
Commodity derivatives	85%	12%	2%	1%	13,496
Total OTC derivatives	**37%**	**39%**	**15%**	**9%**	**6,479,325**
Derivatives organised markets[C]	**62%**	**28%**	**8%**	**2%**	**196,476**
Repos	**95%**	**5%**	**—%**	**—%**	**259,946**
Securities lending	**100%**	**—%**	**—%**	**—%**	**52,270**
Total counterparty risk	**41%**	**36%**	**14%**	**9%**	**6,988,017**

A. Figures under internal risk management criteria.
B. Credit derivatives acquired, including coverage of loans.
C. Refers to transactions involving listed derivatives (proprietary portfolio). Listed derivatives have a market value of zero. No collateral is received for these types of transactions.

Even if the credit quality of some counterparties declines, most counterparty credit risk is with customers with high credit quality (86% rated A or higher), especially financial institutions (26%) and clearing houses (68%).

Counterparty risk: Notional values by customer rating[A]

Dec.22 data

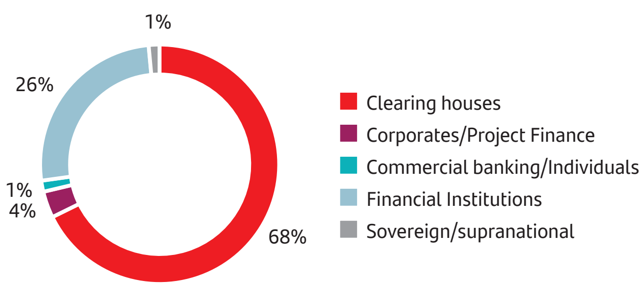
Rating	%
AAA	0.85%
AA	0.51%
A	84.96%
BBB	12.53%
BB	1.09%
B	0.04%
Other	0.02%

A. Ratings based on internally defined equivalences between internal ratings and credit agency ratings.

Transactions with clearing houses and financial institutions are subject to netting and collateral agreements, with which we also seek to cover all other transactions. In general, the collateral agreements Santander signs are bilateral; still, we do sign some unilateral agreements in the customer's favour, mainly with multilateral organizations and securitization funds.

Counterparty risk: Notional values by customer segment

Dec.22 data



We use collateral to reduce counterparty risk. It consists of highly liquid instruments with economic value. They are deposited or transferred from one counterparty to another to guarantee or reduce counterparty credit risk from portfolios of cross-risk derivatives.

We measure trades subject to collateral agreements daily, with parameters to determine the amount of collateral to be paid or received from the counterparty (in cash or securities).

With high volatility (especially during the pandemic), the processes we have in place to manage collateral properly and more often have proved effective.

Most of the collateral received under Credit Support Annex (CSA), Overseas Securities Lending Agreement (OSLA), International Securities Market Association (ISMA), Global Master Repurchase Agreement (GMRA) and other agreements signed by the Group has been effective (41%); the rest is subject to strict quality policies in regard to the issuer and their rating, debt seniority and haircuts.

Because of the credit risk we assume with each counterparty, we apply credit valuation adjustments (CVA) to over-the-counter (OTC) derivatives when calculating the results of trading portfolios.

A CVA is a change to the market value of OTC derivatives that accounts for counterparty credit risk throughout the contract life. A counterparty's CVA adds up to the CVA on all maturity dates. It discounts the value of a derivative offered by a buyer based on the chance that the counterparty will default. We calculate it with exposure at default, probability of default, loss given default, the discount curve and other inputs.

We also apply debt valuation adjustments (DVA), which are similar to CVA but result from credit risk assumed by OTC counterparties trading with Grupo Santander. Both CVA and DVA are done within the potential period of exposure.

By late December 2022, CVA increased 39.4% year on year to EUR 329.7 million, and DVA rose 90.7% year on year to EUR 308.6 million. This was mainly due to credit market movements, with much wider spreads since 2021 year end.

Counterparty risk, organized markets and clearing houses

Santander's policies promote early action according to regulation on OTC derivatives, repurchase agreements and securities lending (whether settled through clearing houses or bilaterally). In recent years, we have been standardizing OTC transactions to settle and clear new contracts through clearing houses according to current regulation, in addition to promoting electronic execution systems internally.

Also, we actively manage contracts not settled by clearing houses to optimize volume, in accordance with regulation on margins and capital.

While our counterparty risk management does not contemplate credit risk in such transactions, we have been calculating regulatory credit exposure for organized market exchanges since the Capital Requirements Directive (CRD) IV and the Capital Requirements Regulation (CRR) took effect in 2014, transposing the Basel III principles on capital calculation.

The table below shows the weight of contracts settled by CCP versus total counterparty risk as of December 2022:

Counterparty risk: Notional values by settlement channel and product[A]

Nominal in EUR million

	Bilateral		CCP[B]		Organised markets[C]		Total
	Nominal	%	Nominal	%	Nominal	%	
Credit derivatives	9,917	67.2%	4,848	32.8%	—	—%	14,765
Equity derivatives	19,067	72.8%	758	2.9%	6,352	24.3%	26,177
Fixed income derivatives	13,305	99.9%	15	0.1%	—	—%	13,320
Exchange rate derivatives	1,003,017	93.8%	24,349	2.3%	42,504	4.0%	1,069,870
Interest rate derivatives	847,313	15.3%	4,555,519	82.3%	135,341	2.4%	5,538,173
Commodity derivatives	1,218	9.0%	—	—%	12,278	91.0%	13,496
Repos	150,698	58.0%	109,248	42.0%	—	—%	259,946
Securities lending	52,270	100.0%	—	—%	—	—%	52,270
Total	**2,096,804**		**4,694,737**		**196,476**		**6,988,017**

A. Figures under internal risk management criteria.
B. Central counterparties (CCP).
C. Refers to transactions involving listed derivatives (proprietary portfolio). Listed derivatives have a market value of zero. No collateral is received for these types of transactions.

Risk settled by CCP and product[A]

Nominal in EUR million

	2022	2021	2020
Credit derivatives	4,848	6,714	6,245
Equity derivatives	758	—	62
Fixed income derivatives	15	—	—
Exchange rate derivatives	24,349	38,755	31,043
Interest rate derivatives	4,555,519	4,054,711	4,020,927
Commodity derivatives	—	—	—
Repos	109,248	35,284	39,397
Securities lending	—	—	—
Total	**4,694,737**	**4,135,464**	**4,097,674**

A. Figures under internal risk management criteria.

Credit derivatives

We use credit derivatives to hedge transactions, customer business in financial markets and trading. The credit derivatives Santander has negotiated have a low notional value: 0.3% of the notional value of counterparty risk. Furthermore, we subject credit derivatives to internal robust controls and procedures to minimize operational risk.

Concentration risk

Concentration risk control is key element in our management processes. We continuously monitor credit risk concentration by region and country, economic sector, customer type and other criteria.

The board sets concentration limits according to risk appetite. Based on those limits, the executive risk committee develops risk policies and monitors to ensure that exposure remains appropriate to manage credit risk concentration consistently with the CRR provisions on large risks.

Because Santander is bound to the CRR regarding large risks, exposure with a customer or group of associated customers will be considered 'large exposure' if its value is equal to, or greater than, 10% of eligible capital. To limit large exposures, no bank may assume any exposure with a single customer or group of associated customers if it exceeds 25% of their eligible capital once the credit risk reduction effect that the regulation mentions has been factored in.

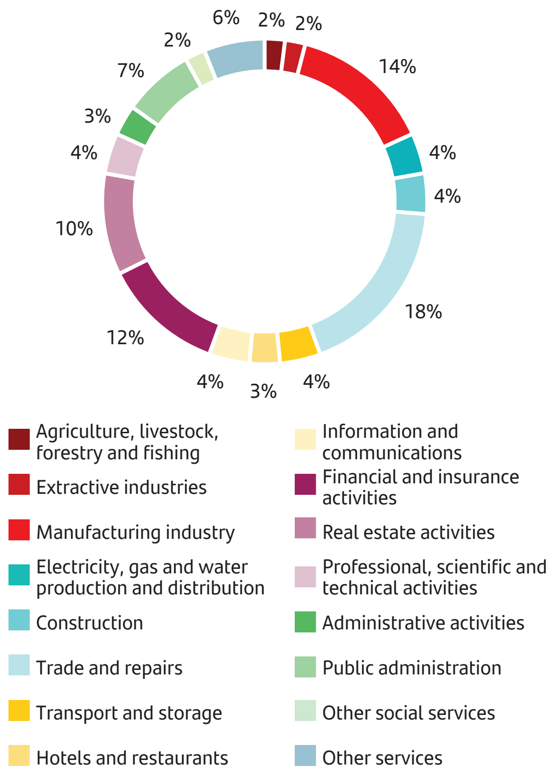
With our risk mitigation techniques, no groups had triggered those thresholds by the end of December. Regulatory credit exposure with the 20 biggest groups within the scope of large risks made up 5.6% of credit risk (lending to customers and off-balance sheet risks) as of December 2022.

Our Risk division works closely with the Finance division to manage credit portfolios, aimed at reducing the concentration of exposures through credit derivatives, securitizations and other techniques to optimize the risk-reward of the entire portfolio.

As indicated in the key metrics section, credit risk is diversified among our core markets: the UK 22.5%, Spain 26%, the US 12.5%, Brazil 9%, etc. 56% is with individuals, who are inherently highly diverse. It is also well distributed, with no significant concentrations in a particular industry.

The chart below shows the distribution as of December 2022:

Diversification by economic sector[A]



A. Excluding individuals and reverse repos.

Vulnerable sectors identification

Grupo Santander carries out quarterly monitoring of exposure to customers operating in sectors that could be affected by macroeconomic conditions. The monitoring involves the use of internal tools to forecast customer behaviour and trends in each sector under several macro scenarios, as well as this information:

- Market information: Industries' stock market performance.
- Analysts' EBITDA forecasts for the coming years.
- Internal information: Changes in credit exposure, defaults (in different timelines) and stagings.
- Our industry experts' opinion, based on specific details about our exposures and our relationships with customers

Following the effects of the pandemic, in the second quarter of 2022, we adapted our definition of 'affected sectors' to the current backdrop of rising energy and commodity prices and others macroeconomic variables.

Country risk

In credit risk, country risk is defined as the risk incurred for transactions in which the debtor resides in a country other than the lender entity, due to circumstances other than the usual commercial risk. It includes sovereign risk and transfer risk, as well as war, natural disaster, balance of payments crisis and other things that can disrupt international finance. In accordance with regulation, our models and provisioning processes contemplate country risk.

We assume country risk very selectively in transactions that enhance our global relations with customers. And we follow highly cautious standards to manage it.

Sovereign risk and risk with government agencies

Sovereign risk arises from central bank transactions (including regulatory cash reserves), government bonds (public debt) and transactions with non-commercial government institutions funded exclusively by a state's budget revenue.

Our standard for sovereign risk differs somewhat from the EBA's standard for regular stress testing. In particular, the EBA does not consider deposits with central banks, exposures with insurance companies or indirect exposures from guarantees and other financial instruments. However, its standard does generally include entities run by regional, local and central governments.

We continue to track and manage transactions with sovereign risk based on available information, such as reports by rating agencies and international organizations. We monitor each country where we have cross-border[1319] and sovereign risk. We analyse events that could affect the country's political or institutional stability and assign its government or central bank a credit rating. This helps us set limits for transactions with sovereign risk.

Our exposure to local sovereign risk not in the issuer country's currency at the end of December was minor (EUR 6,039 million or 1.4% of total sovereign risk), based on our management criteria. Exposure to non-local sovereign issuers with cross-border risk was also minor[14] (EUR 8,867 million or 2.1% of total sovereign risk). The sovereign debt we hold in Latin America, which is recorded in local ledgers, is predominantly in local currency and short-term.

[13] Risks with domestic public or private borrowers in foreign currency and originated outside the country.
[14] Countries that are not considered low risk by Banco de España.

In recent years, total sovereign risk exposure has remained within regulatory requirements. Because exposure spans several countries, each with its distinct macroeconomic outlook and growth scenario, it varies due to our liquidity management strategy and our interest and FX rate coverage, which apply limits based on each country's credit rating. The table below shows exposure ratios by rating[15]:

	2022	2021	2020
AAA	27%	15%	18%
AA	19%	32%	25%
A	34%	26%	25%
BBB	11%	11%	14%
Lower than BBB	9%	16%	18%

Sovereign exposure at the end of December 2022 is shown in the table below (data in million euros):

	2022					2021
	Portfolio					
	Financial assets held for trading and Financial assets designated as FV with changes in results	Financial assets at fair value through other comprehensive income	Financial assets at amortised cost	Non-trading financial assets mandatory at fair value through profit or loss	Total net direct exposure	Total net direct exposure
Spain	2,666	240	26,189	—	29,095	19,557
Portugal	(299)	2,005	3,750	—	5,456	6,544
Italy	(1,055)	301	8,169	—	7,415	884
Greece	—	—	—	—	—	—
Ireland	—	—	—	—	—	9
Rest Eurozone	205	789	4,657	—	5,651	3,629
UK	53	315	1,738	—	2,106	366
Poland	4	7,754	957	—	8,715	11,293
Rest of Europe	(7)	14	125	—	132	1,368
US	3,503	8,938	10,857	—	23,298	22,469
Brazil	8,017	9,969	5,742	—	23,728	28,559
Mexico	2,627	11,303	3,376	—	17,306	13,509
Chile	175	818	5,492	—	6,485	6,071
Rest of America	123	1,211	630	—	1,964	1,425
Rest of the World	1	2,012	1,529	—	3,542	3,337
Total	**16,013**	**45,669**	**73,211**	**—**	**134,893**	**119,020**

[15] Internal ratings are applied.

4. Market, structural and liquidity risk

4.1 Introduction

This section describes our management and control of market risk in 2022, including trading risk, liquidity risk and structural risk. It provides a description of our methodologies and metrics.

Activities exposed to market risk encompass transactions where risk is assumed as a consequence of potential changes in interest rates, inflation rates, exchange rates, stock prices, credit spreads, commodity prices, volatility and other market factors; the liquidity risk from our products and markets, and the balance-sheet liquidity risk. Therefore, they include trading risks and structural risks, such as:

- Interest rate risk
- Inflation rate risk
- Exchange rate risk
- Equity risk
- Credit spread risk
- Commodity price risk
- Volatility risk

Options, futures, forwards, swaps and other derivatives can mitigate some or all of the risks above.

Market risk factors that require more complex hedging are correlation, market liquidity, pre-payment or cancellation and underwriting risk.

For further detail on market factors see section 'Activities subject to market risk and types of market risk', in Note 53 to the consolidated financial statement.

On-balance sheet liquidity risk, also relevant, which is where the bank would have insufficient liquid assets or pay a high price for liquid assets in order to meet due obligations. Losses may result from a forced asset disposal and a cash flow imbalance.

Pension and actuarial risk also depends on market variables (see the end of this section for more details.)

In 2022, we continued increasing our attention to climate and environmental risk, which arises from the possibility that climate change could adversely affect the value of a financial instrument, or a portfolio, or the Bank's liquidity, for which we use market and liquidity risk stress scenarios to measure their potential exposure.

We check our compliance with the Basel Committee's Fundamental Review of the Trading Book (FRTB) and its implementation according to EU's Capital Requirements Regulation (CRR II) and the EBA's guidelines on market risks.

In 2022, we ran several projects to give managers and control teams the best resources to manage market risk and capital consumption. They include:

- a new capital calculation engine under the for the fundamental review of the trading book (FRTB SA) standardized approach;
- a better governance framework for models in use, with new products and entities that were previously outside the perimeter;
- documents on new qualitative requirements, based on the trading-banking book boundary;
- a more robust technical and functional control environment to keep consistent perimeters for risk management and capital calculation; and
- better reporting on risk and capital metrics for internal management and regulatory purposes.

IBOR reform

Since 2013, various organizations and authorities such as International Organization of Securities Commissions (IOSCO) and Financial Stability Board (FSB) have been promoting initiatives aimed at improving interest rate indexes.

To execute the transition towards new interest rate indexes, the central banks and regulators of various jurisdictions organized different working groups to give their recommendations on new indexes. Some of these new indexes are: SONIA, replacing the Libor references in sterling, SOFR, replacing Libor in US dollars, and €STR instead of Libor in euros.

As a result of the effort made in the working groups, the transition process has been materializing in different milestones between 2019 and 2022, remaining only, in 2023, the execution of the plans to replace the Libor pound sterling and the Libor dollar US.

At Grupo Santander we focused on making all the contractual, commercial, operational and technological changes necessary to undertake the transition of these reference indices. In 2023, we will continue to address the following transition milestones in all of our jurisdictions.

For further detail see section 'IBOR Reform', in Note 53 to the consolidated financial statement,

4.2 Market risk management

Because factors inside and outside a unit can give rise to market risk, management and control must cover all potential risk sources with coordinated, uniform treatment by all subsidiaries.

The Group's senior management receives thorough, accurate reporting on a regular basis to measure units' risk profiles and gain a holistic view of risk for global analysis and control.

Limits management and control system

Daily control by the market risk area promotes market risk positions will remain within approved limits, and evaluates significant changes in related metrics.

We set market risk limits in a dynamic process according to risk appetite levels in the annual limits plan prepared by senior management and extended to all subsidiaries.

To ensure limits cover all market risk factors based on risk appetite, we take a prudent approach that includes:

- Value at Risk (VaR) and Stressed VaR (sVaR) limits.
- Equivalent and/or nominal positions limits.
- Interest rate sensitivity limits.
- Vega limits.
- Limits for risk of delivery of short sales (bonds and equities).
- Limits to reduce effective losses or protect profits during the period (loss trigger and stop loss).
- Credit limits (limits for total exposure and jump-to-default by issuer).
- Origination limits.

Those general limits have sub-limits that make the structure granular enough to control market risks from trading. We monitor subsidiaries daily, checking changes in portfolios and at trading desks as well as events that may necessitate immediate mitigation.

We set global approval and control limits, global approval limits with subsidiary-run control and subsidiary-level approval and control limits. Each subsidiary's business unit manager requests limits based on business particulars and budgetary targets so that they will match the risk/reward ratio. Risk bodies approve limits according to established governance.

Subsidiaries must adhere to approved limits. When a limit breach occurs, subsidiary business managers must provide a written explanation with an action plan to correct it the same day the breach occurs. Measures could be to reduce a position within the limits or create a strategy to justify increasing them.

Market risk-related capital requirements

We use internal and standard models to determine market risk-related capital requirements.

At Grupo Santander we use internal models to calculate regulatory capital for the trading books of our subsidiaries in Chile, Mexico and Spain, for which the latter has included the Santander London Branch, diversifying its positions. We aim to include the rest of our subsidiaries gradually and have been working closely with the ECB, reviewing the new requirements recently published by the Basel Committee to strengthen financial institutions' capital.

We launched the Market risk advanced platform (MRAP). MRAP is a global initiative to strengthen market risk infrastructure according to the new FRTB and to adapt internal market risk models to the latest Targeted Review of Internal Models (TRIM) and to supervisory demands. Its multi-disciplinary and multi-regional approach includes all subsidiaries that generate market risk; the market risk, T&O, front office, finance and regulatory affairs areas; and other relevant stakeholders.

In 2022, we expanded MRAP's perimeter to cover our overhaul of processes to measure 'fair value'. It significantly enhanced our functional and technological architecture and operating models, with added synergy from initiatives and resources.

Our internal market risk model calculates the Group's consolidated regulatory capital as subsidiaries' total regulatory capital that the ECB has approved. Because it does not consider capital savings owing to geographical diversification, our model is conservative.

It uses advanced methods with VaR, sVaR, Incremental Risk Charge (IRC) and Risk Not in Model (RNIM) as fundamental metrics to calculate ECB-approved regulatory capital in trading consistently with the Basel requirements gathered in the CRR.

Methodologies and key aspects

a) Value at Risk (VaR)

VaR, our standard methodology for managing and controlling market risk, measures maximum expected loss with a certain confidence level over a given time. For standard historical simulation, the confidence level is 99% and the time window is one day. We also apply a two-year horizon or VaR over 520 days and other statistical adjustments in order to quickly and efficiently account for recent events that influence our risk levels.

We report the highest of two VaR figures, which we calculate every day. One figure includes an exponential decay factor with a low weighting on the oldest observations; the other weights all observations the same. We also use the same methodology to calculate value at earnings (VaE), which gives maximum potential earnings with a certain confidence level over specific time horizon.

As a risk metric, historical VaR simulation has many advantages. It states a portfolio's market risk in a single figure according to market movements, without assumptions about functions, forms or correlations between market variables. Still, it does have its limitations, some of which are inherent to the VaR metric, no matter the methodology used to calculate it. In particular:

- VaR is calibrated to a certain confidence level, above which it does not reveal potential losses.
- The liquidity horizon of certain products in a portfolio is longer than the VaR model's.
- VaR is not a dynamic measure of risk even day to significant, albeit unlikely, changes.

Historical simulation also has limitations, such as:

- high sensitivity to time window used;
- inability to show plausible high-impact events outside the time window;
- no market inputs (e.g. correlations, dividends or recovery rates) for measurement parameters; and
- slow adaptation to new volatility and correlations, as the weighting of the newest and the oldest data is the same.

To circumvent some limitations, we use stressed VaR (sVaR) and expected shortfall (ES); calculate VaR with exponential decay; make conservative measurement adjustments; and run analyses and backtesting to assess the accuracy of the VaR calculation model.

b) Stressed VaR (sVaR) and Expected Shortfall (ES)

Every day, we calculate sVaR for our main portfolios using the same VaR calculation method but with these exceptions:

- A window of 260 observations (as opposed to 520 for VaR) over a continuous stress period. For each portfolio, we review the history of a subset of market risk factors (selected with expert criteria) and the most significant positions per books.
- Unlike with VaR, the percentile we take to get sVaR has uniform weighting and is not the highest one based on exponential and uniform weightings.

We calculate ES as expected loss in case VaR is exceeded at a given confidence level, 99% in our case. We also weight all observations the same. Unlike VaR, ES has the advantage of showing tail risk (i.e. the risk of loss due to a rare event) while being a subadditive metric. According to the Basel Committee, 97.5% ES is a risk level similar to 99% VaR.

c) Scenario analysis

Santander's risk measures are based on normal market conditions, price stability, sufficient liquidity and other assumptions used in daily risk management and decision-making. However, it is possible that extreme movements and strong unforeseen changes will not be properly anticipated.

Scenario analysis is important in risk management so we can recognize unexpected outcomes with a large variety of risk. It gives us an estimate of how much capital could be needed to absorb losses stemming from those outcomes. The scenarios we use to predict future risk are important to overcome the limitations of models and historic data, support liquidity and capital plans, report on risk tolerance levels, and help us execute risk reduction and contingency plans under stress.

We regularly calculate and review stress test scenarios for all the trading books of the Group and our subsidiaries, such as:

Historical scenarios

Historical scenarios consider trading portfolio performance during a crisis or significant past market events to estimate maximum losses if such events reoccur.

- 'Subprime crisis': historical scenario based on 2007-2008 events arising from the US subprime mortgage crisis. The financial crisis caused high volatility and drastically low liquidity in markets across the globe. For each market risk factor, we determine the worst market shocks over one-day and ten-day horizons.
- 'Covid crisis': historical scenario added to our stress testing programme in 2020 and based on abrupt movements in financial markets owing to a health crisis. After calculating a ten-day horizon of peak trading losses in the first half of 2020, all risk factors were affected. Stock indices plummeted, volatility increased for all risk factors, emerging market currencies depreciated, government bond yield hit record lows and credit spreads widened significantly.

Hypothetical scenarios

We use extreme scenarios based on market risk shocks that do not relate to past events. Unlike generally ex post historical scenarios, hypothetical scenarios are ex ante.

- Abrupt crisis: a scenario of strong, sudden movements in all risk factors, including higher interest rate curves, stock market crashes, a stronger US dollar against other currencies, higher volatility, wider credit spreads, commodity price decline, lower dividend yields and default from main fixed-income and equity positions.
- Worst case: A hypothetical scenario that combines movements of each risk factor with its volatility. We base these scenarios on historical volatility with between ± 3 and ±6 standard deviations per day (irrespective of any historical correlation between them) in order to review trading books' risk profile and potential maximum losses under the worst possible scenario.
- EBA's adverse scenario: A hypothetical scenario based on the EBA's proposed adverse macroeconomic scenario for all market risk factors in biennial EU-wide stress testing.
- Forward-looking scenario: a plausible hypothetical scenario based on portfolio positions and expert opinions about expected short-term market risk movements that could have a negative effect on trading positions.

Reverse stress test scenarios

Reverse stress test scenarios indicate loss-causing market variables that may compromise the bank's survival. They supplement traditional stress test scenarios and point out potentially vulnerable business areas, hidden risks and correlations between risk factors.

They begin with a known stress outcome (e.g. missing certain capital, liquidity or solvency ratios) to indicate extreme scenarios in which market risk movements could cause events that undermine business viability.

Other stress scenarios

We also run different quarterly stress tests based on extreme market movements to determine potential losses or major impacts on capital:

- Incremental Risk Charge (IRC) scenarios: To stress capital consumption according to IRC market risk, which relates to the risk that debt issuers in our trading portfolio will either default or suffer a change in credit rating.
- Stress proxy scenario: Specially constructed to measure how selecting the wrong proxies would affect VaR.
- Illiquidity and concentration scenarios: To show the impact of scarce liquidity in markets under stress, price gaps and concentration risk.

d) Calibration and backtesting

According to regulation, the VaR model must accurately show material risks. Because VaR uses statistical techniques under normal conditions for a certain confidence level over a set time horizon, the estimate of maximum potential loss may differ from actual losses. We review and contrast the VaR calculation model on a regular basis to verify its accuracy.

We run internal backtesting, contrast VaR and review assumptions about portfolios for subsidiaries that follow the internal market risk model. For subsidiaries with an approved internal model, we run regulatory backtesting to find exceptions (where daily loss or profit is higher than VaR or VaE) that will influence the calculation of regulatory capital requirements for market risk.

Through backtesting, we assess the quality and general effectiveness of our risk measurement model. Our backtesting compares daily VaR/VaE observed on D-1 to profit and loss (P&L) observed on D:

- Economic P&L: P&L at end-of-day mark-to-market or mark-to-model value. Backtesting indicates if the VaR/VaE methodology to measure and aggregate risk is appropriate.
- Actual P&L: The difference between a portfolio's end-of-day value and real value by the end of the next day, in light of intraday trading (but not fees or interest margin). Backtesting results enable us to determine the number of regulatory exceptions.
- Hypothetical P&L: The difference between a portfolio's end-of-day value and real value by the end of the next day, under the assumption that positions will not vary. Backtesting does not consider the time effect, intraday trading or changes in portfolio positions in order to maintain consistency with VaR. We use it to determine if portfolios can withstand an intraday risk not reflected in closing positions (nor in VaR) over time. We also use it to count the number of regulatory excesses.
- Risk-Theoretical P&L: Calculated with the market risk calculation engine, without intraday trading, changes in portfolio positions or time ('*Theta*'). Backtesting of Risk-Theoretical P&L enables us to check the quality of the internal VaR model.

We run daily backtesting for our subsidiaries, as well as internally (non-regulatory) depending on portfolio granularity.

The number (or proportion) of exceptions we record is one of the most intuitive indicators of a model's soundness. As our regulatory backtesting covers a historical period of one year (250 days) and a 99% VaR, we expect two to three exceptions per year. To calculate regulatory capital for market risk, we take the regulatory *K*[16] from the number of exceptions we find in actual and hypothetical backtesting.

e) Analysis of positions, sensitivities and results

Santander uses positions to quantify the market value of derivative transactions by main risk factor and with the *Delta* value of futures and options. We can express risk positions in subsidiaries' base currency and in the currency used to standardize information. We monitor positions every day to immediately correct whatever incidents we uncover.

Sensitivity to market risk is the estimated impact of change in a risk factor on the market value of an instrument or portfolio. To measure it, we take analytical approximations from partial derivatives or a full portfolio revaluation.

The market risk function's daily P&L statement is an excellent indicator of the impact of changes of financial variables on portfolios.

f) Derivatives activities and credit management

Because of their atypical characteristics, we have special measures to monitor derivatives and credit management daily. On the one hand, we monitor the sensitivity of underlying assets to price movements (delta and gamma), to volatility (Vega[17])and over time (theta). On the other hand, we systematically check measurements of their sensitivity to spread risk, jump-to-default risk and position concentrations by rating.

Based on regulation and the Basel Committee's recommendations, we also calculate the incremental risk charge (IRC), an additional metric for credit risk in the trading book.

The IRC covers default risk and rating migration risk (which VaR does not show adequately) by taking credit spread changes into account. In general, we apply it to bond spots; forwards, options and other bond derivatives; and credit default swaps, asset-backed securities and other credit derivatives. To calculate it, we take direct measurements of loss distribution tails at the right percentile (99.9%) over a one-year horizon and follow the Monte Carlo method with one million simulations.

g) Credit valuation adjustment and debit valuation adjustment

The Group calculates trading book results with CVA and DVA.

For further detail on CVA and DVA see 'Credit risk from financial markets activities' in section 3.5 'Other credit risk aspect'

[16] K: Parameter used for calculating the consumption of regulatory capital due to market risk.
[17] Vega, a Greek term, is the sensitivity of the value of a portfolio to changes in the price of market volatility.

4.3 Market risk key metrics

In 2022, trading risk levels stayed low amid the high volatility caused by the war in Ukraine; mounting energy prices, inflation and pressures on central banks; and new covid-19 outbreaks in Asia.

Risks mainly originated from trading non-complex instruments with customers. Most were hedges for interest rate and FX risk.

2022 saw generally low consumption of trading limits, which are based on the Group's market risk appetite.

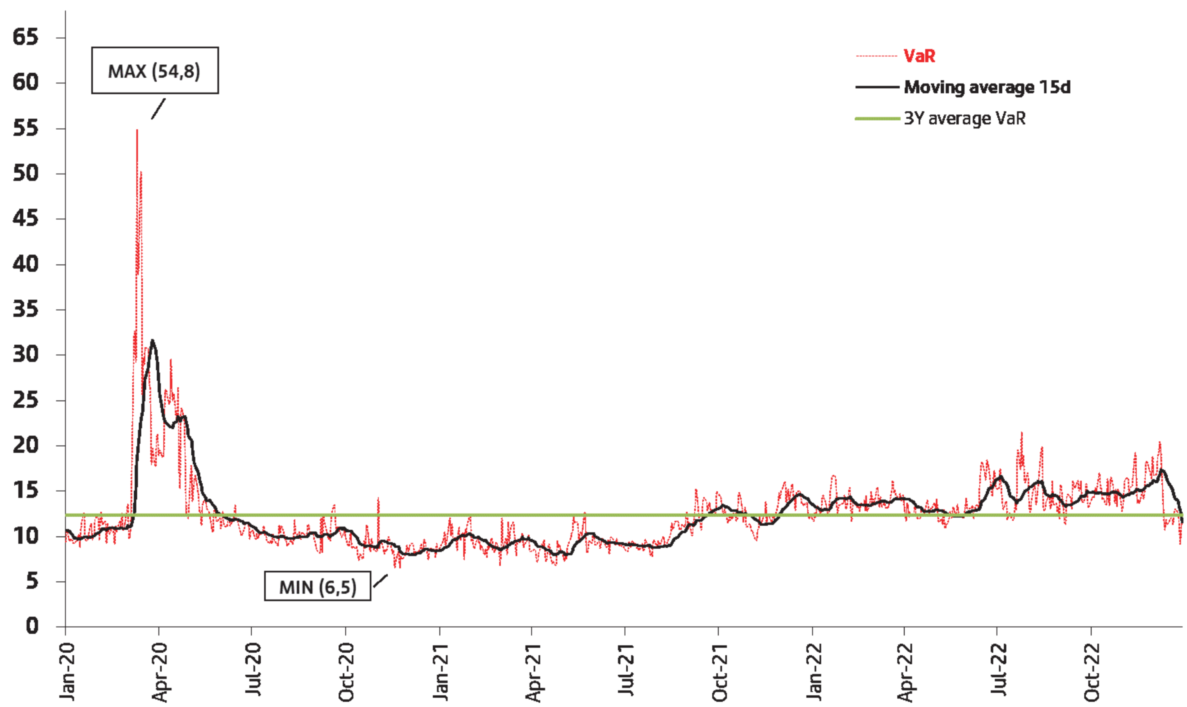
VaR analysis

As demonstrated by the VaR of SCIB's trading book, Santander's strategy focuses on trading with customers to minimize net directional exposure and keep risk diversified by geography and risk factor.

Because market volatility remained high throughout the year (especially in terms of interest and FX rates), VaR stayed mostly above its three-year average. It did rise in the second half of the year owing to the up tick in volatility when central banks hastened monetary policy to fight inflation. VaR ended December at EUR 11.6 million.

VaR 2020-2022

EUR million. VaR at 99% over a one day horizon



In 2022, VaR fluctuated between EUR 21.5 and EUR 9.2 million. Average VaR climbed to EUR 14 million from EUR 10.5 million in 2021 and EUR 12.5 million in 2020.

Risk by factor

This table shows the latest and average VaR at a 99% confidence level by risk factor in the last three years. It also shows the high and low VaR values in 2022 and 97.5% Expected Shortfall at the end of December 2022:

VaR statistics and Expected Shortfall by risk factor[A]

EUR million. VaR at 99% and ES at 97.5% with a one-day time horizon

	2022					2021		2020	
	VaR (99%)				ES (97.5%)	VaR		VaR	
	Min	Average	Max	Latest	Latest	Average	Latest	Average	Latest
Total Trading	**9.2**	**14.1**	**21.5**	**11.6**	**10.8**	**10.5**	**12.3**	**12.5**	**8.3**
Diversification effect	(7.8)	(14.6)	(30.5)	(15.5)	(15.6)	(12.9)	(13.4)	(13.0)	(11.8)
Interest rate	8.1	12.6	21.5	9.9	9.8	9.6	9.1	9.2	5.4
Equities	2.4	4.2	7.3	5.5	5.5	3.5	5.1	4.4	3.1
Exchange rate	2.5	4.8	10.3	3.6	3.2	4.2	5.7	5.9	6.0
Credit spread	3.4	5.4	8.5	5.8	4.9	4.8	5.1	5.5	4.5
Commodities	0.6	1.7	4.4	2.3	3.0	1.3	0.7	0.5	1.1
Total Europe	**7.9**	**12.2**	**21.9**	**10.5**	**9.2**	**9.3**	**9.9**	**10.5**	**8.0**
Diversification effect	(5.1)	(10.4)	(16.8)	(14.2)	(12.0)	(9.3)	(12.6)	(10.7)	(8.9)
Interest rate	5.5	10.2	18.4	10.1	7.8	7.7	7.1	7.9	6.5
Equities	2.2	3.6	5.8	5.5	5.5	3.3	5.8	4.3	3.0
Exchange rate	1.9	3.4	5.8	3.3	3.0	2.8	4.5	3.5	2.9
Credit spread	3.4	5.4	8.7	5.8	4.9	4.8	5.1	5.5	4.5
Commodities	—	—	—	—	—	—	—	—	—
Total North America	**1.5**	**2.3**	**4.7**	**2.7**	**2.2**	**2.5**	**2.7**	**6.6**	**2.9**
Diversification effect	0.7	(0.8)	(4.0)	(1.1)	(1.3)	(0.7)	(0.6)	(2.2)	(1.0)
Interest rate	0.7	2.2	5.7	2.7	2.4	2.5	2.7	3.4	3.3
Equities	—	0.1	1.0	0.1	0.1	0.1	—	0.3	0.1
Exchange rate	0.1	0.8	2.0	1.0	1.0	0.6	0.6	5.1	0.5
Total South America	**5.2**	**8.0**	**14.2**	**6.2**	**6.5**	**5.9**	**6.3**	**5.6**	**4.5**
Diversification effect	(1.3)	(5.0)	(19.8)	(4.2)	(4.4)	(4.9)	(5.1)	(3.8)	(5.4)
Interest rate	4.5	7.0	14.9	5.5	5.7	5.5	5.8	5.2	4.1
Equities	0.7	1.6	4.8	1.7	1.6	1.2	1.1	1.0	0.5
Exchange rate	0.7	2.7	9.9	0.9	0.6	2.8	3.8	2.7	4.2
Commodities	0.6	1.7	4.4	2.3	3.0	1.3	0.7	0.5	1.1

A.In the Americas, credit spread VaR and North Americas's commodity VaR are negligible and, thus, not shown

At the end of 2022, VaR was slightly lower (EUR 0.7 million) than at the end of 2021, consequence of an update in calculation model and a lighter pressure in markets as inflation started to moderate in some regions, as the Eurozone.

Although by risk factor, VaR has followed a generally stable trend in recent years, in 2022 the average VaR rose by EUR 3.6 million compared to 2021. By risk factor, average VaR was greater in all of them, specially in interest rate due to a higher market volatility. The temporary increases in VaR are due more to short-term price volatility than to significant changes in positions.

By region, average VaR grew for all risk types in Europe and South America, which have the highest market risk exposure.

Backtesting

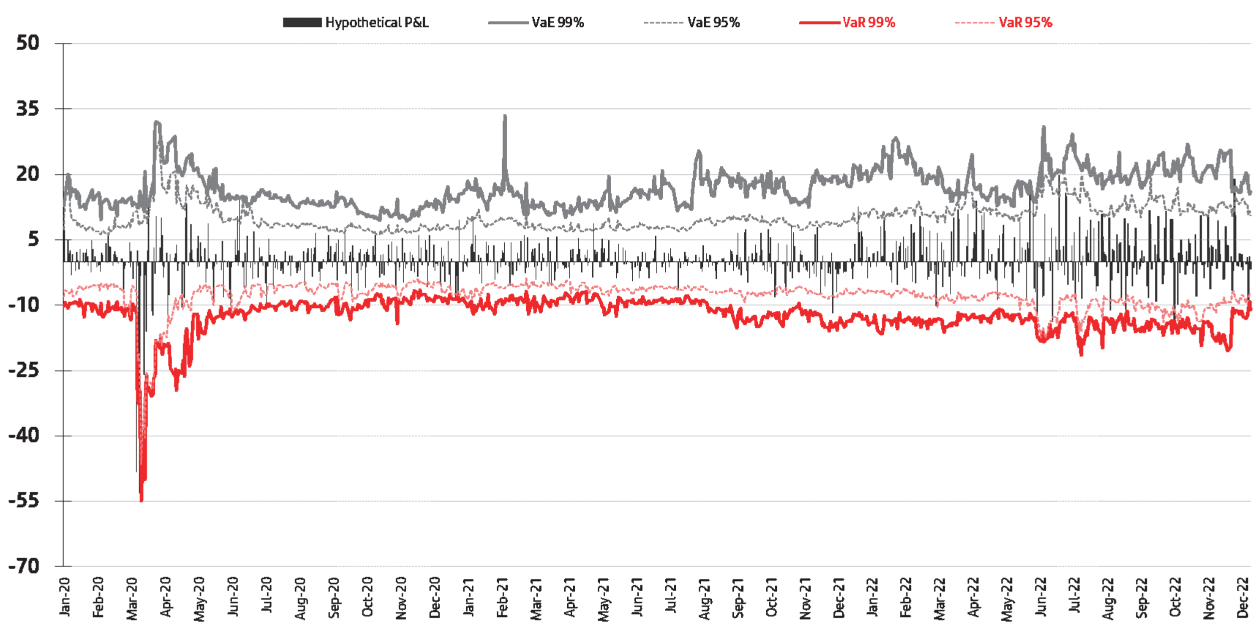
Actual losses can differ from predicted losses because of the mentioned VaR's limitations. Santander measures the accuracy of our VaR calculation model to make sure it is reliable (see 'Methodologies and other key details' under section 4.2 'Market risk management'). The most important tests we run involve backtesting:

- Backtesting of hypothetical P&L and of the entire trading book showed no exceptions to 99% VaR in 2022. Regarding to 99% VaE, there was an exception the 15th of December as a consequence of market volatility concurrent with the last ECB's year meeting where a 50 bp interest rate hike was confirmed.

- These results are consistent with assumptions in the VaR calculation model.

Backtesting of trading portfolios: daily results vs. VaR for previous day

EUR million



Derivatives risk management

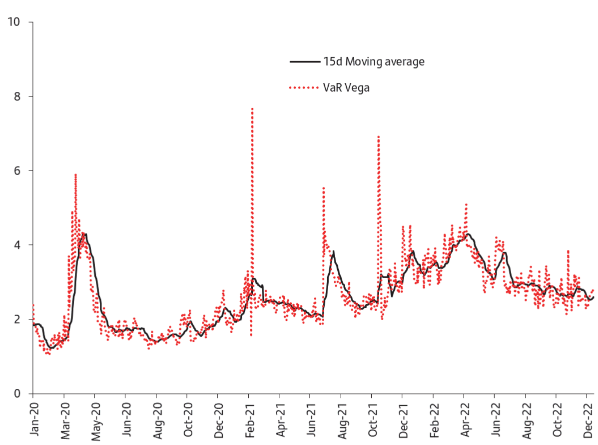
Our operations with derivatives mainly involve selling investment products and hedging risks for customers. We aim to keep open net risk as low as possible. Trading includes equity, fixed-income and FX options, chiefly in Spain, Brazil, the UK and Mexico.

The graph below shows the Vega VaR of structural derivatives over the last three years. Over the last three years. On average, it has increased some EUR 2.6 million. In general, high VaR values stem from sudden spikes in high market volatility, such as at the start of the health crisis, amid changes to monetary policy, or at times of political uncertainty in our geographies.

Average VaR was based on interest rates, equities and FX rates. Average risk (EUR 3.2 million) was slightly higher than in 2020 and 2021, considering the high volatility in interest rates throughout 2022 (see table below):

Change in risk over time (VaR) of structure derivatives

EUR million. VaR Vega at a 99% over a one day horizon



Financial derivatives. Risk (VaR) by risk factor

EUR million. VaR at a 99% over a one day horizon

	2022				2021		2020	
	Minimum	Average	Maximum	Latest	Average	Latest	Average	Latest
Total VaR Vega	**2.1**	**3.2**	**5.1**	**2.7**	**2.6**	**3.7**	**1.9**	**2.3**
Diversification effect	(0.5)	(1.1)	(2.0)	(1.0)	(0.9)	(0.1)	(1.3)	(1.7)
interest rate VaR	1.3	2.0	2.9	1.4	1.4	1.2	1.0	1.8
Equity VaR	0.9	1.4	2.3	0.9	1.2	1.6	1.3	1.4
FX VaR	0.4	0.9	1.9	1.4	0.9	1.0	0.9	0.8
Commodity VaR	—	—	—	—	—	—	—	—

Thanks to our risk culture and prudent risk management, exposure to complex structured instruments or vehicles is minor. At the end of December 2022, we had exposure to:

- hedge funds (as the counterparty in derivative contracts): EUR 4 million (indirect). We review this type of counterparty risk on a case by case basis, setting collateralization ratios based on each fund's characteristics and assets.
- monolines: no exposure at the end of December 2022.

Our policy on approving new derivatives transactions has always been extremely prudent and conservative. It is reviewed by senior management.

Scenario analysis

The table below shows Worst case (i.e. maximum volatility) scenario results from late December 2022:

Stress scenario: maximum volatility (worst case)

EUR million. Dec. 2022

	Interest rate	Equities	Exchange rate	Credit spread	Commodities	Total
Total trading	**(30.6)**	**(11.0)**	**(12.0)**	**(5.2)**	**—**	**(58.8)**
Europe	(17.9)	(8.7)	(3.6)	(5.1)	—	(35.3)
North America	(4.5)	(0.2)	(4.0)	—	—	(8.7)
South America	(8.2)	(2.1)	(4.4)	(0.1)	—	(14.8)

Our analysis found that Santander's trading books would lose EUR 59 million in market value in the worst-case scenario of market stress. Losses would mainly affect Europe, especially in interest rates (if these should get higher) and in equities (if markets were to crash).

Connection with balance sheet items

Below are items on Santander's consolidated balance sheet that generate market risk. The table distinguishes positions whose main risk metric is VaR from others that are monitored with different risk metrics.

Risk metric values on the consolidated balance sheet

EUR million. Dec. 2022

		Main market risk metrics		
Assets subject to market risk	**Balance sheet amount**	**VaR**	**Other**	**Main risk factors for 'Other' balance**
Cash, cash balances at central banks and other deposits on demand	223,073		223,073	Interest rate
Financial assets held for trading	156,118	156,118		
Non-trading financial assets mandatorily at fair value through profit or loss	5,713	3,711	2,002	Interest rate, spread
Financial assets designated at fair value through profit or loss	8,989	815	8,174	Interest rate, spread
Financial assets at fair value through other comprehensive income	85,239	1,941	83,298	Interest rate, spread
Financial assets measured at amortised cost	1,147,044		1,147,044	Interest rate, spread
Hedging derivatives	8,069		8,069	Interest rate, exchange rate
Changes in the fair value of hedged items in portfolio hedges of interest risk	(3,749)		(3,749)	Interest rate
Other assets	104,163			
Total assets	**1,734,659**			
Liabilities subject to market risk				
Financial liabilities held for trading	115,185	115,185		
Financial liabilities designated at fair value through profit or loss	55,947	—	55,947	Interest rate, spread
Financial liabilities at amortised cost	1,423,858		1,423,858	Interest rate, spread
Hedging derivatives	9,228		9,228	Interest rate, exchange rate
Changes in the fair value hedged items in portfolio hedges of interest rate risk	(117)		(117)	Interest rate
Other liabilities	32,973			
Total liabilities	**1,637,074**			
Total equity	**97,585**			

4.4 Structural balance sheet risk management

Structural risk: Risk that market or balance sheet movements will change the value or profit generation of assets or liabilities in the banking book.

It covers insurance and pension risks, as well as the risk that Santander will not have sufficient capital (in terms of quantity or quality) to meet internal business targets, regulatory requirements or market expectations.

Limits management and control systems

The policies of senior management dictate mechanisms to monitor and control structural risk according to regulatory requirements and our risk appetite. The mechanism consider sub-types of structural risk and their implications, contingencies and interrelations.

The Structural risk function's role in the second line of defence is to ensure structural risks are understood, controlled and reported to senior management according to established governance:

- It sets interest rate risk metrics and reviews and challenges structural risk appetite and limits proposed by the first line of defence.
- It oversees the first line of defence's structural risk management and checks compliance with set limits.
- It regularly reports on risk profile to senior management and issues guidelines to business lines about measures it deems necessary.
- It reviews and challenges business proposals and helps senior management and business units understand the interest rate risk of Santander's businesses and operations.
- It develops and revises models and policy. And it checks that structural risk procedures are fit and proper.

Like market risk, structural risk also has an annual plan framework to set structural balance sheet risk limits according to risk appetite.

These are the main limits we use:

- Structural interest risk in the banking book:
  - Net interest income (NII) sensitivity limit over a one-year horizon.
  - Economic value of equity (EVE) sensitivity limit.
  - Market value limit on ALCO portfolios under stress scenarios and with a potential influence on shareholders' equity based on their accounting entry (fair value through shareholders' equity).
- Structural FX risk:
  - Limit on the net permanent position of the core capital ratio.
  - Limit on individual hedge required for each currency.

Business lines' risk managers must provide explanations for potential limit and sub-limit breaches as well as an action plan to correct them.

Methodologies and other key details

a) Structural interest-rate risk

As part of structural risk, interest rate risk in the banking book (IRRBB) is a key balance sheet risk.

Santander measures the potential impact of interest rate movements on Economic value of equity (EVE) and Net interest income (NII). Because of the effect of changing rates, we must manage and control many subtypes of interest rate risk, such as repricing risk, yield curve risk , basis risk and option risk (e.g. behavioural or automatic).

Interest rate positions on the balance sheet and market conditions and outlooks could necessitate certain financial measures to achieve the risk profile target (such as changing positions or setting interest rates on products we market).

Metrics for checking IRBBB include NII and EVE sensitivity to interest rate movements.

- **NII:** Is the difference between interest we receive from assets and the interest we owe for liabilities in the banking book over a typical one- to three-year horizon (one year being standard in Santander). Because NII sensitivity is the difference in income between a selected scenario and the base scenario, it can have as many values as considered scenarios. It enables us to see short-term risks and supplement economic value of equity (EVE) sensitivity.
- **EVE:** Is the difference between the net current value of all assets minus the net current value of all liabilities in the banking book. It does not include shareholders' equity and non-interest-bearing instruments. Because EVE sensitivity is the difference in EVE between a selected scenario and the base scenario, it can have as many values as considered scenarios. It enables us to see long-term risks and supplement NII sensitivity.

b) Interest rate models

Interest rate risk metrics consider the behaviour of financial products under stress scenarios in which uncertainty is common and the failure to meet contractual obligations is possible. We have methodologies that help explain how such products will behave. These are our key interest rate risk models:

- **Treatment of liabilities without stated maturity.** The Group's model shows balances of all accounts without maturity using stable and unstable volumes, settlement speed over time, customer and market types, and other variables
- **Prepayment treatment for certain assets.** Prepayment risk mainly affects fixed-rate mortgages at subsidiaries where contractual rates are below market rates and customers have the incentive to pay off all or part of their mortgage early. Prepayment of variable-rate mortgages owes to factors like the economic cycle, taxes or culture but has a lower IRRBB risk impact because of variable revaluation. The Group models prepayment risk and includes it in risk appetite metrics.

c) Structural foreign exchange rate risk/hedging of results

Every day, we measure FX positions, VaR and P&L.

d) Structural equity risk

We measure equity positions, VaR and P&L.

4.5 Structural balance sheet risk key metrics

Market risk profile of the Group's balance sheet remained moderate in 2022 in terms of asset, shareholders' equity and NII volumes.

Each subsidiary's finance division manages interest rate risk from retail banking and is responsible for handling structural risk from interest rate fluctuations.

To measure interest rate risk, we use statistical models based on strategies to mitigate structural risk with interest-rate instruments (such as bonds and derivatives) and keep risk profile within risk appetite.

Exposure across all geographies and all countries was moderate relative to annual budget and capital levels in 2022.

The NII and economic value of equity (EVE) sensitivities below are based on scenarios of parallel interest rate movements between ±100 bp.

Structural interest rate risk

Europe

At the end of December, the sensitivity of NII on our core balance sheets and of Santander España's EVE to interest rate hikes was positive; but at Santander UK it was negative.

At the end of December, under the scenarios previously described, significant risk of NII sensitivity to the euro amounted to EUR 1,009 million; to the pound sterling, EUR 191 million; to the US dollar, EUR 51 million; and to the Polish złoty, EUR 64 million, all with risk of rate cuts.

Net interest income (NII) sensitivity

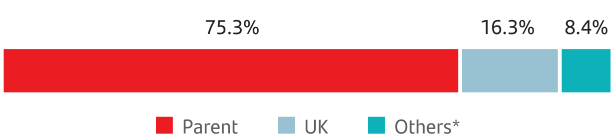
% of total

* Other: Portugal and SCF.

Significant risk of EVE sensitivity to yield curves of the euro was EUR 2,820 million; of the pound sterling, EUR 440 million; of the US dollar, EUR 11 million; and of the Polish złoty, EUR 91 million, mostly with risk of rate cuts.

Economic value of equity (EVE) sensitivity

% of total



* Other: Poland, Portugal and SCF.

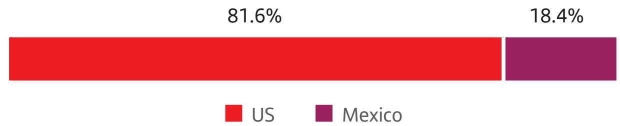
North America

At the end of December, sensitivity of NII on our North America balance sheet to interest rate hikes was positive while EVE sensitivity was negative to interest rate hikes.

At the end of December, significant risk to NII was mainly in the US and amounted to EUR 151 million.

Net interest income (NII) sensitivity

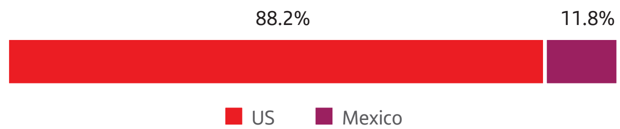
% of total



The most significant risk to EVE was in the US and amounted to EUR 763 million.

Economic value of equity (EVE) sensitivity

% of total



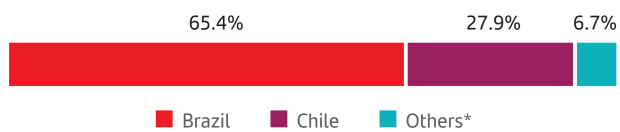
South America

EVE and NII on our main South American balance sheets are positioned for interest rate cuts.

At the end of December, most significant risk to NII was mainly in Chile (EUR 72 million) and in Brazil (EUR 169 million).

Net interest income (NII) sensitivity

% of total

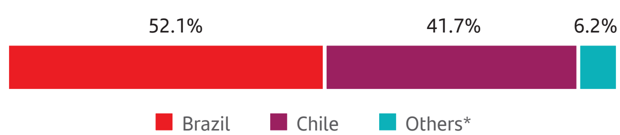


* Other: Argentina, Peru and Uruguay.

Most significant risk to EVE was recorded in Chile (EUR 309 million) and in Brazil (EUR 386 million).

Economic value of equity sensitivity

% of total



* Other: Argentina, Peru and Uruguay.

Structural foreign exchange rate risk/results hedging

Our structural FX risk exposure mainly stems from the performance of, and from hedges for, permanent financial investments. In our dynamic management of this risk, we aim to limit the impact of FX rate movements on the core capital ratio. In 2022, we hedged nearly all currencies that have an impact on our core capital ratio.

In December 2022, our permanent exposures (with potential impact on shareholders' equity) were, from largest to smallest, in US dollars, Brazilian reais, British pounds sterling, Mexican pesos, Chilean pesos and Polish złoty.

We use FX derivatives to hedge part of those permanent positions. Our Finance division manages FX risk and hedging for the expected profits and dividends of subsidiaries whose base currency is not the euro.

Structural equity risk

Santander holds equity positions in its banking and trading books. They are either equity instruments or stock, depending on the share of ownership or control.

Equities in the banking book at the end of December 2022 were diversified, with securities from Spain, China, Morocco, Poland and other countries. Most of them invest in the financial and insurance sectors. We have minor equity exposure to property and other sectors.

Structural equity positions are exposed to market risk. We calculate their VaR with a set of market prices and proxies. At the end of the year 2022, VaR at a 99% confidence level over a one-day horizon was EUR 195 million (EUR 309 million in 2021 and EUR 319 million in 2020).

Structural VaR

Homogenous metrics like VaR make it possible to monitor all market risk in the banking book (minus SCIB trading; see section 4.3 'Market risk key metrics').We differentiate fixed income based on interest rates and credit spreads in ALCO portfolios, FX rates and shares.

In general, the structural VaR of our total assets and equity is minor, as shown in the following table:

Structural VaR

EUR million. VaR at a 99% over a one day horizon

	2022				2021		2020	
	Minimum	Average	Maximum	Latest	Average	Latest	Average	Latest
Structural VaR	**538.5**	**664.0**	**1,084.4**	**538.5**	**993.7**	**1,011.9**	**911.0**	**903.1**
Diversification effect	(323.5)	(417.1)	(489.5)	(422.4)	(327.3)	(240.2)	(349.8)	(263.4)
VaR Interest Rate[A]	266.2	350.8	577.0	304.5	400.7	287.8	465.1	345.5
VaR Exchange Rate	400.4	493.4	682.3	461.0	600.6	655.2	499.9	502.6
VaR Equities	195.4	236.9	314.6	195.4	319.7	309.1	295.9	318.5

A. Includes credit spread VaR on ALCO portfolios.

4.6 Liquidity risk management

The second line of defence ensures liquidity risk is understood, controlled and reported to senior management and across the Group according to established governance.

- It defines liquidity risk and provides detailed measurements of current and emerging liquidity risks.
- It sets liquidity risk metrics, and reviews and challenges liquidity risk appetite and limits proposed by the first line of defence.
- It oversees the first line of defence's liquidity risk management, measures how long business will remain within risk appetite limits and checks compliance with liquidity risk limits.
- It reports to governing bodies on risk, risk appetite and exceptions.
- It evaluates and challenges commercial and business proposals, and gives senior management and business units things they need to understand Santander's liquidity risk.
- It provides a comprehensive overview of our liquidity risk exposure and profile.
- It makes sure the liquidity risk procedures in place are appropriate to manage business within risk appetite limits.

Methodologies and key other key details

To measure liquidity risk, we use tools and metrics for the right risk factors such as:

- Liquidity buffer
- Liquidity coverage ratio (LCR)
- Wholesale liquidity metric
- Net stable funding ratio
- Asset encumbrance metrics
- Other liquidity indicators
- Liquidity scenario analysis
- Early-warning indicators (EWI)
- Intraday liquidity metrics

For more details on the definition of liquidity metrics, see section 'Liquidity risk measurement', in Note 53 to the consolidated financial statement,

4.7 Liquidity risk key metrics

The Group's sound liquidity and funding position stands on a decentralized liquidity model. Each subsidiary manages its own liquidity autonomously, keeping a large stock of highly liquid assets.

In general, the LCR remained stable and well above the regulatory threshold. In 2022, our minimum regulatory required LCR was 100% and our risk appetite limit was 110%. We calculate and monitor this metric on a daily basis.

We manage liquidity buffers effectively to maintain a sound risk profile within regulatory limits and a profitable balance sheet. They mostly consist of level 1 assets: cash and sovereign debt, adequately diversified by currency according to the Group's balance sheet needs.

Our subsidiaries have a sound balance sheet and stable funding structure, supported by a large base of customer deposits, low dependence on short-term funding and liquidity metrics well above local and corporate regulatory requirements and within risk appetite limits.

The regulatory net stable financing ratios (NSFR) of our core subsidiaries and the Group remained above the regulatory requirement of 100% and the internal risk appetite of 101.5%.

Our main sources of structural asset encumbrance are collateralized issues (e.g. securitizations and covered bonds) and credit transactions with central banks with collateral. The asset encumbrance decreased in 2022 on the back of fewer appeals to central banks for covid-19 relief funds. Santander's asset encumbrance is comparable with the other European banks'.

As demonstrated by stress scenarios run under uniform corporate standards, the balance sheets of our subsidiaries are robust. Under the worst scenario, every subsidiary would survive and handle liquidity needs with nothing more than its liquidity buffer for at least 45 days.

Santander manages intraday liquidity risk based on other liquidity metrics, with daily limits and warning indicators to help anticipate contingencies.

For more details on liquidity metrics, see section 3.4 'Liquidity and funding management' of the chapter on Economic and financial review.

4.8 Pension and actuarial risk management

Pension risk

Grupo Santander operates a number of defined benefit pension schemes which generate financial, market, credit and liquidity risks from the assets and investments, as well as actuarial risks from pension obligations.

We aim to identify, measure, control, mitigate and report on pension risk and all its sources.

Grupo Santander measures and controls market and actuarial components of pension risk using mainly Value at Risk (VaR) techniques. VaR is also used to set risk appetite limits and to calculate Economic Capital.

Additionally, we estimate combined losses each year on assets and liabilities under a stress scenario that includes shifts in interest rates, exchange rates, inflation, stock markets, property values and credit spreads.

In 2022, the markets' effect on pension risk was positive mainly because of higher discount rates in our core markets, which caused actuarial liabilities to decline significantly.

Actuarial risk

Actuarial risk stems from biometric changes in defined benefit recipients and life insurance policyholders' life expectancy; from suddenly higher non-life insurance payments; and from policyholders' unexpected behaviour to file claims covered by insurance policies. These are the actuarial risks we distinguish:

- **Life liability risk:** risk of loss on liabilities due to changing risk factors that affect pension obligations. We split them into:
  - mortality/longevity risk: risk of loss on liabilities due to death or survival rates that exceed expectations.
  - morbidity risk: risk of loss on liabilities due to changes in estimated policyholder disability or incapacitation rates.
  - withdrawal/surrender risk: risk of loss on liabilities due to early policy surrender or changes in policyholders' exercise of withdrawal rights, extraordinary premium payments or suspension of premium payments.
  - expense risk: risk of loss on liabilities from negative shifts in expected costs.
  - catastrophe risk: losses caused by catastrophic events that increase the bank's life insurance obligations.
- **Non-life liability risk:** risk of loss on liabilities from risk variations that increase Santander's non-life payment obligations towards employees. We split them into:
  - premium risk: loss from insufficient premiums to cover future claims.
  - reserve risk: loss from insufficient reserves for unpaid claims (including management costs).
  - catastrophe risk: losses caused by catastrophic events that increase the bank's non-life insurance obligations.

5. Capital risk

5.1 Introduction

Our structural risk includes the risk of insufficient quality or quantity of capital to meet internal business objectives, regulatory requirements and market expectations.

Our capital risk function, which is part of our second line of defence, oversees first-line capital management and controls that our capital adequacy and coverage are in line with our risk profile. It also oversees transactions that could be significant risk transfers (SRT).

Capital management falls under the Group's capital framework and model. It brings together capital planning, budget execution and tracking, and the ongoing measurement, reporting and disclosure of capital data.

5.2 Capital risk management

The capital risk function controls and oversees the capital activities carried out by the first line of defence. These activities split into four workflows to ensure monitoring is adequate to Santander's risk profile:

- Capital planning: Internal process to determine capital levels and returns according to our strategy. Because we must ensure solvency and efficiency of capital, we identify the necessary measures to achieve our capital ratio and return on capital targets.
- Capital adequacy: We measure capital levels against the type and amount of risk assumed based on a risk profile assessment (RPA), our strategy and risk appetite.

  We review capital planning and adequacy exercises to make sure capital is consistent with risk appetite and the risk profile to:

  - ensuring the monitoring of Santander's significant risks in the course of its operations;
  - checking that planning methodologies and assumptions are appropriate;
  - confirming that results are reasonable and consistent with business strategy, the macroeconomic environment and system variables; and
  - assessing the consistency of adequacy exercises (especially ones that use baseline and stressed scenarios).
- Capital risk management: The required actions to measure capital metrics, based on a set methodology to obtain final figures. It also supports the stages of capital management, monitoring, oversight and control.

  Continuous monitoring of our regulatory capital measurement is an additional capital risk control function to ensure the right capital risk profile. We conduct a qualitative analysis of the regulatory and supervisory framework and a review of capital metrics and specific thresholds. We also monitor compliance with capital risk appetite to maintain capital levels above regulatory requirements and market expectations.
- Origination: Assessment of our portfolios' capital efficiency to identify capital optimization initiatives such as securitizations, risk mitigation and asset sales.

  We oversee securitizations that might be significant risk transfers originated by Santander, in accordance with articles 243 and 245, articles about SRT, of Regulations (EU) 2017/2401 and 2017/2402.

  This first step is an essential prerequisite for synthetic and traditional securitizations, especially if they can reduce RWA under regulatory standards.

  The aim is to make sure that oversight includes analysis of the conditions that could alter the securitization's SRT classification, namely:

  - if it can effectively transfer risk;
  - if it complies with all prudential regulation requirements;
  - if its risk parameters follow our methodology; and
  - if its economic rationale meets group-wide standards.

Key initiatives

The macroeconomic uncertainties have caused the expectations of recovery coming from 2021, after the pandemic, to be lowered.

Against this backdrop, our capital risk management focused on protecting the Group's solvency and making sure internal objectives were met. We pinpointed and assessed the risks that could affect solvency and continuously monitored key metrics.

In capital planning, the Capital Risk function regularly assesses potential deviations in capital forecasts to set budget uncertainty levels. We oversee progress with organic capital and securitization plans, as well as the impact of Internal Rating Based (IRB) model reviews.

In 2022, we continuously monitored the achievement of capital contribution targets to identify threats and opportunities relating to our capital targets for the year. We also checked the impact of market variables on capital levels. We continued to implement hedging policies to mitigate exchange rate volatility on our CET1 ratio.

The capital risk function and first line of defence set the solvency limits, which were consistent with the Group's medium-low risk appetite and resilient to stressful conditions. We added new solvency risk appetite metrics for the Group and its subsidiaries in order to make our risk appetite framework more robust and more consistent with the Group's risk profile, as well as to boost coverage of the risks we're exposed to.

We also added the analysis of Minimum Requirement for own funds and Eligible Liabilities (MREL) and Total Loss-Absorbing Capacity (TLAC) metric forecasts to our scenarios.

We focused on enhancing reporting and governance of oversight of SRT securitizations during origination. Subsidiaries became more involved in monitoring and in driving automation through use of the corporate tool.

5.3 Key metrics

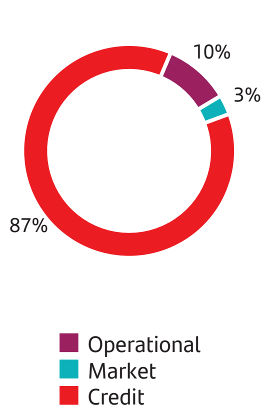
Banco Santander's strong capital position is consistent with our business model, balance sheet structure, risk profile and regulatory requirements. Our robust balance sheet and profitability enable us to finance growth and accumulate capital.

Our model of subsidiaries with autonomy over liquidity and capital allows us to mitigate risk. Our capital metrics are stable, with ratios that remain comfortably above regulatory requirements and that are consistent with senior management-approved risk appetite

The distribution of risk-weighted assets by risk factor and by region at the end of December reflects the Group's core business in credit risk and geographic diversification:

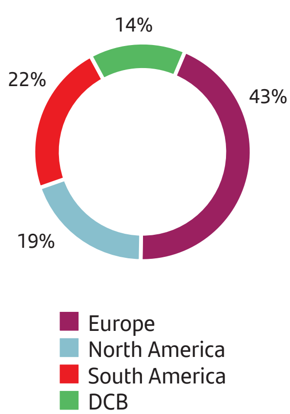
RWA by risk type[A]

Dec. 22 data



RWA by region[B]

Dec. 22 data



A. Credit risk included counterparty credit risk, securitizations and amounts below the thresholds for deduction.
B. Others, not included, represent 2% in 2022 (Corporate centre)

At the end of December, our fully-loaded CET1 was 12.10%, above our 11-12% target.

The fully-loaded CET1 ratio rose 8 bp, owing to strong organic generation of 76 bp (net of dividend accruals) based mainly on the year's profit, growth in risk-weighted assets (RWA) and the successful execution of the securitization plan.

Regulatory and model impacts caused a 28 bp drop, while other items on the back of market developments triggered a 39 bp fall.

Under IFRS 9 transitional arrangements, the CET1 phased-in ratio was 12.18% and the total phased-in capital ratio was 15.99%, comfortably meeting the Basel Committee's 9.07% and 13.26% minimum levels, respectively.

The fully-loaded leverage ratio was 4.70% and the phased-in ratio was 4.74%, which also met the Basel Committee's 3% minimum comfortably.

We kept capital ratios above solvency limits established in the risk appetite, throughout the whole year.

For more details, see section 3.5 'Capital management and adequacy. Solvency ratios' in the 'Economic and financial review' chapter.

6. Operational risk

6.1 Introduction

In accordance with the Basel framework, Santander defines operational risk as the risk of loss due to inadequate or failed internal processes, people, and systems or to external events. It covers risk types such as fraud, technological risk, cyberrisk, legal risk[18] and conduct risk.

Operational risk is inherent in all products, activities, processes, and systems, and is generated in all business and support areas. All employees are responsible for managing and controlling the operational risks generated by their activities.

Our operational risk management and control model is based on a continuous process of identifying, evaluating and mitigating sources of risk, regardless of whether they have materialized or not, promoting that risk management priorities are established appropriately, and internal controls are defined and executed to manage and mitigate the risk across the organization.

6.2 Operational risk management

Management and control model

Our operational risk model establishes the items needed to manage and control operational risk properly according to advanced regulatory standards and best management practices. Its phases are:

- strategic planning;
- identification and assessment of risks and internal controls;
- ongoing monitoring of the operational risk profile;
- implementation of actions to manage the risks, including mitigation measures, and
- disclosure, reporting, and escalation of relevant matters.

The main operational risk tools used by the Group throughout the management cycle are the following:

- Internal event database: registry of operational risk events, whose impact could be financial (e.g., losses, irrespective of their amount) or non-financial (i.e., relating to regulation, customers, or services). This information:
  - enables the analysis of root causes;
  - increases the awareness of risks for better operational risk management;
  - enables the escalation of relevant operational risk events to senior risk executives in the shortest time possible;
  - facilitates regulatory reporting, and
  - facilitates the development of the economic capital model within the internal capital adequacy assessment process (ICAAP).
- Operational risk control self-assessment (RCSA): a qualitative process that evaluates each area´s operational risks and assesses the control environment based on the opinion of experts from each function. Its purpose is to identify, assess and measure material operational risks that could prevent the business or support units from achieving their objectives. After assessing risks and internal controls, mitigating measures for risk levels above tolerance are identified.

  Our RCSA integrates specific reviews that allow to identify cyber, technology, fraud, third party supplier and other risk drivers that could lead to operational risk as well as the failure to meet regulations. In addition, the RCSA incorporates reviews related to regulatory compliance, conduct and

[18] Legal proceedings stemming from operational risk.

financial crime risk (for more details, see Section 7.2 'Compliance and conduct risk management').

- Control score: independent assessment of the control environment performed by second line of defence in order to oversee and challenge of the accuracy of each area´s control assessments

- External events data: quantitative and qualitative information about external operational risk events. This information facilitates detailed and structured analysis of relevant events in the industry; the comparison to Group and subsidiaries' loss profiles; as well as the preparation for RCSA exercises, insurance and scenario analysis.

- Operational risk scenario analysis: identifies highly unlikely events that could result in significant losses for us and establishes appropriate mitigating measures based on the assessment and opinion of experts from business lines and risk managers. Scenario analysis results are also used as an input to the economic capital models.

- Key risk indicators: indicators that provide quantitative information about our risk exposure and control environment. The most relevant indicators are those related to the bank´s main risk exposures, and are part of operational risk appetite.

- Risk appetite, which has the following structure:

  - a global non-financial risk appetite statement, which asserts our commitment to controlling and limiting non-financial risk events that can result in financial losses; fraud events; operational and technological incidents; legal and regulatory infractions; issues associated with conduct; or reputational damage. This statement has associated loss and control environment metrics.

  - Statements regarding technology risk, cyberrisk, cloud, fraud, financial crime compliance, product sales, regulatory compliance, model risk, data management, and supplier risk management, and their own forward-looking monitoring metrics.

- Economic capital model: a loss distribution approach (LDA) model that captures our operational risk profile, with information collected from the internal loss database, external data, and scenarios. Its purpose is to determine operational risk economic capital and estimate expected and stressed losses for operational risk appetite.

- Other instruments are used to analyse and manage operational risk, such as the assessment of new products and services, and transformation initiatives; business continuity plans (BCP); review of corporate insurance; review of the management perimeter; recommendations from internal and external auditors, and supervisors; and the quality assurance process.

Heracles, which is our management and reporting system for operational risk, supports the operational risk programme and tools with a Governance, Risk and Compliance (GRC) approach. It provides information for management and reporting at subsidiaries and throughout the Group. Heracles also facilitates better operational risk management decisions by using a common set of taxonomies and methodological standards to allow information consolidation, duplication prevention, and reporting simplification. Through Heracles, we ensure that employees can have a timely, complete, and precise view of their risks.

The main objective of the second line of defence is to challenge and oversee the operational risk profile through the ongoing monitoring of the previously described toolset.

Model implementation and enhancement initiatives

In 2022, we strengthen our operational risk model by:

- enhancing the risk appetite framework: establishing new metrics at Group level (related to cloud and data management); and improving definitions, thresholds and measurements;

- reviewing the current operating model to achieve a risk-intelligent model based on industry best practices and regulations;

- improving and progressing with our holistic risk assessment programme, in which each specialized second line monitors and contrasts the principal risks that are integrated within non-financial risks;

- improvements in the process to determine, identify and assess reference risks and standard controls, with the objective of strengthening and ensuring consistency of our risk and control environment;

- consolidating initiatives to assess climate related factors that impact operational risk within our management model;

- improving the assessment methodology of the global cyber security transformation plan to identify and measure the reduction in risk due to the implementation of new information security developments;

- improvements to contingency, business continuity and crisis management plans, in coordination with the recovery and resolution plans, while also hedging emerging risks; and

- developing the methodology to analyse, assess, measure and compare transformation risk among our subsidiaries.

Operational resilience and the business continuity plan

Digital transformation is revolutionizing how banks operate, presenting new business opportunities. At the same time this structural change is also giving rise to new emerging risks such as technology risk, cyber risk, and an increased dependency on third party suppliers, which increase the potential exposure to events that could affect the provision of services to our clients.

We are also witnessing changes in regulations that are increasingly focused on the importance of Operational Resilience, such as:

- the recently published Basel Principles for Operational Resilience guidelines;

- the policy statement and final rules, Building the UK Financial Sector's Operational Resilience, by the Bank of England (BoE), the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA);

- the EU's Digital Operational Resilience Act (DORA).

These regulations require banks to strengthen their ability to recover from disruptive events that could have an impact on their core business services and operations.

We are firmly committed to maintaining a robust control environment according to the best standards in the banking industry. This allows us to reinforce our operational resilience against potential disruptive events thus ensuring the provision of services to our customers as well as ensuring systemic stability.

A major pillar of our operational resilience is our business continuity management system (BCMS), which ensures the continuity of our business processes in all our subsidiaries in the event of a severe incident or disaster. It is a holistic management process that identifies potential threats and their impact to our operations and resources. It also defines the proper protocols and governance to provide an effective response. Its main objectives are:

- safeguarding people's safety in a contingency situation;
- guaranteeing that core functions are performed, and service is delivered to our customers;
- fulfilling our obligations towards employees, customers, shareholders, and other stakeholders;
- to comply with regulatory requirements;
- to minimize potential losses to Grupo Santander as well as the impact on business activities;
- to safeguard the bank’s reputation and credibility, as well as our client’s confidence in the bank;
- to reduce the effects of an incident by ensuring efficient procedures, priorities, and strategy for the recovery and restoration of business operations in a contingency situation; and
- contribute to a stable financial system.

In 2022, we continued to enhance and revise our BCMS with particular emphasis on the following aspects:

- internal continuity strategies or workarounds to minimize the impact on business activities derived from the potential disruptions in the services provided by critical suppliers;
- mandatory risk assessments and cost-benefit analyses in order to select the necessary continuity strategies for each contingency scenario identified;
- several risk assessments to evaluate the Group’s preparedness to address potential emerging risks such as Solar Flares or Power shortages (due to the war in Ukraine);
- strengthening the HQ contingency sites to ensure proper risk coverage and a quick recovery of critical business activities in the case of contingency scenarios impacting main offices, or other situations such as ransomware attacks, power shortages affecting the homes of staff; and
- enhancing the methodology to manage and monitor the maturity level of subsidiary business continuity programmes.

In addition, the current BCM framework and systems are being updated to ensure proper coverage of the new Operational Resilience regulatory requirements.

Important mitigating measures

We continuously implement and monitor mitigation actions for major sources of risk identified by internal operational risk management tools and other external sources of information.

Fraud

The transformation and digitalization of the business has given rise to new risks and threats, such as more payment scams and credit fraud (fraud in origination). To mitigate these risks, we enhanced control mechanisms and designed new products. Strong customer authentication processes, in line with the EU’s Payment Service Directive (PSD2), such as biometric validation (e.g., facial recognition) in customer onboarding and enhancing anti-fraud alerts in origination are becoming increasingly widespread to mitigate fraud risk.

To reduce fraud, Grupo we apply special measures in some subsidiaries such as:

Card fraud	Online/mobile banking fraud	Forgery and identity theft fraud
→ Generalized use of chip and PIN (transactions with chip cards that require a numeric verification code) for all transactions in ATMs and stores, with advanced authentication mechanisms between ATMs, Points of Sale and Grupo Santander's systems. → Continuously improved card protection against e-commerce fraud, with a secure standard (3D Secure) via two-step authentication based on one-time passwords, mobile applications that enable card deactivation for e-commerce transactions, or virtual cards issuance with safety features such as dynamic CVVs (Card Verification Value). → Use of a new biometric authentication system in ATMs and branches. Customers can use their fingerprint to withdraw cash from ATMs. → Continuous integration of monitoring and fraud detection tools with internal and external systems for better detection of suspicious activity. → Reinforced ATM security with new physical protection and anti-skimming elements, as well as improved logical security of devices.	→ Online banking transaction verification with a second security factor of one-time passwords. The evolution of technology differs across countries, e.g., the use of QR codes generated for payments. → Continuous improvements to online banking security with a transaction scoring system that assigns transactions a risk level, which trigger additional authentication when a given security threshold is breached. → Implementation of specific mobile banking protections, such as identification and registration of customer devices. → Monitoring of the e-banking platform security to avoid systems attacks.	→ Enhanced fraud controls that verify the applicant's identity and the device used to submit the request. → Implementation of biometrics for customers and employees (in some geographies). → New management and authentication platforms.

Cyberrisk

In 2022 the war in Ukraine and the increased professionalization of cybercriminals have produced a worsening threat landscape that has increased the frequency and severity of cyberattacks that are impacting businesses, third parties, critical infrastructure and even governments. This situation has made cybersecurity a top risk concern for financial institutions; thus we increased our activity in terms of cybersecurity initiatives to mitigate emerging threats.

Our greater reliance on digital systems, also makes cybersecurity one of the main non-financial risks of the business. Our objective is to make Grupo Santander a cyberresilient organization that can quickly resist, detect and respond to cyberattacks, with constant evolution and improvement of its defences.

In that sense, we continue to develop our risk management and controls in line with the Group's global cybersecurity framework and international best practices. From the second line of defence perspective, the cybersecurity risk team has developed and implemented a framework for the measurement, and monitoring of the cyberrisk profile and control environment. The main areas of focus for this year have been:

- establishment of a European second line of defence Center of Excellence for cyberrisk providing an opportunity to strengthen control risk activities while achieving efficiencies, simplification and harmonization;
- root cause analysis of recent external events;
- deep dives reviews of BAU processes; and
- KRI and risk scoring automatization.

For more details on cyber security, see section 5 'Research, development and innovation (R&D&I)' on 'Economic and financial review' chapter.

IT risk

The process of digital transformation as well as Santander's mission to become the best open financial services platform requires that we constantly review, assess and improve our controls to mitigate and manage IT risk.

Despite a demanding environment that is constantly changing, we have quickly adapted our technology to meet the new needs of our customers as well as new regulatory requirements. It is important to note that, even with the current digital transformation, relevant IT incidents at Group level have continued their downward trend in comparison with recent years. For 2022 key aspects of our IT Risk Management programme are summarized below:

- The adoption of a risk-based approach to ensure we prioritize the necessary resources and corrective actions taking into consideration the criticality of our IT assets. These critical assets have corresponding risk appetite metrics that are used to monitor the level of IT risk in areas such as availability, obsolescence, and the application of security patches. We made significant progress on reducing the level of obsolescence in key IT assets in all subsidiaries.

- We continued the enhancement of an automated tool that enables IT risk data correlation, analysis, and reporting. This tool facilitates information gathering and consolidation to enable the prioritization of risk management activities, allowing for more efficient independent oversight of IT risk.
- Detailed deep dive analyses of relevant IT risks as identified in our RCSA to gain an in-depth understanding of these risks, controls and ensure appropriate mitigation plans.
- Oversight and challenge of the main IT transformation initiatives.
- An IT risk management and oversight policy that establishes common protocols and standards for the monitoring and controlling of IT risks, in conjunction with functional and governance aspects.
- Regular review of KRI and related thresholds to grant a consistent oversight of our most relevant IT Risk.

Supplier risk management

Our digitalization strategy sets out to offer our customers the best solutions and products in the market. This can entail an increase in third-party services and the use of new technologies such as cloud.

In 2022, in light of an increase in cyber and environmental related risks as well as regulatory requirements, the Group has strengthened the supplier risk management model and the internal control framework. A new IT platform is being developed to properly assess and manage the risks in outsourcing and third-party agreements.

We revised our methodologies and tools to enhance the monitoring of third-party risk in our subsidiaries. In addition, we adopted a risk-based approach that focuses on those suppliers, in the different entities of the Group, that could increase the potential risk level in our operations and client services. We have implemented enhanced monitoring of those suppliers to ensure:

- they present an appropriate control environment in accordance with established Group policies and with the risk level of the service provided;
- business continuity plans are in place to guarantee the delivery of the service even in the event of a disruption;
- the proper controls are in place to guarantee the protection of information processed during the provision of service;
- contracts and third-party agreements include the required clauses to protect the interests of the Group and our customers, while providing coverage of the legal obligations in force;
- regular monitoring of these providers is carried out, with particular attention to the monitoring of service level agreements and to the regular testing of the supplier´s business continuity plans; and
- exit strategies are defined, including reversion or migration plans, particularly for those services with a high impact on business continuity and complex substitution.

We are embedding our environmental, social and governance approach in our strategy and culture to build a more responsible bank. In this regard, as our suppliers can affect the environment and broader society, we hold them to strict ethical, social and environmental standards. A new certification process is being defined to ensure that our suppliers follow the ESG sustainability standards and criteria required by the Group.

Other key mitigating actions

We are constantly improving our risk mitigation measures related to customer, products, and business practices. Santander has specific frameworks and policies on the marketing and selling of products and services; customer complaint handling and analysis; financial crime prevention; and compliance with new regulations.

For more details on compliance risk mitigation, see section 7.2 'Compliance and conduct risk management'.

Insurance in operational risk management

Santander considers insurance to be a key component in the management of operational risk. The Corporate Insurance function is responsible for the use of risk transfer formulas to optimize and safeguard the bank´s financial results. The Corporate Insurance function, in collaboration with Non-Financial Risk (NFR), performs the continuous oversight and supervision of entities across the Group to ensure the proper application of policies and procedures to manage risk that is insurable. This collaboration is governed by:

- NFR participation as a permanent member in the quarterly Corporate Insurance forum.
- NFR attendance of the quarterly Claims forum, which monitors and enhances processes for loss recovery via insurance.
- Procedures outlining the interaction model between NFR and Corporate Insurance, as well as other functions that correspond to the various insurance typologies (e.g., facilities, cyber security, legal, etc.). These procedures ensure the proper management of insurance throughout the entire process of identification, assessment, transfer, and retention of risk.
- The coordination on an annual basis of the mapping of risks to insurance across the Group, with the objective of monitoring the effectiveness of insurance coverage, and identifying and correcting any potential gaps in coverage.

We continue to adapt the use of insurance to align our management with changes in the risk environment. As a result, we have expanded our analysis and implemented coverage related to climate change, ESG, cyber risk, the digital environment, and other elements. To respond to these and other transversal risks, we have global insurance programmes for property damage, general liability, fraud, expenses arising from cyber security breaches, and third-party claims against directors and officers of the Group (D&O insurance). These global policies are complemented by local insurance policies that adapt to the characteristics of each subsidiary and are purchased according to the Corporate Insurance risk management model implemented in each geography.

Analysis and oversight of controls in Santander Corporate & Investment Banking (SCIB)

Given the nature, specificity, and complexity of financial markets, SCIB improves operational risk management and control on a continuous basis. The following enhancements were implemented in 2022:

- Continued to strengthen processes and drive the operational excellence of services provided to our customers by reinforcing a culture of quality and promoting the best standards in all SCIB geographies
- The control framework was subject to continuous improvements through regular review of controls and enhancements of reports that facilitate the holistic supervision and monitoring of Markets' activity. The risk of unauthorized trading kept being monitored via a specific risk appetite metric that measures the periodic assessment of key risk mitigation controls.
- Constant incident and risk surveillance to resolve them in a quick manner and therefore have more effective operational risk mitigation measures.
- Enhancement of the control model related to regulatory requirements such as MiFID[19] II (, the Dodd-Frank Act, EMIR[20], IFRS 9, GDPR[21] and other regulations.
- Strengthened the oversight of third-party risk management to comply with internal and regulatory requirements through specific tasks such as watchlist and deep dives reviews, enhancing the risk profile and the function itself.
- Due to the cybersecurity landscape, the maturity levels of the cyber-controls deployed have been improved with focus on vulnerability management and recovery processes, data leaks and services deployed in the public cloud. In addition, oversight and challenge exercises have been increased to ensure the correct execution of the controls.

For more details on regulatory compliance in markets, see section 'SCIB Compliance' in 7.2 'Compliance and conduct risk management'

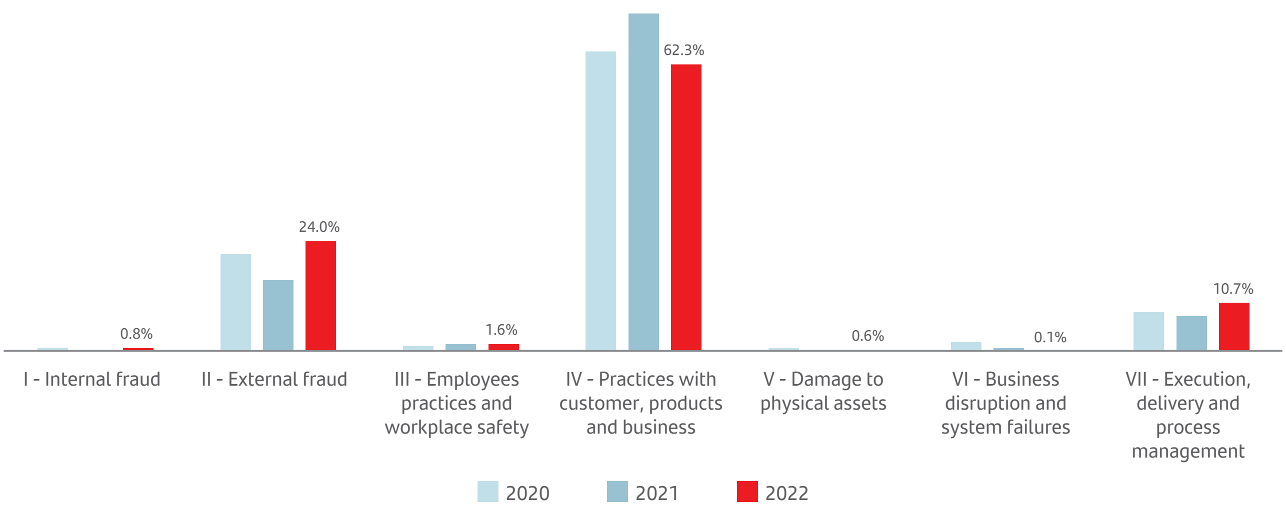
[19] Markets in Financial Instruments Directive.
[20] European Market Infrastructure Regulation.
[21] General Data Protection Regulation.

6.3 Key metrics

Net losses (including incurred losses and net provisions) as per Basel[22] risk categories in the last three years were:

Net losses by operational risk category[A]

(% o/total)



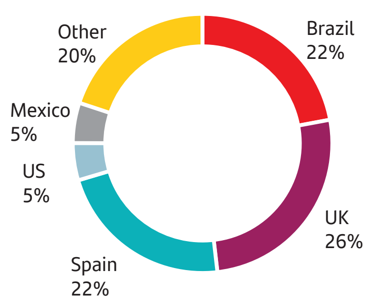
A. Does not include employees litigations in Brazil

Losses due to practices with customers, products and business were lower than in the previous year. However, those due to execution, delivery and process management as well as external fraud losses have increased.

The net losses by country were:

Net losses by country[A]

(% o/total)



A. Does not include labour proceedings in Brazil.

Santander considers employee litigation in Santander Brazil to be a staff expense. Our governing bodies continuously monitor expense levels with specific risk appetite metrics and take special actions to reduce them. These expenses are reported under the categories defined by the Basel Operational Risk framework.

In 2022, the most significant losses by category and geography are related to litigation in Santander Brazil (with ongoing root cause analyses of the main products), Spain (due to legacy cases) and the UK (due to fraud and legacy cases). Additionally, the amount of losses in the US remains stable compared to last year.

[22] The Basel categories incorporate risks which are detailed in section 7 'Compliance and conduct risk'.

7. Compliance and conduct risk

7.1 Introduction

Under Santander's three lines of defence model, the compliance and conduct risk function is an independent control function within the second line of defence. It reports directly and regularly to the board of directors through the Group Chief Compliance Officer (GCCO). It facilitates critical, independent debate, overseeing first-line management of risk in terms of regulatory compliance, product governance, consumer protection, financial crime and reputation. It also measures the impact of compliance and conduct risk on risk appetite and risk profile.

The compliance and conduct function reports to governance bodies on risk when necessary and, especially, breaches of risk appetite. It also promotes a common risk culture and gives expert judgement and guidance on important compliance and conduct risk matters.

Banco Santander and each subsidiary run compliance programmes that suit their size and complexity. Programmes are structured according to the four management risks mentioned earlier, and set out the core initiatives to be undertaken throughout the year. They are essential for oversight of subsidiaries' Compliance and conduct risk control environment.

7.2 Compliance and conduct risk management

The compliance and conduct risk function upholds the General code of conduct ('GCC'). It is supervised by the compliance and the risk supervision, regulation and compliance committees.

The GCC sets out the ethical principles and conduct rules that must govern our employees' work. It is to be applied along with all other internal regulation. It sets out:

- compliance functions and duties;
- the Group's employee general ethical principles;
- the general rules of employee conduct;
- the consequences for failure to comply;
- an ethical channel (Canal Abierto) to report possible misconduct in a confidential and anonymous manner.

Regulatory compliance

The regulatory compliance function oversees regulatory risk from employees, data processing and securities trading (together with SCIB's compliance team). In 2022, it reinforced the coverage of our Investment platform Unit[23] and the restructuring area with the appointment of an officer who oversees all compliance risks of this activity.

The main parts of the Regulatory Compliance function are:

A. Employees

The regulatory compliance function promotes a culture of ethics and compliance among our employees, with standards for preventing criminal risk, conflicts of interest and anti-competitive practices according to the GCC. Together with subsidiary-level compliance departments, it runs Canal Abierto, Grupo Santander's whistleblowing channel, through which employees can report financial and accounting wrongdoing as well as violations of the GCC and our corporate behaviours anonymously and confidentially.

In 2022, it worked with other areas in the Group to simplify the GCC, which the board approved in July 2022, to make it easier for employees and other stakeholders to read, understand and use, with plain and inclusive language; a more dynamic and engaging look and feel; guidelines on dealing with colleagues, customers, third parties and broader society that are based on our corporate behaviours and Santander Way culture; and internal browsing features.

It ran training and spread awareness about guidelines and raised commitment towards a corporate culture of ethics and compliance. In particular, it organized courses on the GCC, competition law and other topics, taught by an external law firm for compliance experts. It also promoted the 'Your conduct matters' campaign, with content on the GCC and Canal Abierto for all employees. The Group's subsidiaries undertook communications initiatives with core vendors to share Santander's conduct guidelines, ethical standards and culture.

For the second year running, the Group's compliance and conduct function ran initiatives to promote inclusion and diversity of gender, age and culture and to spread awareness with Fundación Universia about including professionals from different backgrounds.

[23] Investments in debt and or equity through a specialized fund manager. Characteristics of the businesses IPU participates are that Banco Santander invests in both the fund and the asset manager.

Employees' compliance functions

Canal Abierto

- Provides a channel for employees to report unethical conduct and breaches of internal regulation.
- Manages and investigate reported cases.
- Promotes a culture of speaking up and truly listening.

Training and awareness

- Develop employee training programmes and awareness campaigns on corporate defence and compliance.
- Issue messages about ethics to the entire Group and promote relationships built on trust.

Disciplinary proceedings

- Investigate conduct that is inconsistent with our ethics and compliance principles.
- Participate in the assessing of disciplinary measures.

Policies and procedures

- Enforce the GCC with special policies and procedures.
- Report to governing bodies regularly.

Nominations

- Assess the suitability of the Group's nominees to the board and senior management positions*.

Queries about ethics

- Manage queries from employees and members of governing bodies about ethics and internal regulation.
- Provide advice on ethics amid controversy.

Anti-trust

- Manages the compliance programme on competition law.

(*) This is a corporate procedure involving the Regulatory Compliance function, Legal and Internal Governance at HQ.

For more details on Canal Abierto, see section Ethical channels in '3.2 Conduct and ethical behaviour' of the Responsible Banking chapter.

B. Market abuse

The market abuse function's control room team applies the Code of conduct in securities markets (CCSM) to prevent risk from inside information, trading, unlawful disclosures and market manipulation. A project was launched to remodel Group's control room. The project aims to create a global team to help manage conflicts of interest in transactions by the Group's units and ensure robust governance of access to data flows in compliance with regulation. It is a transformative endeavour that involves reviewing policy and procedures and enhancing reporting systems.

Also, during the second half of the year, a new specialist team was built to continue monitoring benchmarks, and treasury shares including buyback programmes of Bank´s shares.

C. Regulatory communications

The regulatory team communications core functions are:

- disclosure of Group's relevant information to the markets. In 2022, the Group issued several releases of inside and other relevant information, which can be found on both our website and the Comisión Nacional del Mercado Valores's (Spain's securities market commission or 'CNMV').
- reporting on transactions with treasury shares or significant holdings of Banco Santander and on transactions and remuneration schemes of board members and senior managers (CNMV and other regulatory bodies where Santander is a publicly traded company).

D. Data processing

In 2022, data processing focused on:

Data protection

A specialist area that enforces the fulfilment of our corporate policy on data protection which sets out guidelines for all subsidiaries, and its special governance model. It is headed by each subsidiary's designated data protection responsible. A comprehensive compliance programme is also enforced to effectively manage data protection risks. The programme is supported by a robust control framework based on periodical KPIs and the subsidiary's annual self-assessment , reported to the GCCO at year-end Data Protection meeting.

In our commitment to constant improvement, action plans were developed throughout 2022 in more than 90 subsidiaries, based on our oversight programme.

Our corporate privacy office is the team of data protection experts advising our business lines.

- It produced some 400 analyses and opinions on subsidiaries' new products and services, strategic proposals made in internal forums, and suitability of vendors and services for data processing.

- It is part of the working teams formed to develop key projects in Grupo Santander's digitalization strategy.

Foreign Account Tax Compliance Act (FATCA) and Common Reporting Standards (CRS)

Corporate oversight of automatic tax disclosure in subsidiaries (pursuant to FATCA and CRS) checked their regular reporting obligations and execution of action plans.

E. SCIB Compliance

Build out of a dedicated SCIB Compliance function commenced in 2020 and is progressively moving to full global coverage of SCIB compliance risks in tandem with SCIB's strategy of becoming one of the top wholesale banks in Europe, while strengthening its leadership position in Latin America and to up-tier its franchise in the US to compete on a level playing field. The function supports local CCOs and Compliance teams based in headquarters and in each of the international branches by providing centralised global compliance oversight and services. Local Compliance teams continue to oversee local compliance and regulatory risks.

During 2022 we continued to:

- develop and reinforce SCIB specific and globally consistent compliance and conduct frameworks and standards within the wider corporate framework, including but not limited to global management of firm and individual conduct risk
- focus on good culture and behaviours to underpin good customer and conduct outcomes
- deliver a global mandatory training program on conduct and regulatory requirements
- enhance globally consistent surveillance and monitoring capabilities
- oversee control frameworks put in place to meet obligations to our international regulators

Product governance and consumer protection

Our product governance and customer protection area promotes that we base our actions on our customers' interests, regulation, our values and our principles

That means promoting a customer-centric culture with a Simple, Personal and Fair approach, through the following pillars:

1 Action and governance principles:

→ Establish the internal guidelines on customer service in the conduct risk management model updated in 2022, which is developed in a robust regulatory framework. These guidelines promote a robust, customer-centric culture throughout the commercialization process and retail customer relations.

→ Run corporate product governance forum to approve new products and services, and escalate customer conduct risk issues. We carry this out through the conduct and customer voice follow-up meetings, and especially to the compliance, risk, responsible banking and board committees.

2 Oversight of key procedures to make sure:

→ our products and services are designed with the right balance of risk, cost and profitability meet customers' needs;

→ we sell to the right target markets and provide transparent information, with proper sales force training and customer-centric remuneration schemes; and

→ our customer and post-sale services strive to be Simple, Personal and Fair, and we carry out a follow-up and root-cause analysis of our customers' voice and product evolution to check for product deterioration and process shortcomings.

3 Risk management by:

→ reporting to senior managers to enable correct decisions on customer strategy, and drawing up and tracking action plans;

→ oversight of the design and use of controls for marketing and customer relations, and reviews of the management and control model in the second line of defence;

→ risk detection and measurement with methodologies that involve customer survey analysis, management indicators follow-up, thematic assessments, first-line self-assessments, regulatory trends, industry practices, supervisor and auditor opinions, learning from internal and external events and other sources.

Product and service governance

We have a two-pronged approach to product approval governance. Each subsidiary has its own approval body to manage risk from marketing products and services and to ensure they meet the needs of their target market, are sold through appropriate channels and processes, and have clear and fair terms and conditions. New products and services are first escalated to the corporate product governance forum (CPGF, which all the Group's support and control areas attend) to be approved.

In addition, the meetings of the fiduciary risk function control that the investment products have an adequate definition of their investment policies and their management is carried out in a robust risk control environment, according to that defined in the Group's fiduciary risk admission, monitoring and control policy.

In 2022, products and services design included the following new features:

Promoting sustainable products and services:

- Investment: Transforming products and designing new ones based on ESG standards to meet our customers' sustainability needs.
- Sustainable development: Initiatives on innovation and sustainable development, promoting responsible consumption (for example, CO_2 emissions offsetting and investment in funds with a social purpose).

Supporting our digital strategy:

- Digital channels: Enhancing coverage, quality and user experience of online products and services.
- Beyond banking: Taking logistics, supplier marketplaces and other digital services a step further than traditional banking through innovation.
- Crypto: Limited launch of investment services related to cryptoassets and implementing new procedures to mitigate risk through new processes and controls.

Key conduct risk lines of action in 2022

	Objectives	Lines of action
Principles and internal rules on customer conduct	Keeping consumer protection principles and the retail customer conduct model up to date.	→ Approved a new corporate customer conduct risk model that builds on the outdated commercialization and consumer protection framework.
Awareness and accountability of the first line of defence	Raising awareness of conduct risk management and prevention and management in business and support areas.	→ Training for our first and second line defence local teams on conduct risk, and revision of mandatory employee conduct training for 2023 to all our employees throughout the Group. → First-line teams' remuneration linked to conduct and quality with customers. We paid special attention to remote customer service and sales teams given the growing importance of digital channels. → Medium-term project to design and implement with a rating scheme that will increase conduct risk management integration in employees' work.

Sustainable products and services	Supporting projects relating to the Group's transition towards a more sustainable economy in cooperation with other risk and compliance functions, and Responsible Banking areas.	→ Transparent information on the investment products and services we offer to retail customers. → ESG risks embedded in our management through measurement tools and methodologies that enable us to categorize products correctly, measure ESG risk and meet our customers' sustainability preferences.
Vulnerable customers and special cases	Treating vulnerable customers fairly and appropriately, and making sure we consider their circumstances as part of our services.	→ Global vulnerable customer strategy, with implementation of action plans for units. → Monthly monitoring of collection and recovery indicators. → Special monitoring of practices related to customers with disabilities, elderly customers and customers affected by the rising cost of living.
Artificial intelligence in conduct	Researching big data and machine learning analysis techniques on customer voice data and business indicators.	→ Developing a root-cause analysis methodology for customer complaints. → Analysing consumer protection indicators, correlations and impacts through customer surveys and business scorecards.
Enhancing conduct risk control	Reviewing the control environment in the customer conduct first and second line of defence.	→ Self-assessments to raise awareness of the importance of conduct risk. → Stronger supervision and control in the second line of defence to promote a risk-based approach.

Financial Crime Compliance (FCC)

Financial crime risk is the risk arising from actions or the use of the Group's means, products and services in criminal or illegal activities. Such activity includes money laundering, terrorist financing, violation of international sanctions, corruption, bribery and tax evasion.

Financial crimes are universal, globalised phenomena that take advantage of the international economy, and thus their detection, deterrence and disruption call for a coordinated global response by the international community and the financial sector. Compliance with financial crime regulation at Santander goes beyond the Group's legal and regulatory obligations. Our commitment to partnering with law enforcement and competent authorities to disrupt threat finance networks is key to supporting the societies in which the Group operates, including implementing international sanctions programmes aimed at defending human rights and civil liberties, and deterring corruption and armed conflict. We are fully committed to the fight against financial crime, seek to continuous improvement in our control framework, and do not tolerate compliance failures with financial crime regulations both internationally and in the countries in which we operate.

Over 2022, we have been a strong advocate for peace in Ukraine and have embraced our role in enforcing sanctions compliance related to the war across the Group's global footprint. Our FCC function continues to identify and develop new approaches, both internally and via public-private partnership, on responding to existing and emerging threats, including through FCC Strategic Transformation Programme. In parallel, we ensure that financial crime compliance is an enabler, not a barrier, to the Group's responsible banking strategies, particularly on areas like financial inclusion.

Our business functions maintain the primary responsibility for managing financial crime risk and to support and promote the organisation's risk culture. The FCC function in turn is responsible for monitoring and overseeing financial crime risks and for ensuring adequate policies and procedures have been implemented to manage effectively the business within the Group's established risk appetite.

Since the end of 2019, the FCC Strategic Transformation Programme has been underway to strengthen the Group's control framework and operating model, embed a sustainable and dynamic approach to customer due diligence, and implement next generation technological platforms on transaction monitoring and sanctions screening.

Key achievements over 2022 include:

- A return to in-person supervision and monitoring of local Santander subsidiaries by the Group Oversight team within the FCC function, with tangible progress on improving control environment effectiveness;
- Reinforcing, via the Group's operating model, the risk ownership and accountability of the business in the activities they undertake;
- Issuing a fully revised, Group-wide anti-bribery and corruption policy (ABC) to embrace the expanded ABC programme approved by the Board of Directors in 2021;
- Progressing on the FCC target operating model, including, when permitted, responsible hubbing of FCC-related activities in newly established operational centres of excellence;

- Advancing significantly on the full implementation of the strategic platform for transaction monitoring for Santander entities providing correspondent banking services, and piloting the platform on retail banking activity;

- Moving into production in various jurisdictions with the Group's strategic platform for sanctions screening, with results indicating strong advancement on screening effectiveness; and

- Kicking-off pilot activity in select Santander entities on a digital, dynamic strategy for enhancing customer onboarding and on-going due diligence.

Our Board of Directors and senior management continue to see and reinforce the importance of the FCC Strategic Transformation Programme, in response to the control framework challenges that have occurred in the past while preparing the bank's functional and technical control framework for the future.

In 2022, we continued to grow to build capacity and capability across FCC staff. Monthly in-person, face-to-face all-hands and smaller working group specialised training sessions were implemented, bringing in external guests from law enforcement, regional and international governmental organisations, and key stakeholders from civil society to cover topics ranging from complex terrorist finance investigations, tax evasion and other tax crimes, fraud, corruption, internal governance, regulatory change, and country perspectives on specific financial crime typologies. We have also continued with the mandatory annual training on FCC matters for all Group employees in order to raise awareness in this topic.

While sanctions compliance has been a pillar of the Group's FCC programme for several years for deterring armed conflict, the financial sector's role in supporting national and supra-national diplomacy has been a clear focus of 2022 and a priority for Santander. The financial sector's role in supporting national and supra-national diplomacy has been a clear focus of 2022 and a priority for us. Sanctions programmes such as the Global Magnitsky Sanctions, aimed at fighting human rights abuses and corruption, are applied Group wide, and with the advent of the war in Ukraine, additional resources were diverted to the sanctions team to ensure the Group would be prepared to navigate the evolving, multi-jurisdictional sanctions programmes and fulfil our commitment, as a multinational financial institution, in supporting a resolution to the crisis.

During the war in Ukraine, we maintained our objectives not only to enforce sanctions compliance across the Group's international operations and respond rapidly to escalations from Santander offices, but also ensure that global food and energy supply chains continue to function, particularly given Santander's unique role in supporting European and Latin American trade corridors.

Besides complying with sanctions in all of the Group's international operations and providing the necessary support to the subsidiaries, internal guidance was issued and enacted over 2022 in the European Santander offices and branches to ensure that Ukrainian refugees would be able to access financial products safely and swiftly. Contact between the FCC function and relevant competent authorities was constant over the year to ensure an aligned, coordinated strategy between the public and private sectors.

We continued to place important emphasis on ensuring the Group is prepared to respond to a rapidly evolving digital landscape, particularly as it regards payment methods and remote onboarding. Leadership within the FCC function plays an important role in chairing industry forums and working groups, including through the Wolfsberg Group (of which Santander is a founding member), on reinforcing payment transparency – as it is vital to safeguard the integrity of the payment industry and to ensure effective financial crime detection – and on defining a robust control framework for onboarding customers via digital, non-face-to-face engagement.

We also led work on 'mule' accounts – closely associated with fraud and cyber-dependent and enabled crime – within Europol's Financial Intelligence Public Private Partnership.

In 2022, we continued with our flagship FCC Summit, bringing together all Santander FCC heads to hear from senior management within the bank on the importance of financial crime compliance, and to engage with internal and external stakeholders on confronting the challenges faced in disrupting threat finance networks.

The Summit included a series of sessions, including the following:

- Session led by Sepblac, the Spanish Financial Intelligence Unit, in providing feedback on the quality of suspicious activity reporting

- Session led by the EBA on the importance of AML/CFT governance

- Arrangements, interventions from Europol on environmental crime

- United Nation's FAST Initiative on finance against slavery and trafficking and the importance of financial inclusion

- Wolfsberg Secretariat and Basel Institute on payment transparency

- Regional subject matter experts on areas like drug trafficking and on emerging threats, such as online child abuse.

The relationships formed at the Summit helped prepare the FCC function to complete, by the end of 2022 a full, group-wide threat assessment of the priority crimes that face the bank globally.

Santander FCC leadership also continues to serve as chair of the United Nations Office on Drugs and Crime's Private Sector Dialogue on the Financial Disruption of Forestry Crime, highlighted at COP27 in Sharm al Sheikh by the Executive Director of the UNODC for bringing together top financial institutions with financial intelligence units and law enforcement around the world to combat illegal deforestation. The FCC function also continues to be an active member of the United for Wildlife Financial Taskforce, aimed at disrupting illegal wildlife trafficking networks.

Highlights over 2022 in key activities include:

- The return of in-country subsidiary reviews (post-COVID), conducted directly by the Group FCC Function, covering countries across 3 continents
- 237,505 disclosures to authorities (+58% vs. 2021)
- 371,296 investigations conducted
- 165,185 employees trained
- 8 specialised training sessions for experienced FCC staff

Reputational risk

We define reputational risk as risk of a current or potential negative economic impact due to damage to the perception of the bank on the part of employees, customers, shareholders and investors, and the wider community. Reputational risk may arise from various sources, including other risks, business and support operations, the social and political environment, and events concerning our competitors.

Our reputational risk model takes a preventive management and control approach, with effective processes for of early warnings, identification, management and monitoring of risk events. This requires regular revision of the Group’s risk appetite and processes to promote forward-looking management and prevention.

2022 highlights:

We continued to enhance management and control, updating guidelines for certain areas. In particular, we:

- Revised reputational risk analysis procedures as well as policy on financing, defence and other sensitive sectors
- Prepared new guidelines on measuring reputational risk with transactions, customers and contributions to social causes;.
- Developed tools to manage risk events and transactions and customers prone to reputational risk;
- Reviewed reputational impact and developed prevention and mitigation measures and best practices on for branch and workforce restructuring in Europe;
- Reviewed the methodology for identifying, assessing, escalating and reporting reputational risks and events
- Engaged in the ECB's climate stress testing and thematic review of climate and environmental risks;
- Helped prepare corporate guidelines on handling invitations to sponsor sporting organizations and events;
- Developed special training and e-learning on reputational risk policy, and reviewed the board's training; ran corporate initiatives for all employees, such as Santander Business Insights and others within Risk Pro training;
- Ran initiatives to share best practices with subsidiaries' risky-level areas with a new collaborative tool and 'Best Practice' workshops;
- Revised risks and mitigation plans in the corporation and in subsidiaries as part of the global reputational risk assessment;
- Developed the reputational risk tool that measures stakeholders’ perception of Santander and the financial sector;
- Enhanced management consolidation and reporting based on a forward-looking risk approach in the corporation and in subsidiaries; and
- Strengthened subsidiary oversight in terms of governance, challenge and updating oversight guidelines;
- Reformed a detailed reputational risk assessment of the war in Ukraine and identified several mitigation actions that were implemented Group wide (such as specific criteria for donations, specific communications to employees and customer engagement, etc.).

8. Model risk

8.1 Introduction

A model is a system, approach or method that makes quantitative estimates based on statistical, economic, financial and mathematical theories, techniques and assumptions about data.

Santander uses models for scoring and rating and for measuring capital, behaviour trends, provisions, and market, operational, compliance and liquidity risk.

Models that are poorly developed or misused in decision-making can have bad consequences, including financial loss, poor decision-making and strategy, and harm to the Group's operations.

Model risk stems from:

- incorrect or incomplete data in the model itself or the modelling method used in systems;
- incorrect use or implementation of the model.

8.2 Model risk management

We have been measuring, managing and controlling model risk for years. Our model risk function covers the corporation and our core subsidiaries.

Our internal regulation sets out principles, obligations and procedures for organizing, approving, managing and governing models throughout their life cycle.

We manage model risk according to each model's importance. We synthesize the importance of non-regulatory models through tiering. Regulatory models, which are particularly important to Grupo Santander, are subjected to more intense monitoring and management.

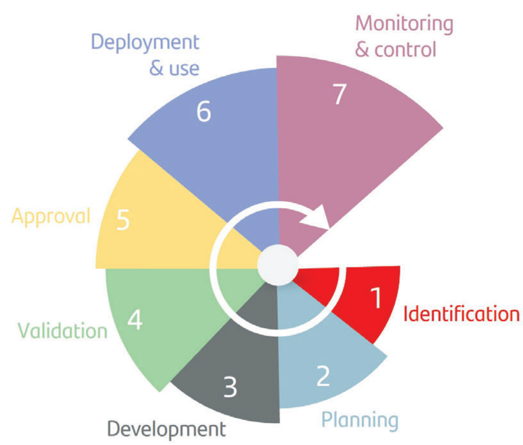
In 2022 we launched MRM Next, a multi-year strategic plan to promote model risk culture and place Santander at the forefront in the banking industry. MRM Next replaces the regulatory Model Risk Management 2.0 (MRM 2.0) plan, which ended successfully in 2021, ensuring compliance with the regulatory standards (ECB's Guide to internal models, 2018).

The MRM Next strategy, coordinated and combined with the global models & data unit, is based on advanced model risk management, as well as extensive knowledge and forward-looking of the behaviour of our portfolios, optimizing the efforts with the support of digitalized processes and specializes staff.

More detail see section 2.5 'Models & Data Unit' of this chapter.

We are fully committed to enhancing our regulatory models, Internal Rating Based Approach (IRB) e Internal Model Approach (IMA), to comply with Basel Committee's requirements. Our main priority for the year ahead will be to focus on the implementation of the EBA Repair Programme. We have submitted several model changes to the ECB during 2021 and 2022 that will require formal approval, prior to implementation. This approval will follow a thorough review process by the ECB that will require full input from Model Risk function.

Model risk management and monitoring are structured into what's known as the 'model life cycle'. They consist of these phases:



1. Identification

Model risk monitoring must include identified models. For sound management, a complete inventory of models in use is key.

Our centralized inventory system is a single platform with uniform taxonomy and detailed descriptions of all the models that business units use. It enables us to monitor them closely by level of importance and tier.

2. Planning

An internal annual exercise approved by our subsidiaries' governance bodies and ratified by the global team, which formulates strategic measures for models managed by the Model risk area and pinpoints needs for any models to be created, revised or implemented during the year.

3. Development

This is the model development phase. The models & data unit, both at corporate and local level, is responsible for the development of the models according to the needs of each subsidiary. Development by a specialized team guarantees a higher, more efficient and centralised execution, while taking advantage of the synergies resulting from the combination of models and data. In addition, we have common Group methodological standards that promotes the quality of the models.

4. Internal validation

Independent model validation is a regulatory requirement and key feature of our model risk management and control.

A specialist unit that is totally independent from developers and users issues technical assessments of internal model suitability. Each model is validated with a rating that summarizes the model risk associated to it. Validation intensity and frequency are well-defined and risk-driven.

Validation covers theory, methodology, technological systems and data quality to ensure effectiveness. It also involves detailed analysis of model performance as well as controls, reporting, uses, senior management involvement and other components of risk management.

Our model risk management is robust and consistent across our footprint. We have a single model inventory, a model risk team in 13 markets with a common way of working and the same internal policies, and a unique validation approach led by the Single Validation Office, which supports the second line of defence.

5. Approval

Before we can use a model, internal governing bodies must approve it through a governance circuit in place for our model inventory, based on its level of importance.

6. Deployment and use

In this phase, we add new models to our systems. Because this is another source of model risk, technical teams and model managers test proper model integration based on methodology and expectations.

7. Monitoring and control

We regularly review models to ensure that they function correctly or, otherwise, adapt and redesign them. Monitoring teams must make sure models are managed according to the general model risk framework and other internal rules.

8.3 Model key metrics

Group and subsidiary risk appetite uses thresholds based on models' average rating and the monitoring of changes in ratings distribution.

Model risk appetite metrics focus on the quality of models according to internal validation scores. Appetite varies based on models' importance. For instance, regulatory models are more demanding.

We monitor metrics monthly and have action plans to keep to set levels. We also monitor recommendations from the Internal validation team and include impact on metrics in our planning to keep model quality consistent with the appetite roadmap.

9. Strategic risk

9.1 Introduction

Strategic risk is the threat of loss due to poor strategic decisions or deficient strategy implementation, which can affect our core stakeholders' medium-to-long-term interests; or due to an inability to adapt to a changing environment.

Because Grupo Santander's business model is pivotal to strategic risk, it has to be viable and sustainable and produce results that are consistent with the board's annual targets (particularly for the next three years) and with the Group's long-term outlook.

Strategic risk has three components:

1 **Business model risk,** which includes the possibility that the Group's model will become outdated or irrelevant; or lose value to produce desired results.

2 **Strategy design risk,** which relates to the strategy and assumptions set out in the Grupo's long-term plan (including the risk that the plan will not be up to par), which could result in a failure to deliver expected results.

3 **Strategy execution risk,** which involves the three-year financial plan, internal and external impacts, the inability to react to changes in the business environment, and risks associated with corporate development transactions.

9.2 Strategic risk management

Santander views strategic risk as cross-sectional. Subsidiaries refer to our operating model that covers governance, procedures and necessary tools for robust monitoring and control within board-approved risk appetite.

We constantly monitor changes in competition, regulation, market conditions and our organization to determine if we need to revise strategy and verify mitigating factors and resolution plans. The Strategic Risk area engages key first- and second-line teams to make sure measures are primed to implement immediately.

In 2022, our strategic risk management focused on the macroeconomic uncertainty in view of the war in Ukraine, inflationary pressure, monetary policy, and our strategic objectives and transformation initiatives. While our long-term strategy remains valid, success depends increasingly on our customer focus (i.e. 'Customer first'). Boosting our revenue, profitability and value hinge on increasing customer numbers, loyalty and satisfaction.

Our strategic risk model is based on:

- Challenging strategic plans: With the support of other specialized areas within the Risk division, the Strategic Risk area challenges the three-year financial plan and long-term strategic plan, including a specific chapter in both that identifies potential threats and changes in the environment that could undermine strategic objectives. In 2022, we closely monitored One Transformation and other key initiatives that underpin our strategic digitalization and common operating model.
- Top risks: Under stressed scenarios, Santander proactively identifies, measures, monitors and manages risks that could have a significant impact on profitability, liquidity and solvency. (For more details on top risks, see section 1.3 'Santander Top and emerging risks' of this chapter.)
- Business model analysing: To identify and measure major threats to our business plan and strategic objectives in four areas:
  - Strategy execution: Measurement of the risk of deviation from plans, targets, and strategic and transformation initiatives.
  - Viability and sustainability: Measurement of the risk that the business model will fail to create shareholder value. We also compare our position against competitors.
  - Business plan volatility: Measurement of the risk that our planning will be unstable and profits will not be recurrent in the long term.
  - Likelihood of meeting strategic objectives: Risk of failing to achieve the strategic objectives in the three-year financial plan, based on potential losses under stressed scenarios.
- The Strategic Risk and Strategy areas prepare the Strategic risk report to review and challenge strategy and associated risk. Presented regularly to senior management, it includes an update on strategy execution, top risks, business model performance, corporate development transactions, product marketing and strategic projects.
- Commercialization of new products: Assessing and validating new product and service proposals before Santander launches them, ensuring they are consistent with the strategy.
- Corporate development transactions: Ensuring risk assessments of these transactions' impact on our risk profile and risk appetite.
- Monitoring strategic projects: The Strategic Risk area works with area heads on drawing up and monitoring strategic projects that fall within its domain. Twice a year, it reviews performance, targets, indicators and potential risks, which is key to assessing strategic risk. The 2LoD independently challenges the area's status reviews and project performance. This is included in the Strategic risk report.

Our subsidiaries made significant headway in developing strategic risk control in 2022, and we strengthened our monitoring of strategic projects and top risks, business model performance reviews and other key components of strategic risk. We also optimized reporting to senior management on strategic risk.

10. Climate and environmental risk

10.1 Introduction

Climate-related and environmental risk management is key to fulfilling our objectives and the commitments in our climate strategy sustainably.

Climate change and environmental factors could affect existing risks in different time horizons. These factors include those derived from the physical effects of climate change generated by acute events or chronic changes in the environment, as well as those stemming from the transition to a low-carbon economy that includes changes in legislation, technology or market trends. Grupo Santander assesses how both transition and physical risks can affect the economy, our customers and our business (the table below shows the potential impacts arising from climate matters).

In this regard, Grupo Santander takes aiding customers' transition to a low-carbon economy seriously, and offers financial products and services for environmentally and socially responsible businesses.

For more details, see the 'Responsible Banking' chapter.

In 2022, regulators and supervisors were keen for banks to continue embedding ESG factors (especially Environmental) into key risk management processes. As part of the regulatory exercises, in 2022 Grupo Santander also took part in the ECB's climate risk stress test, Pillar III ESG disclosure and Thematic Review on climate and environmental risks.

Regarding the Thematic Review, Grupo Santander assessed its alignment with the ECB's November 2020 Guide on climate-related and environmental risks for banks and submitted its action plans and implementation timelines according to the regulatory and supervisory framework.

In addition, during 2022 Grupo Santander has temporarily increased its overall exposure to the energy sector (oil and gas) due to the liquidity needs arising from the volatility of energy commodities prices; exchange rates; and the energy crisis. However, our long-term climate ambition remains and a significant part of our lending exposure has a short-term maturity.

Climate risk type	Climate drivers		Most affected time horizon
Transition risk	Market and customers	→ Growing consumer demand for more sustainable products → Potential loss of competitive advantage due to our green product proposition → Rising market volatility and costs, restrictions on sourcing carbon-heavy raw materials	Short/midterm
	Policymaking	→ Stricter policy environment that affects our customer's business operations → Rising greenhouse gas (GHG) emissions pricing to foster transition to renewable sources	Short-mid-long term
	Technology and data	→ Investment in technology to reduce emissions or improve energy efficiency ratings → Lack of procedures and systems to obtain and store reliable data for risk assessments and disclosure	Midterm
	Regulatory pressure	→ New public disclosures that raise risk of misrepresentation; more regulatory requirements that increase the risk of non-compliance; and more reliance on external analysts, which increases the potential of a data privacy breach. This could lead to fines, compensation for damages and voided contracts → Stricter banking regulation (disclosure, stress testing, taxonomies, etc.) → Inefficiencies as consequence of different climate regulations, especially for international banks	Short/midterm
	Reputational	→ Risk of disregard or a slow or inadequate response from banks, which could tarnish their reputation; harmful extreme events that could cast doubt over banks' ability to restore service quickly and provide care to customers in difficult situations if planned responses fail → More scrutiny from supervisors, regulators, the media, NGO's, shareholders, investors and other stakeholders towards commitments, performance, and regulatory compliance of financial entities → Perception that banks are failing to meet, make progress with, or be transparent reporting on climate-related commitments and transition → Liability as an intermediary in data, products, financial services and other value chains → Reputational damage if certain portfolios do not reach emissions reduction targets	Short-mid-long term
Physical risk	Acute	→ More frequent and severe climate events such as flooding, drought and other climate phenomena that could depreciate financed assets and collateral	Short-mid-long term
	Chronic	→ Alterations in weather and ecosystems affecting food production, living environment and population health. → Rising temperatures affecting working and living conditions and local infrastructure → Rising sea levels affecting local ecosystems, increasing subsidence and flood risks	Long term

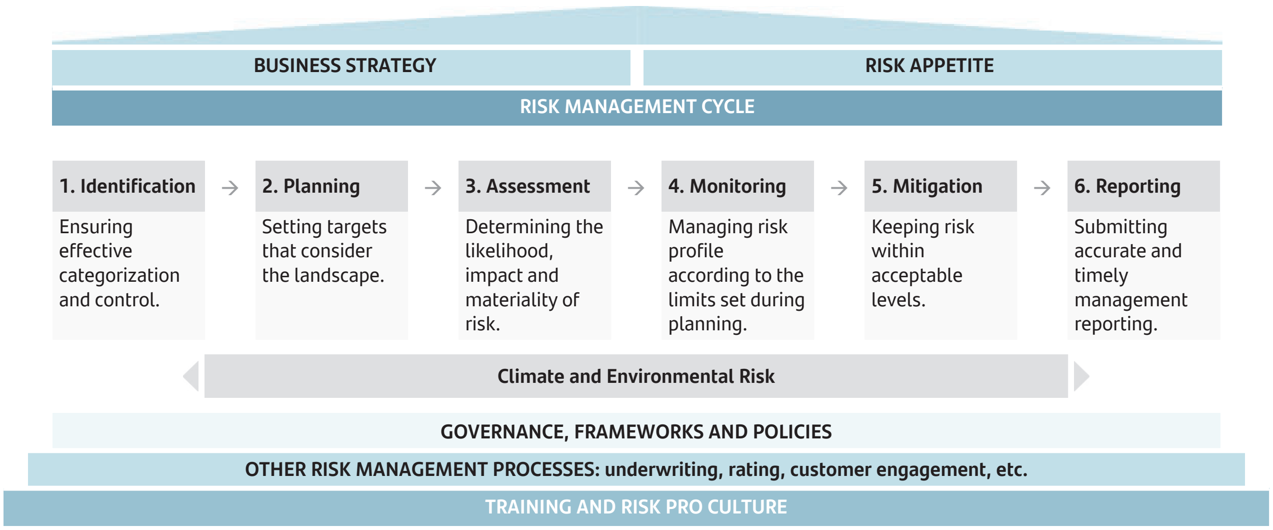
Climate-related time horizons have been aligned with our main strategic processes. Hence, we define short term as 1 year; medium term as 3 years; long term as 5 years; and longer term as beyond 5 years.
It should be noted that above we depict the most affected time horizons, albeit this does not imply that others may be affected to a lesser extent.

10.2 Climate-related and environmental risk management

We continue to embed climate and environmental risk in our risk management model according to regulation and growing supervisory demands.

The risk and compliance & conduct function is working to measure, manage and reduce the potential impact of climate change on our loan book. In addition, it participates along with other areas in the design of the decarbonization roadmap for investment and financing portfolios, as well as in the assessment of the risks arising from its implementation.

The chart below explains how our risk management cycle accounts for climate change and environmental risk.



Each stage of the risk management cycle is described in detail below.

1. Identification

The main risk identification process within Grupo Santander is the top and emerging risk identification.

For more details, see section 1.3 'Santander's top risks & emerging risks'

In identifying emerging and top risks, we measure internal and external threats to profitability, capital adequacy and strategy. Since 2018, our process has included a climate subcategory. More recently, it includes biodiversity loss. Risk analysis covers qualitative and quantitative factors and informs our internal capital and liquidity adequacy assessment processes (ICAAP and ILAAP).

Biodiversity

There has been a general rise in interest in environmental matters other than climate change in recent years. Some examples are the new frameworks on Nature and Biodiversity, and initiatives such as the Taskforce on Nature-related Financial Disclosures (TNFD) and the Kunming-Montreal Global Biodiversity Framework (GBF) passed at the UN Biodiversity Conference (COP15) Supervisors and other stakeholders are working harder to understand and assess banks' environmental practices. In addition to the measures and initiatives explained in other sections of this report, the Group is assessing the materiality of natural aspects in terms of impact and dependence for the most relevant portfolios. It's a key step in our assessment and management of environmental risk and opportunity.

Moreover, a specific questionnaire related to climate risk was implemented in 2021 as part of the risk profile assessment process, which Grupo Santander regularly conducts to cover all risk types and reveals any threat to its business plan.

During 2022, we evolved the questionnaire related to climate risk taking into account the latest regulatory and management developments, as well as industry best practices. We seek to assess the progress made by the Corporate Center and subsidiaries to integrate climate risk into management. It helped us identify gaps and areas for improvement.

2. Planning

We have included our decarbonization targets in strategic planning as part of our public sustainability commitments. We run these exercises with separate time horizons:

Budget | Financial plan | Strategic plan | Ad hoc analysis

Short term (1 year)

Medium term (3 years)

Long term (5 years)

Long term (≥ 5 years)

These exercises enable the risk function to identify threats to our targets and support the transition to a low-carbon economy according to our policies and risk appetite.

3. Assessment

Santander runs a quarterly materiality assessment to determine climate- and environmentally-material credit risk portfolios. It proves fundamental for decision-making and defining our strategic priorities on selected industries, customers and regions. It covers climate and environmental risk in the Group's markets over different time horizons. Therefore, we can address them in risk appetite, top risk identification, credit analysis, stress testing and other management processes.

Our risk taxonomy, qualitative and quantitative heatmaps and scenario analyses, determine how we categorize portfolios by industry, region, time horizon regarding their exposure to physical or transition risk. Santander's materiality assessment follows the guidelines of the Task Force on Climate-related Financial Disclosures (TCFD) and the United Nations Environmental Programme Finance Initiative (UNEP-FI) to understand industry and regional trends.

Our taxonomy of industries and sub-industries is based on the EU's NACE codes (statistical classification of economic activities in the European Community), we consistently compile exposure data that serve as a starting point, along with a five-tier heatmap for physical and transition-based risks, to measure highly material climate change risks. The next table shows the 5 levels classified by colours, from low to very high risk.

Our 2022 materiality assessment covered climate risk c.a.80% of our balance sheet items. We expanded its scope to cover most portfolio segments and other business such as SCF Auto (Santander Consumer Finance Auto).

The graph below shows the Group's last materiality assessment at the end of Q3 2022.

Materiality assessment - Climate risk analysis and heat mapping of portfolios

September 2022- Billion EUR

	TR	PR	SCIB	Other segments
Power (conventional)			27	2
of which power generation clients with > 10% of revenues coming from coal			4	0
Power (renewables)			11	0
Oil & Gas			25	1
Mining y metals			15	8
of which clients with thermal coal mining			3	0
Transport			30	105
Real Estate			8	398
Agriculture			3	8
Construction			18	14
Manufacturing			50	29
Water supply			3	1
Climate sectors			**190**	**566**
Other sectors			55	224
Total portfolio			**245**	**790**

Low | Moderately low | Medium | High | Very High

TR: transition risk; PR: physical risk.
SCIB: REC (on and off-balance sheet lending + guarantees + derivatives PFE: Potential Future Exposure),
Other segments: drawn amount.
Other sectors: SCIB and Corporate NACE outside of risk taxonomy perimeter // Individuals and SCF: cards and other consumer.
Other segments include Individuals, SCF, Corporates and Institutions and, since 2022, some SMEs.
0 exposure amounts to exposures below EUR 500 mn.

Throughout 2022, we updated our materiality assessment to reflect the latest industry developments, along with regulatory requirements. In this sense, we have made progress in updating the risk taxonomy, extending the scope as well as in the analysis of impact through more granular heatmaps, incorporating scenario analysis techniques.

In addition, the scope of the assessment has been broadened, incorporating other segments such as SMEs. For this reason, in general, the volume of information is greater, particularly impacting the increase in sectors of lesser concern, such as Manufacturing, Transportation and Real Estate. The current macroeconomic context of war in Ukraine and the energy crisis, has affected, albeit to a lesser extent, the increase in the volume of sectors such as Oil & Gas and Mining & Metal, with no significant effect on the final distribution by sector of the Group's portfolio.

To strengthen materiality assessment, we updated Klima, an in house tool to spot, qualify, quantify and manage climate and environmental risk. The common standards it applies help manage physical and transition risks. It includes our risk taxonomy and heatmaps to assess short-, mid- and long-term exposure and draws on the same calculation methodology for all business lines.

Its modules include 'Materiality Assessment', 'Scenarios', 'Risk Management' and 'Sensitivities' in a multi-stage implementation model. The exposure data it provides on each business line is qualitative and quantitative, by sector and geography, with advanced analysis models to project impacts in different horizons and scenarios.

4. Monitoring

Santander uses risk appetite and scenario analyses to monitor climate and environmental risk.

Risk appetite sets the volume and type of risks we deem prudent for our business strategy. In 2019, the board approved a qualitative risk appetite statement that links climate risk management to our sector-based policies.

We announced our first decarbonization commitments for the thermal coal sector in February 2021 in line with our ambition to be net zero by 2050. Accordingly, by 2030 we will end financial services to electricity generating customers if 10% of their revenues rely on thermal coal, and we will eliminate our exposure to thermal coal mining worldwide.

We supported our qualitative risk appetite statement with a quantitative metric the board had approved in November 2021. The metric imposes limits on thermal coal counterparties concerning our commitments, and sets a pathway that is consistent with our objectives for 2030. We are in permanent contact with affected customers to understand and support their transition planning.

Santander continues to set alignment targets for key climate-related industries to meet its commitments. In 2022, the Risk, SCIB and Responsible Banking areas launched initiatives to achieve the Group's decarbonization target for power generation, which will be included in risk appetite. In this regard, we announced our first decarbonization target for power generation (0.11 tCO_2e/MWh by 2030) as part of the NZBA (Net-Zero Banking Alliance) in our Climate finance report.

We are gradually defining metrics and limits for agriculture, aluminium, cement, commercial and residential real estate, iron and steel, oil and gas, transport and other material sectors in risk appetite, with a view to having them fully adopted in the coming years. This chart shows the Group's progress as well as targets for next years.

- **A — 2019**: *Qualitative climate risk appetite statement*
- **B — Q4 2020**: *Risk appetite update to align with the Paris Agreement*
- **C — Q1 2021**: Initial decarbonization targets (thermal coal)
- **D — Q4 2021**: Approved the first quantitative risk appetite metric (thermal coal)
- **E — Q1 2022**: New proposal of decarbonization targets (power generation)
- **F — Q4 2022**: Approved the second quantitative risk appetite metric (power generation)
- **G — Next Years**: Inclusion of oil and gas, transport and other key sectors

Scenario analyses are useful to monitor the Group's climate and environmental risk as well as regulatory and supervisory stress tests. We use scenarios determined by the NGFS (Network for Greening the Financial System), the ECB (as part of its stress test) and others designed by our Research department to analyse the impact on climate under adverse circumstances.

In 2022, the ECB tightened its supervision with a thematic review, stress testing and on-site inspections. Overall, these exercises have been completed satisfactorily, and action plans were implemented to cover the improvement points detected. We expect the regulatory and supervisory agenda to continue to get increased.

In the first half of 2022, Grupo Santander underwent the ECB's climate stress test for the banking sector. It comprised several modules; a qualitative questionnaire, revenue and emissions metrics, scenarios and time horizons. It was a big step to integrate advanced risk management models that cover portfolio forecasts under different scenarios and time horizons.

Moreover, it served as a learning exercise for banks to introduce climate risk into risk management as a qualitative part of the Supervisory Review and Evaluation Process (SREP).

The following table breaks down each module:

1 QUALITATIVE QUESTIONNAIRE

11 sections (78 questions):

1. Existence and use of ST exercises
2. Governance and inclusion in risk appetite
3. Integration into strategy
4. Methodology used
5. Scenarios
6. Data and sources of information
7. Inclusion on the ICAAP
8. Future development plan
9. Role of Internal Audit
10. EU subsidiaries of non-EU institutions
11. Methodological assumptions and choices

2 CLIMATE RISK METRICS

Non-financial corporates

22 sectors (NACE[1] code level 2)

2 metrics:

1) Income from GHG[2] intensive sectors

2) Financed GHG emissions (scopes 1, 2, 3)
Top 15 companies per sector

Additional documentation:
- Actions previously carried out by the bank
- Methodological approach

3 BOTTOM-UP STRESS TEST PROJECTIONS

It covers credit, market, operational and reputational risk.

Transition risk:

EU/Non-EU

2 time horizons

3y: static balance sheet (BS)

30y: dynamic BS (2030, 2040, 2050)

Physical risk:

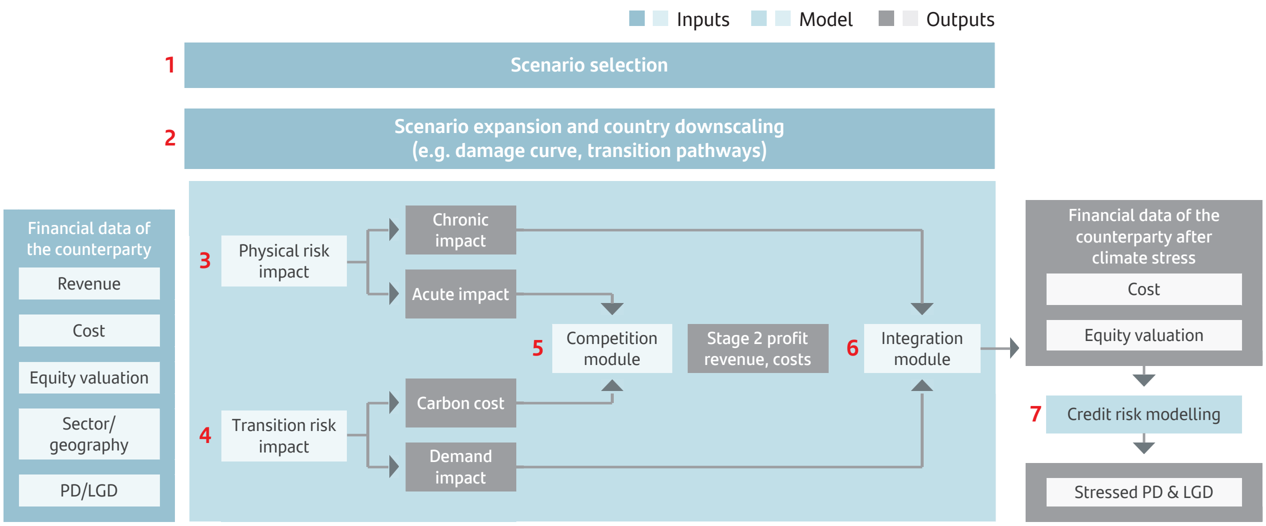
EU, 1y time horizon

2 hazards: drought & heat + flood

Operational and **Reputational Risks** based on qualitative assessment (no projections)

1. NACE: Statistical classification of economic activities in the European Community.
2. GHG: Green House Gas.

Santander used internal models, the Planetrics platform and vendors' databases to quantify the financial impact of physical and transition risk for each counterparty. The platform has seven modules (see chart below), based on the United Nations Environmental Programme Finance Initiative's (UNEP FI) methodology and other sources of information. The exercises we conduct entail both a bottom-up analysis of the customer and a top-down analysis of portfolios by industry and geography. We embedded scenario analysis methodology in our credit risk management using Klima's 'Sensitivities' and 'Materiality Assessment' modules to obtain a forward-looking overview of the portfolios that include sector forecasts and quantitative heatmaps.



PD: Probability of default. LGD: Loss given default.

The ECB published its aggregated results in the second half of 2022. Coupled with our own analysis, it has helped us enhance our internal climate risk stress testing. We also used it in our 2022 ICAAP.

In addition, Santander UK took part in the Bank of England's Climate Biennial Exploratory Scenario (CBES). In 2022, it began the Climate Internal Scenario Analysis (CISA) programme to create new climate risk scenarios and conduct quantitative stress tests.

5. Mitigation

In mitigation, we updated our environmental, social and climate change (ESCC) policy, which sets out our public commitments and aims to support our strategy for sensitive, special-attention and prohibited industries. The ESCC policy sets out Santander's standards for identifying, measuring, monitoring and managing environmental and social risk, especially in oil and gas, power generation, mining and metals and soft commodities. It is consistent with our policies on responsible banking and sustainability.

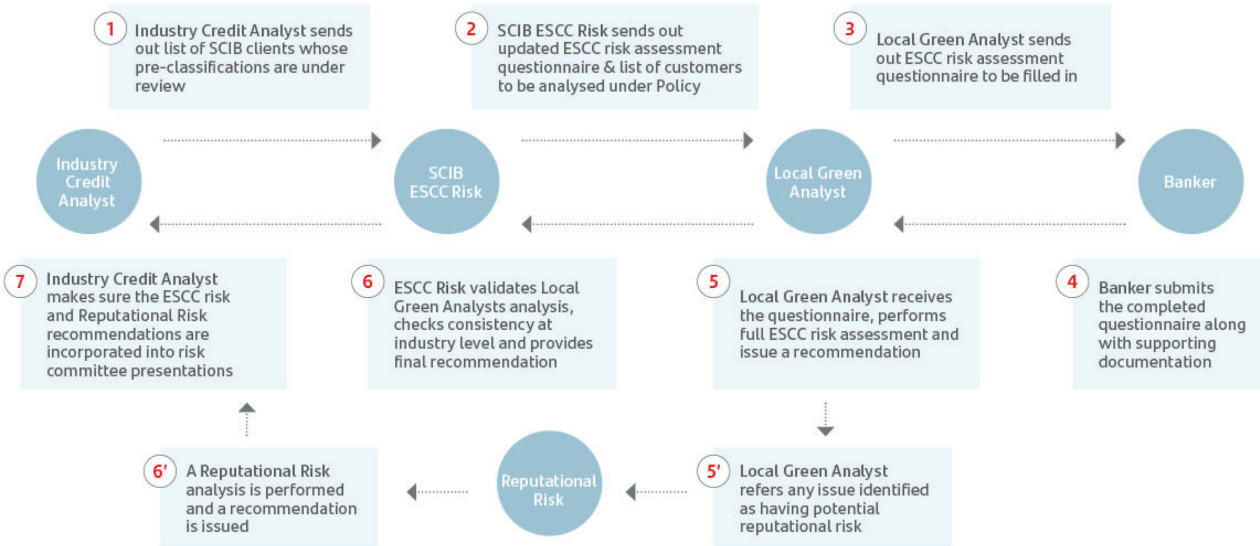
We follow special procedures to analyse environmental, social and climate change risk as a required part of risk management, control and governance. Sanctioning bodies make sure decisions consider environmental, social and climate change risks and policy.

Our internal taxonomy also qualifies as a mitigating instrument since it helps us inform our customers of the need for credible plans to ensure an orderly transition to a low-carbon economy. The sustainable finance classification system (SFCS) is our internal guide to identify sustainable activities and ensures a blanket approach to monitoring operations, supporting the development of solutions for customers and mitigating the risk of greenwashing.

Furthermore, the first line of defence runs due diligence with several special questionnaires to grant credit. If the process reveals a reputational issue, it will be escalated to the Reputational risk function for providing an opinion. SCIB's project finance transactions must be checked against the Equator Principles.

This table summarizes SCIB's risk analysis:

SCIB's ESCC Risk analysis workflow



For more details on the Equator Principles, see '3.2 Conduct and ethical behaviour' in the Responsible Banking chapter.

In 2022, we continued to embed climate and environmental factors in credit approval through credit committees to inquire about ESCC factors along with customer ratings in SCIB (spreading scope to Corporates).

The Credit risk area is launching a target operating model (TOM) called 'The Climate Race', which includes environmental and climate risk in all stages of the credit granting process. Thus, encompass climate and environmental risk throughout the entire credit granting process, so that both our strategic priorities and regulatory requirements are homogeneously embedded in the admission processes of the Group, based on the materiality of portfolios, sectors, green business initiatives, and related deadlines in 2023 and 2024.

Additionally, a corporate multidisciplinary working group monitors the most significant claims and controversies, especially regarding climate change management and Santander's reputation. This involves identification, assessment, management, mitigation plans and escalations according to the established governance.

In 2022, the Risk area bolstered employee training on climate matters through certifications for teams directly involved in climate risk management (internal Santander ESG Commitment Fundamentals certification and external International Sustainable Finance Specialist – IASE), as well as general coursework for most employees. Our Risk pro culture will remain an essential component of that. In 2023, we expect to further our policy on climate risk-based incentives and remuneration.

6. Reporting

Reports to senior managers and stakeholders on climate and environmental risk are transparent and accurate and comply with the law and supervisors' expectations. Our Annual Report and Climate Finance Report highlight our progress with climate and environmental risk.

Santander is also working on the Pillar 3 ESG disclosure regulation. In January 2022, the EBA published final Pillar 3 ESG risk templates for disclosing meaningful, contrastable information on how ESG risk (in particular, climate change) may exacerbate other balance sheet risks. The Pillar 3 ESG disclosure will enable the Group to compare its sustainability performance with other banks' and be transparent on its mitigation of risk and support for customers' green transition.

The Group completed the first official Pillar 3 ESG disclosure. Since the report covers the whole Group, we remained in permanent contact with subsidiaries to guarantee that requirements were fulfilled.

10.3 Summary by risk type

Grupo Santander continues to boost its capacity to identify climate and environmental risk drivers and integrate them into risk management processes. This table summarizes the impact of climate and environmental risk on the different typology of existing risks, our response, and our plans for the coming years.

Risk type	Potential impact on climate risk factors	What we're doing to manage climate risk	Next steps
Credit	→ Extreme weather can lead to higher retail and corporate loan default and lower collateral value. → Credit risk can also rise if borrowers' business models do not consider the transition to a low-carbon economy (greater risk of revenue decline and business interruption, which can lead to higher default or a loss of business value).	→ Materiality assessment to spot physical and transition risk in the Group's credit portfolios. → Analysis on short-, mid- and long-term risk concentration per sector and region. Heatmaps that follow orderly, disorderly and HHW scenarios up to 2050. Scenario analyses and sensitivities to forecast changes in ratings, PD and LGD in view of physical and transition risk. → ESCC factor measurement in customer and transaction analysis, and ratings. Setting of risk appetite limits and alerts to manage climate-related sectors.	→ Launch of 'The climate race' Environmental & Climate change credit risk TOM. → Inclusion of climate factors in internal physical and transition risk models. Development of tools to monitor physical risk in all the Group's markets.
Market & Liquidity	→ Growing consumer demand for sustainable products and a short supply of certain resources can affect the value of shares, bonds and other assets. → More frequent extreme weather can have stifle the economic growth of countries susceptible to climate change, increase their sovereign debt and reduce their access to capital markets. → Cash outflows from companies trying to boost their reputation in the market or solve problems with climate scenarios.	→ Qualitative analysis of climate risk scenarios' impact on market and liquidity risk (highly liquid assets and impact of financing of exposed companies). → Materiality assessment to spot physical and transition risk in the Group's trading portfolios, under climate stress scenarios that cover liquidity.	→ Enhance analysis of material climate impact on trading portfolios to help with future sector-based stress testing. → Enrich stress testing and review new scenarios to include. → Adapt stress testing to emerging market practices. → Include new liquidity scenarios to measure the materiality of their impact.

Risk type	Potential impact on climate risk factors	What we're doing to manage climate risk	Next steps
Operational	→ Serious climate events can affect business continuity, infrastructure, processes and headcount at branches and offices. → If energy, water and insurance prices soar, so will operational costs.	→ Climate risk was a mandatory addition to our scenario analyses. → We updated our operational risk database with a new climate and environmental risk metric. → We're updating our continuity plan with more details on the threats of climate risk.	→ Embed climate risk in the annual operational and control risk self-assessment. → Enhance the operational risk that considers climate risk data. → Study external data sources.
Reputational	→ Customers, investors and other stakeholders who believe banks aren't doing enough to meet low-carbon targets or their own public commitments can pose reputational risk. → The Group's climate information is considered insufficient or misleading, or product announcements appear to be "greenwashing".	→ Updated climate and environmental risk policies and procedures. → Corporate credit committees address reputational risk when assessing sensitive transactions that involve climate and environmental risk. → Strengthen climate and environmental risk governance, which the Reputational risk forum addresses. Formal meetings scheduled to review reputational issues (including climate matters), involving the legal, responsible banking, investor relations, risk and other teams. → Proactive measures that show Santander supports companies' green transition and decarbonization.	→ Methodology to quantify the reputational impact of climate and environmental risk.
Strategic	→ The Group's net-zero financing and operations strategy fails to bring about enough change and undermines our strategy.	→ Regular monitoring of the strategic 'Climate change' project, including KPIs that relate to the Group's net zero objectives. → Our top risk identification includes a climate change risk event. We analyse the potential impact of low-probability stress scenarios on the Group's strategic plans and draw up action plans accordingly, o budget tracking for inclusion in the strategic risk profile. → Monitoring of ESG initiatives presented at the CPGF and investors' forum.	→ Increase granularity of stressed event impacts as part of the top risk identification. → Update key ESG metrics according to the Group's strategy. → Include more ESG factors in our business model performance review. → Continue to include ESG factors in comparisons with peers.

Glossary

2022 AGM	Annual general shareholders' meeting of Banco Santander held on 1 April 2022 at second call
2023 AGM	Annual general shareholders' meeting of Banco Santander called for 30 or 31 March 2023 at first or second call, respectively
Act 10/2014	Act 10/2014, of 26 June, on the organization, supervision and solvency of credit institutions.
Active customer	Those customers who comply with balance, income and/or transactionality demanded minimums defined according to the business area
ADR	American Depositary Receipts
ADS	American Depositary Shares
AEOI	Automatic Exchange of Information Standard
ALCO	Asset-Liability Committee
ALM	Asset and Liability Management
AML	Anti-Money Laundering
API	Application Programming Interface
APM	Alternative Performance Measure
APS	Amherst Pierpont Securities
Banesto	Banco Español de Crédito, S.A.
bn	Billion
BNPL	Buy Now Pay Later. Short-term financing that allows consumers to make purchases and pay for them at a future date.
bps	Basis points
BRRD	Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms, as amended from time to time
Bylaws	Bylaws of Banco Santander, S.A.
CAE	Chief Audit Executive
CAO	Chief Accounting Officer
CARF	*Conselho Administrativo de Recursos Fiscais (Administrative Council for Tax Appeals)*
CCO	Chief Compliance Officer
CCPS	Contingent Convertible Preferred Securities
CCR	Counterparty Credit Risk
CCSM	Code of Conduct in Securities Markets
CDI	CREST Depositary Interests
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CHF	Swiss franc
CIO	Chief Information Officer
CNBV	*Comisión Nacional Bancaria y de Valores (National Banking and Securities Commission)*
CNMV	*Comisión Nacional del Mercado de Valores (Spanish stock market authority)*
COFINS	*Contribuiçao para Financiamiento da Seguridade Social* (Contribution for Social Security Financing)
Constant euros	Excluding exchange rates' impact
COSO	Committee of Sponsoring Organizations of the Treadway Commission
CRE	Credit Risk Equivalent
CRO	Chief Risk Officer
CRR	Regulation (EU) 575/2013 on prudential requirements for credit institutions and investment firms, as amended from time to time
CSLL	*Contribuçao Social sobre o Lucro Liquido* (Social Contribution on Net Profit)

CVA	Credit Valuation Adjustments
DCB	Digital Consumer Bank
Digital customer	Every consumer of a commercial bank’s services who has logged on to their personal online banking and/or mobile banking in the last 30 days
DTA	Deferred Tax Asset
DVA	Debt Valuation Adjustments
EAD	Exposure at default
EBA	European Banking Authority
ECB	European Central Bank
eNPS	Employee Net Promoter Score
EOIR	Exchange Of Information on Request standard
EPC	Energy Performance Certificate
EPS	Earnings Per Share
ESG	Environment, Social and Governance
ESMA	European Securities and Markets Authority
EU	European Union
EVA	Economic Value Added
EVP	Employee Value Proposition
FCA	Financial Conduct Authority
FCC	Financial Crime Compliance
First 2022 Buyback Programme	First buyback programme carried out within the 2022 shareholder remuneration policy
FL CET1	Fully-Loaded Common Equity Tier 1
FRTB	Fundamental Review of the Trading Book
FX	Foreign Exchange
GBP	Pound Sterling
GCC	General Code of Conduct
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GHG	Greenhouse Gas
GSGM	Group-Subsidiary governance model
G-SIB	Global Systemically Important Bank
GTB	Global Transactional Banking
ICAAP	Internal Capital Adequacy Assessment Process
ICAC	*Instituto de Contabilidad y Auditoría de Cuentas* (Institute of accounting and auditing)
ICFR	Internal Control over Financial Reporting
ICO	*Instituto Oficial de Crédito* (Spanish public credit institution)
ICS	Internal Control System
Identified staff	Other executives whose activities may have a significant impact on the Group's risk profile
IFRS	International Financial Reporting Standards
ILAAP	Internal Liquidity Adequacy Assessment Process
IMF	International Monetary Fund
IRB	Internal Ratings-Based
IRC	Incremental Risk Charge
IRPJ	*Imposto sobre a Renda das Pessoas Jurídicas*
JPY	Japanese Yen
LCR	Liquidity Coverage Ratio
LGD	Loss given default
LLP	Loan-Loss Provisions

Loyal customer	Active customers who receive most of their financial services from the Group according to the commercial segment to which they belong. Various engaged customer levels have been defined taking profitability into account
LTD	Loan-To-Deposit ratio
LTV	Loan to value
LTV	Loan-To-Value ratio
M/LT	Medium-and long-term
Material Risk Taker	Other executives whose activities could have a significant impact on the Group's risk profile
MREL	Minimum Requirements for own funds and Eligible Liabilities which is required to be met under the BRRD
NACE	Nomenclature of Economic Activities of the European Union
NFR	Non-financial risk
NGO	Non-governmental organization
NII	Net Interest Income
NPL	Non-performing loan
NPS	Net Promoter Score
NSFR	Net Stable Funding Ratio
NYSE	New York Stock Exchange
NZAMi	Net Zero Asset Managers initiative
NZBA	Net Zero Banking Alliance
OECD	Organization for Economic Cooperation and Development
OEM	Original Equipment Manufacturer
One FCC	One Financial Crime Compliance
OTC	Over-The-Counter
P&L	Profit and Loss statement
PCAF	Partnership for Carbon Accounting Financials
PCAOB	Public Company Accounting Oversight Board
PD	Probability of Default
PIS	*Programa de Integraçao Social*
pp	Percentage point
PwC	PricewaterhouseCoopers Auditores, S.L.
RCSA	Risk Control Self-Assessment
RoA	Return on Assets
RoE	Return on Equity
RoRWA	Return (net of tax) on Risk Weighted Assets for a particular business. Grupo Santander uses RoRWA to establish strategies to allocate regulatory capital for maximums returns
RoTE	Return on Tangible Equity
RWA	Risk-Weighted Assets
S&P 500	The S&P 500 index maintained by S&P Dow Jones Indices LLC
SAM	Santander Asset Management
SC USA	Santander Consumer US
SCF	Santander Consumer Finance
SCIB	Santander Corporate & Investment Banking
SEC	Securities and Exchange Commission
Second 2022 Buyback Programme	Second share Buyback programme charged against 2022 results
SFCS	Sustainable Finance Classification System
SHUSA	Santander Holding USA, Inc
SMEs	Small and Medium Enterprises
SOX	Sarbanes-Oxley Act of 2002

Spanish Corporate Governance Code	CNMV's Good Governance Code for Listed Companies
Spanish Securities Markets Act	Consolidated text of the Spanish Securities Markets Act approved by Royal Legislative Decree 4/2015, of 23 October as amended from time to time
SPF	Simple, Personal and Fair
SRB	European Single Resolution Board
SREP	Supervisory Review and Evaluation Process
SRI	Socially Responsible Investment
SRT	Significant Risk Transfer
SSM	Single Supervisory Mechanism. The system of banking supervision in Europe. It is composed of the ECB and the competent supervisory authorities of the participating EU countries
STEM	Science, Technology, Engineering, Mathematics
T&O	Technology & Operations
TCFD	Task Force on Climate-related Financial Disclosures
TLAC	The Total Loss-Absorbing Capacity requirement which is required to be met under the CRD V package
TLTRO	Targeted Longer-Term Refinancing Operations
TNFD	Taskforce on Nature-related Financial Disclosure
TPV	Total Payments Volume
TSR	Total Shareholder Return
UK	United Kingdom
UNEP FI	United Nations Environmental Programme Finance Initiative
US	United States of America
USD	United States dollar
VaR	Value at Risk
VAT	Value Added Tax
WBCSD	World Business Council for Sustainable Development
WM&I	Wealth Management and Insurance
YoY	Year-on-Year

Auditor's report and consolidated financial statements

Auditor's report

This version of our report is a free translation of the original, which was prepared in Spanish. All possible care has been taken to ensure that the translation is an accurate representation of the original. However, in all matters of interpretation of information, views or opinions, the original language version of our report takes precedence over this translation.

Independent auditor's report on the consolidated annual accounts

To the shareholders of Banco Santander, S.A.:

Report on the consolidated annual accounts

Opinion

We have audited the consolidated annual accounts of Banco Santander, S.A. (the Parent company) and its subsidiaries (the Group or Grupo Santander), which comprise the balance sheet as at December 31, 2022, and the income statement, statement of recognised income and expense, statement of changes in total equity, statement of cash flows and related notes, all consolidated, for the year then ended.

In our opinion, the accompanying consolidated annual accounts present fairly, in all material respects, the equity and financial position of the Group as at December 31, 2022, as well as its financial performance and cash flows, all consolidated, for the year then ended, in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS-EU) and other provisions of the financial reporting framework applicable in Spain.

Basis for opinion

We conducted our audit in accordance with legislation governing the audit practice in Spain. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated annual accounts* section of our report.

We are independent of the Group in accordance with the ethical requirements, including those relating to independence, that are relevant to our audit of the consolidated annual accounts in Spain, in accordance with legislation governing the audit practice. In this regard, we have not rendered services other than those relating to the audit of the accounts, and situations or circumstances have not arisen that, in accordance with the provisions of the aforementioned legislation, have affected our necessary independence such that it has been compromised.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated annual accounts of the current period. These matters were addressed in the context of our audit of the consolidated annual accounts as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

PricewaterhouseCoopers Auditores, S.L., Torre PwC, Pº de la Castellana 259 B, 28046 Madrid, España
Tel.: +34 915 684 400 / +34 902 021 111, Fax: +34 915 685 400, www.pwc.es

R. M. Madrid, hoja 87.250-1, folio 75, tomo 9.267, libro 8.054, sección 3ª
Inscrita en el R.O.A.C. con el número S0242 - CIF: B-79 031290

Banco Santander, S.A. and its subsidiaries

Key audit matters	How our audit addressed the key audit matters
Estimation of impairment of financial assets at amortised cost - loans and advances to customers – for credit risk The models used to estimate the expected credit losses along with the adaptations made in the context of the current environment, imply a high complexity by incorporating new estimates and judgments, especially those related to the management overlays made to the models to determine the expected credit loss in the current uncertain macroeconomic environment. These estimates require an elevated component of judgement by management and are one of the most significant and complex estimates in the preparation of the consolidated annual accounts as at December 31, 2022 included herein, therefore they have been considered one of the key audit matters. The main judgements and assumptions used by management are the following: • The estimation of the Probability of Default (PD) and Loss Given Default (LGD) parameters. • Identification and classification of the staging criteria of loans and advances to customers. • The definition and evaluation of management overlays to adapt the parameters estimated by the models to the conditions and current environment. • The main assumptions used in the determination of provisions for expected credit losses estimated individually. The Group's business is focused on commercial banking products and is concentrated in nine key markets (Brazil, Chile, Spain, United States, Mexico, Poland, Portugal, United Kingdom and the consumer finance business in Europe).	We have obtained, in collaboration with our credit risk and economic forecasting experts, an understanding of management's process to estimate the impairment of financial assets at amortised cost - loans and advances to customers - over the estimation of impairment of financial assets assessed collectively and individually. In addition, and as a part of our audit procedures, we have made inquiries to management to understand the extent of the potential impact of climate change on credit risk. In regards with the internal control, we have focused on testing the design and operating effectiveness of key controls over the following processes: • Calculation methodologies, calibrations, monitoring and back-testing performed by management. • Compliance with internal policies and functionality of the internal models approved by management. • Reliability of the data sources used in the calculations and the suitability of the models taking into account the circumstances. • Periodic review process of borrower to determine proper staging criteria. • Review process over the calculation of the principal models and portfolios. • Review process of the management overlays to the expected credit loss models made by management due to the conditions and current uncertain environment. • Loan collateral assignment and valuation process associated with mortgage collateral operations, including collateral recovery process.

Banco Santander, S.A. and its subsidiaries

Key audit matters	How our audit addressed the key audit matters
As a result, for the year ended 2022 the Group has recognised an amount of EUR 10,856 million of impairment of financial assets at amortised cost. Please refer to Notes 2, 10 and 53 of the consolidated annual accounts as at December 31, 2022.	In addition, we performed the following tests of details: • Tests of principal models with respect to: i) calculation and segmentation methods; ii) methodology used for the estimation of the expected loss parameters; iii) data and main assumptions used, iv) staging criteria and v) scenario information and assumptions. • Evaluation of the management overlays to the expected credit loss models made by management due to the conditions and current environment, if applicable. • Verification of the correct assignment of the loan collaterals, especially those that are classified as doubtful. • Reperformance of collective impairment losses based on the expected credit loss models parameters. • On a sample basis, evaluating individual credit files to determine the adequacy of their accounting and classification, discounted cash flows and, where appropriate, corresponding impairment. We have not identified exceptions outside of a reasonable range in the procedures outlined above.
Goodwill impairment assessment	
Goodwill impairment assessment is an exercise that requires a high degree of judgement and estimation therefore it has been considered one of the key audit matters. Due to their relevance to Grupo Santander, management monitors goodwill, particularly the Santander Bank Polska Cash Generating Unit (CGU) and assesses goodwill for impairment at the end of each annual reporting period or whenever there is any indication of impairment. The assumptions used by management to estimate the value in use of the Cash-Generating Units (CGUs) includes financial projections, discount rates and perpetual growth rates. Such valuations, and some of these assumptions, are performed by management's experts.	We have obtained, in collaboration with our valuation experts, an understanding of the process performed by management to assess the recoverable amount. In regards with the internal control, we have focused on testing the design and operating effectiveness of key controls over the following processes: • Definition of the Group's CGUs. • Methodology used by management for the goodwill impairment assessment, including the controls in place to supervise the process and the related approvals. • Management's capability of reliable prediction through the comparison of previous years' estimations and impairment assessments with the actual results.

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Banco Santander, S.A. and its subsidiaries

Key audit matters	How our audit addressed the key audit matters
The amount of the Group's consolidated goodwill balance as at December 31, 2022 is EUR 13,741 million. Please refer to Notes 2 and 17 of the consolidated annual accounts as at December 31, 2022.	• Review process of the reasonableness of the discount rates and perpetual growth rates used by management's experts. • Review process of the mathematical accuracy of the valuation models used by management experts. We also conducted tests of details to evaluate the discounted cash flow projections used by management in their estimation, including the budgetary compliance of the main CGUs and the evaluation of the reasonableness of the assumptions, such as discount rates and perpetual growth rates. In addition, we have performed, among other, the following tests of details: • Verifying the mathematical accuracy of the goodwill impairment test, including the discounted cash flow projections. • Comparing the fair value of the listed CGUs to their recoverable amount. • Obtain and evaluate the valuation reports regarding the goodwill impairment test performed by management's internal and external experts. • Verifying the adequacy of the information disclosed in the consolidated annual accounts in accordance with applicable regulations. We have not identified exceptions outside of a reasonable range in the procedures outlined above.
Litigation provisions and contingencies	
The Group is party to a range of tax, labour and legal proceedings - administrative and judicial - which primarily arose in the ordinary course of its operations. Also, there are other situations not yet subject to any judicial process that, however, have required the recognition of provisions, such as aspects of conduct with clients and the possible compensations that could be derived. These proceedings generally take a long period of time to run their course, giving rise to complex processes in accordance with the applicable legislation, therefore it has been considered one of the key audit matters.	We have obtained, in collaboration with our experts, an understanding of the estimation process performed by management for litigation provisions and contingencies. In regards with the internal control, we have focused on testing the design and operating effectiveness of key controls over the following processes: • Additions, logs and updates over the completeness of the legal matters in the systems.

4

Banco Santander, S.A. and its subsidiaries

Key audit matters	How our audit addressed the key audit matters
Management decides when to recognize a provision for these contingent liabilities, based on an estimate using certain procedures consistent with the nature of the uncertainty of the obligations. Among these provisions, the most significant are those that cover the tax and labour proceedings in Brazil and those that cover the legal proceedings in Brazil, Spain, Poland, Mexico and United Kingdom. The amount of the litigation provisions and contingencies as at December 31, 2022 is EUR 3,432 million. Please refer to Notes 2 and 25 of the consolidated annual accounts as at December 31, 2022.	• Accuracy of the key data, maintained in the systems, used in the calculation of the litigations provisions and contingencies. • Assessment of the criteria used to estimate the expected losses from litigation provisions and contingencies and evaluation of the adequacy over the calculation of the provisions for regulatory, legal or tax procedures and their recognition. • Reconciliation between the minutes of the inspections and the amounts accounted for. In addition, we have performed the following tests of details: • Analysis for reasonableness of the expected outcomes of the most significant tax, labour and legal proceedings. • Assessment of possible contingencies relating to compliance with the tax obligations for all the years open to inspection, of the communications with the regulatory bodies and analysis of the ongoing regulatory inspections. • Sending, obtaining and analysing, if any, audit confirmation letters from external and internal lawyers and external tax advisors who work with the Group or performing alternative procedures if confirmations are not received. • Analysis of the recognition and reasonableness of the provisions recorded. • Verifying the adequacy of the information disclosed in the consolidated annual accounts in accordance with applicable regulations. In the procedures described above, no exceptions were identified outside of a reasonable range.
Information systems	
The Group's financial information is highly dependent on information technology (IT) systems in the geographies where it operates, therefore an adequate control of these systems is crucial to ensuring correct data processing.	We have evaluated, in collaboration with our IT system specialists, the internal controls over the IT systems, databases and applications that support the Group's financial reporting.

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Key audit matters	How our audit addressed the key audit matters
In this context, it is vital to evaluate aspects such as the organization of the Group's Technology and Operations department, controls over software maintenance and development, physical and logical security controls, and controls over computer operations, therefore it has been considered one of the key audit matters. In this respect, management continues monitoring the internal controls over IT systems, including the access controls that support the Group's technology processes.	For this purpose, we have performed procedures over the design and operating effectiveness of key controls and test of details related to: • The function of the IT governance framework. • Access and logical security controls over the applications, operating systems and databases that support the relevant financial information. • Application development and change management. • Maintenance of computer operations. In addition, considering the monitoring carried out by management over its internal controls over IT systems, our approach and audit plan included the following aspects: • Evaluation of the monitoring made by management as part of its internal control environment of the Group. • Testing of the design and operating effectiveness of the controls implemented by management, including access controls. In the procedures described above, no relevant exceptions were identified related to this matter

Other information: Consolidated Directors' report

Other information comprises only the consolidated Directors' report for the 2022 financial year, the formulation of which is the responsibility of the Parent company's directors and does not form an integral part of the consolidated annual accounts.

Our audit opinion on the consolidated annual accounts does not cover the consolidated Directors' report. Our responsibility regarding the consolidated Directors' report, in accordance with legislation governing the audit practice, is to:

a) Verify only that the consolidated statement of non-financial information, certain information included in the Annual Corporate Governance Report and the Annual Report on Directors' Remuneration, as referred to in the Auditing Act, have been provided in the manner required by applicable legislation and, if not, we are obliged to disclose that fact.

b) Evaluate and report on the consistency between the rest of the information included in the consolidated Directors' report and the consolidated annual accounts as a result of our knowledge of the Group obtained during the audit of the aforementioned financial statements, as well as to evaluate and report on whether the content and presentation of this part of the consolidated Directors' report is in accordance with applicable regulations. If, based on the work we have performed, we conclude that material misstatements exist, we are required to report that fact.

On the basis of the work performed, as described above, we have verified that the information mentioned in section a) above has been provided in the manner required by applicable legislation and that the rest of the information contained in the consolidated Directors' report is consistent with that contained in the consolidated annual accounts for the 2022 financial year, and its content and presentation are in accordance with applicable regulations.

Responsibility of the directors and the audit committee for the consolidated annual accounts

The Parent company's directors are responsible for the preparation of the accompanying consolidated annual accounts, such that they fairly present the consolidated equity, financial position and financial performance of the Group, in accordance with IFRS-EU and other provisions of the financial reporting framework applicable to the Group in Spain, and for such internal control as the aforementioned directors determine is necessary to enable the preparation of consolidated annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated annual accounts, the Parent company's directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the aforementioned directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

The Parent company's audit committee is responsible for overseeing the process of preparation and presentation of the consolidated annual accounts.

Auditor's responsibilities for the audit of the consolidated annual accounts

Our objectives are to obtain reasonable assurance about whether the consolidated annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with legislation governing the audit practice in Spain will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated annual accounts.

As part of an audit in accordance with legislation governing the audit practice in Spain, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated annual accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Parent company's directors.

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- Conclude on the appropriateness of the Parent company's directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated annual accounts or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated annual accounts, including the disclosures, and whether the consolidated annual accounts represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated annual accounts. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Parent company's audit committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Parent company's audit committee with a statement that we have complied with relevant ethical requirements, including those relating to independence, and we communicate with the aforementioned those matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Parent company's audit committee, we determine those matters that were of most significance in the audit of the consolidated annual accounts of the current period and are therefore the key audit matters.

We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Report on other legal and regulatory requirements

European single electronic format

We have examined the digital files of the European single electronic format (ESEF) of Banco Santander, S.A. and its subsidiaries for the 2022 financial year that comprise an XHTML file which includes the consolidated annual accounts for the financial year and XBRL files with tagging performed by the entity, which will form part of the annual financial report.

The directors of Banco Santander, S.A. are responsible for presenting the annual financial report for 2022 financial year in accordance with the formatting and markup requirements established in the Delegated Regulation (EU) 2019/815 of December 17, 2018 of the European Commission (hereinafter the ESEF Regulation).

Our responsibility is to examine the digital files prepared by the Parent company's directors, in accordance with legislation governing the audit practice in Spain. This legislation requires that we plan and execute our audit procedures in order to verify whether the content of the consolidated annual accounts included in the aforementioned digital files completely agrees with that of the consolidated annual accounts that we have audited, and whether the format and markup of these accounts and of the aforementioned files has been affected, in all material respects, in accordance with the requirements established in the ESEF Regulation.

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Banco Santander, S.A. and its subsidiaries

In our opinion, the digital files examined completely agree with the audited consolidated annual accounts, and these are presented and have been marked up, in all material respects, in accordance with the requirements established in the ESEF Regulation.

Report to the audit committee of the Parent company

The opinion expressed in this report is consistent with the content of our additional report to the audit committee of the Parent company dated February 27, 2023.

Appointment period

The General Ordinary Shareholders' Meeting held on April 1, 2022 appointed us as auditors of the Group for a period of one year, for the year ended December 31, 2022.

Previously, we were appointed by resolution of the General Ordinary Shareholders' Meeting for a period of three years and we have audited the accounts continuously since the year ended December 31, 2016.

Services provided

Services provided to the Group for services other than the audit of the accounts are disclosed in note 47 to the consolidated annual accounts.

PricewaterhouseCoopers Auditores, S.L. (S0242)

Julián González Gómez (20179)

February 27, 2023

Consolidated financial statements

Translation of the consolidated annual accounts originally issued in Spanish and prepared in accordance with the regulatory financial reporting framework applicable to the Group in Spain (see Notes 1 and 54). In the event of a discrepancy, the Spanish- version prevails.

Grupo Santander

CONSOLIDATED BALANCE SHEETS AS OF 31 DECEMBER 2022, 2021 AND 2020

EUR million

ASSETS	Note	2022	2021[A]	2020[A]
CASH, CASH BALANCES AT CENTRAL BANKS AND OTHER DEPOSITS ON DEMAND		**223,073**	**210,689**	**153,839**
FINANCIAL ASSETS HELD FOR TRADING		**156,118**	**116,953**	**114,945**
Derivatives	9 and 11	67,002	54,292	67,137
Equity instruments	8	10,066	15,077	9,615
Debt securities	7	41,403	26,750	37,894
Loans and advances		37,647	20,834	299
Central banks	6	11,595	3,608	—
Credit institutions	6	16,502	10,397	3
Customers	10	9,550	6,829	296
NON-TRADING FINANCIAL ASSETS MANDATORILY AT FAIR VALUE THROUGH PROFIT OR LOSS		**5,713**	**5,536**	**4,486**
Equity instruments	8	3,711	4,042	3,234
Debt securities	7	1,134	957	700
Loans and advances		868	537	552
Central banks	6	—	—	—
Credit institutions	6	—	—	—
Customers	10	868	537	552
FINANCIAL ASSETS DESIGNATED AT FAIR VALUE THROUGH PROFIT OR LOSS		**8,989**	**15,957**	**48,717**
Debt securities	7	2,542	2,516	2,979
Loans and advances		6,447	13,441	45,738
Central banks	6	—	—	9,481
Credit institutions	6	673	3,152	12,136
Customers	10	5,774	10,289	24,121
FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME		**85,239**	**108,038**	**120,953**
Equity instruments	8	1,941	2,453	2,783
Debt securities	7	75,083	97,922	108,903
Loans and advances		8,215	7,663	9,267
Central banks	6	—	—	—
Credit institutions	6	—	—	—
Customers	10	8,215	7,663	9,267
FINANCIAL ASSETS AT AMORTIZED COST		**1,147,044**	**1,037,898**	**958,378**
Debt securities	7	73,554	35,708	26,078
Loans and advances		1,073,490	1,002,190	932,300
Central banks	6	15,375	15,657	12,499
Credit institutions	6	46,518	39,169	37,838
Customers	10	1,011,597	947,364	881,963
HEDGING DERIVATIVES	**36**	**8,069**	**4,761**	**8,325**
CHANGES IN THE FAIR VALUE OF HEDGED ITEMS IN PORTFOLIO HEDGES OF INTEREST RATE RISK	**36**	**(3,749)**	**410**	**1,980**

CONSOLIDATED BALANCE SHEETS AS OF 31 DECEMBER 2022, 2021 AND 2020

EUR million

ASSETS	Note	2022	2021[A]	2020[A]
INVESTMENTS	**13**	**7,615**	**7,525**	**7,622**
Joint venture entities		1,981	1,692	1,492
Associated entities		5,634	5,833	6,130
ASSETS UNDER INSURANCE OR REINSURANCE CONTRACTS	**15**	**308**	**283**	**261**
TANGIBLE ASSETS		**34,073**	**33,321**	**32,735**
Property, plant and equipment	16	33,044	32,342	31,772
For own-use		13,489	13,259	13,213
Leased out under an operating lease		19,555	19,083	18,559
Investment properties	16	1,029	979	963
Of which leased out under an operating lease		*804*	*839*	*793*
INTANGIBLE ASSETS		**18,645**	**16,584**	**15,908**
Goodwill	17	13,741	12,713	12,471
Other intangible assets	18	4,904	3,871	3,437
TAX ASSETS		**29,987**	**25,196**	**24,586**
Current tax assets		9,200	5,756	5,340
Deferred tax assets	27	20,787	19,440	19,246
OTHER ASSETS		**10,082**	**8,595**	**11,070**
Insurance contracts linked to pensions	14	104	149	174
Inventories		11	6	5
Other	19	9,967	8,440	10,891
NON-CURRENT ASSETS HELD FOR SALE	**12**	**3,453**	**4,089**	**4,445**
TOTAL ASSETS		**1,734,659**	**1,595,835**	**1,508,250**

A. Presented for comparison purposes only (note 1.d).

The accompanying notes 1 to 54 and appendices are an integral part of the consolidated balance sheet as of 31 December 2022.

CONSOLIDATED BALANCE SHEETS AS OF 31 DECEMBER 2022, 2021 AND 2020

EUR million

LIABILITIES	Note	2022	2021[A]	2020[A]
FINANCIAL LIABILITIES HELD FOR TRADING		**115,185**	**79,469**	**81,167**
Derivatives	9 and 11	64,891	53,566	64,469
Short positions	9	22,515	12,236	16,698
Deposits		27,779	13,667	—
Central banks	20	5,757	1,038	—
Credit institutions	20	9,796	6,488	—
Customers	21	12,226	6,141	—
Marketable debt securities	22	—	—	—
Other financial liabilities	24	—	—	—
FINANCIAL LIABILITIES DESIGNATED AT FAIR VALUE THROUGH PROFIT OR LOSS		**55,947**	**32,733**	**48,038**
Deposits		50,520	27,279	43,598
Central banks	20	1,740	607	2,490
Credit institutions	20	1,958	1,064	6,765
Customers	21	46,822	25,608	34,343
Marketable debt securities	22	5,427	5,454	4,440
Other financial liabilities	24	—	—	—
Memorandum items: subordinated liabilities	23	—	—	—
FINANCIAL LIABILITIES AT AMORTIZED COST		**1,423,858**	**1,349,169**	**1,248,188**
Deposits		1,111,887	1,078,587	990,391
Central banks	20	76,952	139,757	112,804
Credit institutions	20	68,582	52,235	62,620
Customers	21	966,353	886,595	814,967
Marketable debt securities	22	274,912	240,709	230,829
Other financial liabilities	24	37,059	29,873	26,968
Memorandum items: subordinated liabilities	*23*	*25,926*	*26,196*	*21,880*
HEDGING DERIVATIVES	**36**	**9,228**	**5,463**	**6,869**
CHANGES IN THE FAIR VALUE OF HEDGED ITEMS IN PORTFOLIO HEDGES OF INTEREST RATE RISK	**36**	**(117)**	**248**	**286**
LIABILITIES UNDER INSURANCE OR REINSURANCE CONTRACTS	**15**	**747**	**770**	**910**
PROVISIONS	**25**	**8,149**	**9,583**	**10,852**
Pensions and other post-retirement obligations		2,392	3,185	3,976
Other long term employee benefits		950	1,242	1,751
Taxes and other legal contingencies		2,074	1,996	2,200
Contingent liabilities and commitments		734	733	700
Other provisions		1,999	2,427	2,225
TAX LIABILITIES		**9,468**	**8,649**	**8,282**
Current tax liabilities		3,040	2,187	2,349
Deferred tax liabilities	27	6,428	6,462	5,933
OTHER LIABILITIES	**26**	**14,609**	**12,698**	**12,336**
LIABILITIES ASSOCIATED WITH NON-CURRENT ASSETS HELD FOR SALE		**—**	**—**	**—**
TOTAL LIABILITIES		**1,637,074**	**1,498,782**	**1,416,928**

CONSOLIDATED BALANCE SHEETS AS OF 31 DECEMBER 2022, 2021 AND 2020

EUR million

EQUITY	Note	2022	2021[A]	2020[A]
SHAREHOLDERS´ EQUITY	30	**124,732**	**119,649**	**114,620**
CAPITAL	31	**8,397**	**8,670**	**8,670**
Called up paid capital		8,397	8,670	8,670
Unpaid capital which has been called up		—	—	—
SHARE PREMIUM	32	**46,273**	**47,979**	**52,013**
EQUITY INSTRUMENTS ISSUED OTHER THAN CAPITAL	34	**688**	**658**	**627**
Equity component of the compound financial instrument		—	—	—
Other equity instruments issued		688	658	627
OTHER EQUITY	34	**175**	**152**	**163**
ACCUMULATED RETAINED EARNINGS	33	**66,702**	**60,273**	**65,583**
REVALUATION RESERVES	33	**—**	**—**	**—**
OTHER RESERVES	33	**(5,454)**	**(4,477)**	**(3,596)**
Reserves or accumulated losses in joint venture investments		1,553	1,572	1,504
Others		(7,007)	(6,049)	(5,100)
(-) OWN SHARES	34	**(675)**	**(894)**	**(69)**
PROFIT OR LOSS ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT		**9,605**	**8,124**	**(8,771)**
(-) INTERIM DIVIDENDS	4	**(979)**	**(836)**	**—**
OTHER COMPREHENSIVE INCOME OR LOSS	29	**(35,628)**	**(32,719)**	**(33,144)**
Items that will not be reclassified to profit or loss		(4,635)	(4,241)	(5,328)
Items that may be reclassified to profit or loss		(30,993)	(28,478)	(27,816)
NON-CONTROLLING INTEREST	28	**8,481**	**10,123**	**9,846**
Other comprehensive income or loss		(1,856)	(2,104)	(1,800)
Other items		10,337	12,227	11,646
TOTAL EQUITY		**97,585**	**97,053**	**91,322**
TOTAL LIABILITIES AND EQUITY		**1,734,659**	**1,595,835**	**1,508,250**
MEMORANDUM ITEMS: OFF BALANCE SHEET AMOUNTS	35			
Loan commitments granted		274,075	262,737	241,230
Financial guarantees granted		12,856	10,758	12,377
Other commitments granted		92,672	75,733	64,538

A. Presented for comparison purposes only (note 1.d).

The accompanying notes 1 to 54 and appendices are an integral part of the consolidated balance sheet as of 31 December 2022.

CONSOLIDATED INCOME STATEMENTS FOR THE YEARS ENDED 31 DECEMBER 2022, 2021 AND 2020

EUR million

		(Debit) Credit		
	Note	2022	2021[A]	2020[A]
Interest income	38	71,430	46,463	45,741
Financial assets at fair value through other comprehensive income		*5,479*	*2,582*	*2,840*
Financial assets at amortized cost		*59,214*	*40,471*	*40,365*
Other interest income		*6,737*	*3,410*	*2,536*
Interest expense	39	(32,811)	(13,093)	(13,747)
Interest income/(charges)		**38,619**	**33,370**	**31,994**
Dividend income	40	488	513	391
Income from companies accounted for using the equity method	13	702	432	(96)
Commission income	41	15,867	13,812	13,024
Commission expense	42	(4,077)	(3,310)	(3,009)
Gain or losses on financial assets and liabilities not measured at fair value through profit or loss, net	43	149	628	1,107
Financial assets at amortized cost		*34*	*89*	*(31)*
Other financial assets and liabilities		*115*	*539*	*1,138*
Gain or losses on financial assets and liabilities held for trading, net	43	842	1,141	3,211
Reclassification of financial assets at fair value through other comprehensive income		—	—	—
Reclassification of financial assets at amortized cost		—	—	—
Other gains (losses)		*842*	*1,141*	*3,211*
Gains or losses on non-trading financial assets and liabilities mandatorily at fair value through profit or loss	43	162	132	82
Reclassification of financial assets at fair value through other comprehensive income		—	—	—
Reclassification of financial assets at amortized cost		—	—	—
Other gains (losses)		*162*	*132*	*82*
Gain or losses on financial assets and liabilities measured at fair value through profit or loss, net	43	968	270	(171)
Gain or losses from hedge accounting, net	43	74	(46)	51
Exchange differences, net	44	(542)	(562)	(2,093)
Other operating income	45	1,510	2,255	1,920
Other operating expenses	45	(2,803)	(2,442)	(2,342)
Income from assets under insurance and reinsurance contracts	45	2,698	1,516	1,452
Expenses from liabilities under insurance and reinsurance contracts	45	(2,540)	(1,305)	(1,242)

CONSOLIDATED INCOME STATEMENTS FOR THE YEARS ENDED 31 DECEMBER 2022, 2021 AND 2020

EUR million

		(Debit) Credit		
	Note	2022	2021[A]	2020[A]
Total income		**52,117**	**46,404**	**44,279**
Administrative expenses		(20,918)	(18,659)	(18,320)
Staff costs	*46*	*(12,547)*	*(11,216)*	*(10,783)*
Other general administrative expenses	*47*	*(8,371)*	*(7,443)*	*(7,537)*
Depreciation and amortisation cost	16 and 18	(2,985)	(2,756)	(2,810)
Provisions or reversal of provisions, net	25	(1,881)	(2,814)	(2,378)
Impairment or reversal of impairment at financial assets not measured at fair value through profit or loss and net gains and losses from changes		(10,863)	(7,407)	(12,382)
Financial assets at fair value through other comprehensive income		*(7)*	*(19)*	*(19)*
Financial assets at amortized cost	*10*	*(10,856)*	*(7,388)*	*(12,363)*
Impairment or reversal of impairment of investments in subsidiaries, joint ventures and associates, net	17 and 18	—	—	—
Impairment or reversal of impairment on non-financial assets, net		(239)	(231)	(10,416)
Tangible assets	*16*	*(140)*	*(150)*	*(174)*
Intangible assets	*17 and 18*	*(75)*	*(71)*	*(10,242)*
Others		*(24)*	*(10)*	—
Gain or losses on non-financial assets and investments, net	48	12	53	114
Negative goodwill recognized in results		—	—	8
Gains or losses on non-current assets held for sale not classified as discontinued operations	49	7	(43)	(171)
Operating profit/(loss) before tax		**15,250**	**14,547**	**(2,076)**
Tax expense or income from continuing operations	27	(4,486)	(4,894)	(5,632)
Profit/(loss) from continuing operations		**10,764**	**9,653**	**(7,708)**
Profit/(loss) after tax from discontinued operations	37	—	—	—
Profit/(loss) for the year		**10,764**	**9,653**	**(7,708)**
Profit/(loss) attributable to non-controlling interests	28	1,159	1,529	1,063
Profit/(loss) attributable to the parent		9,605	8,124	(8,771)
Earnings/(losses) per share				
Basic	4	0.539	0.438	(0.538)
Diluted	4	0.537	0.436	(0.538)

A. Presented for comparison purposes only (note 1.d).

The accompanying notes 1 to 54 and appendices are an integral part of the consolidated income statement for the year ended 31 December 2022.

CONSOLIDATED STATEMENTS OF RECOGNISED INCOME AND EXPENSE FOR THE YEARS ENDED 31 DECEMBER 2022, 2021 AND 2020

EUR million

	Note	2022	2021[A]	2020[A]
CONSOLIDATED PROFIT/(LOSS) FOR THE YEAR		**10,764**	**9,653**	**(7,708)**
OTHER RECOGNISED INCOME AND EXPENSE		**(2,660)**	**(220)**	**(9,794)**
Items that will not be reclassified to profit or loss	**29**	**(399)**	**754**	**(1,018)**
Actuarial gains and losses on defined benefit pension plans		(56)	1,567	(25)
Non-current assets held for sale		—	—	—
Other recognised income and expense of investments in subsidiaries, joint ventures and associates		17	(1)	(4)
Changes in the fair value of equity instruments measured at fair value through other comprehensive income		(497)	(171)	(917)
Gains or losses resulting from the accounting for hedges of equity instruments measured at fair value through other comprehensive income, net	36	—	—	—
Changes in the fair value of equity instruments measured at fair value through other comprehensive income (hedged item)		*18*	*117*	*4*
Changes in the fair value of equity instruments measured at fair value through other comprehensive income (hedging instrument)		*(18)*	*(117)*	*(4)*
Changes in the fair value of financial liabilities at fair value through profit or loss attributable to changes in credit risk		88	(99)	31
Income tax relating to items that will not be reclassified		49	(542)	(103)
Items that may be reclassified to profit or loss	**29**	**(2,261)**	**(974)**	**(8,776)**
Hedges of net investments in foreign operations (effective portion)	36	(2,467)	(1,159)	2,340
Revaluation gains (losses)		*(2,467)*	*(1,159)*	*2,340*
Amounts transferred to income statement		—	—	—
Other reclassifications		—	—	—
Exchanges differences		3,658	3,082	(11,040)
Revaluation gains (losses)		*3,658*	*3,082*	*(11,040)*
Amounts transferred to income statement		—	—	—
Other reclassifications		—	—	—
Cash flow hedges (effective portion)	36	(3,016)	(938)	(53)
Revaluation gains (losses)		*(1,762)*	*(1,739)*	*799*
Amounts transferred to income statement		*(1,254)*	*801*	*(852)*
Transferred to initial carrying amount of hedged items		—	—	—
Other reclassifications		—	—	—
Hedging instruments (items not designated)	36	—	—	—
Revaluation gains (losses)		—	—	—
Amounts transferred to income statement		—	—	—
Other reclassifications		—	—	—
Debt instruments at fair value with changes in other comprehensive income		(2,086)	(3,250)	(100)
Revaluation gains (losses)	*29*	*(2,591)*	*(3,063)*	*692*
Amounts transferred to income statement		*(99)*	*(545)*	*(1,165)*
Other reclassifications		*604*	*358*	*373*
Non-current assets held for sale		—	—	—
Revaluation gains (losses)		—	—	—
Amounts transferred to income statement		—	—	—
Other reclassifications		—	—	—
Share of other recognised income and expense of investments		85	19	(151)
Income tax relating to items that may be reclassified to profit or loss		1,565	1,272	228
Total recognised income and expenses for the year		**8,104**	**9,433**	**(17,502)**
Attributable to non-controlling interests		1,410	1,255	245
Attributable to the parent		6,694	8,178	(17,747)

A. Presented for comparison purposes only (note 1.d).

The accompanying notes 1 to 54 and appendices are an integral part of the consolidated statement of recognised income and expense for the year ended 31 December 2022.

CONSOLIDATED STATEMENTS OF CHANGES IN TOTAL EQUITY FOR THE YEARS ENDED 31 DECEMBER 2022, 2021 AND 2020

EUR million

	Capital	Share premium	Equity instruments issued (not capital)	Other equity instruments	Accumulated retained earnings
Balance at 31 December 2021[A]	**8,670**	**47,979**	**658**	**152**	**60,273**
Adjustments due to errors	—	—	—	—	—
Adjustments due to changes in accounting policies	—	—	—	—	—
Opening balance at 1 January 2022[A]	**8,670**	**47,979**	**658**	**152**	**60,273**
Total recognised income and expense	**—**	**—**	**—**	**—**	**—**
Other changes in equity	**(273)**	**(1,706)**	**30**	**23**	**6,429**
Issuance of ordinary shares	—	—	—	—	—
Issuance of preferred shares	—	—	—	—	—
Issuance of other financial instruments	—	—	—	—	—
Maturity of other financial instruments	—	—	—	—	—
Conversion of financial liabilities into equity	—	—	—	—	—
Capital reduction	(273)	(1,706)	—	—	—
Dividends	—	—	—	—	(869)
Purchase of equity instruments	—	—	—	—	—
Disposal of equity instruments	—	—	—	—	—
Transfer from equity to liabilities	—	—	—	—	—
Transfer from liabilities to equity	—	—	—	—	—
Transfers between equity items	—	—	—	—	7,298
Increases (decreases) due to business combinations	—	—	—	—	—
Share-based payment	—	—	—	(49)	—
Others increases or (-) decreases in equity	—	—	30	72	—
Balance at 31 December 2022	**8,397**	**46,273**	**688**	**175**	**66,702**

A. Presented for comparison purposes only (note 1.d).

The accompanying notes 1 to 54 and appendices are an integral part of the consolidated statement of changes in total equity for the year ended 31 December 2022.

						Non-controlling interest		
Revaluation reserves	**Other reserves**	**(-) Own shares**	**Profit attributable to shareholders of the parent**	**(-) Interim dividends**	**Other comprehensive income**	**Other comprehensive income**	**Other items**	**Total**
—	**(4,477)**	**(894)**	**8,124**	**(836)**	**(32,719)**	**(2,104)**	**12,227**	**97,053**
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	**(4,477)**	**(894)**	**8,124**	**(836)**	**(32,719)**	**(2,104)**	**12,227**	**97,053**
—	**—**	**—**	**9,605**	**—**	**(2,911)**	**251**	**1,159**	**8,104**
—	**(977)**	**219**	**(8,124)**	**(143)**	**2**	**(3)**	**(3,049)**	**(7,572)**
—	—	—	—	—	—	—	9	9
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	(756)	(756)
—	—	—	—	—	—	—	—	—
—	273	1,706	—	—	—	—	—	—
—	—	—	—	(979)	—	—	(500)	(2,348)
—	—	(2,050)	—	—	—	—	—	(2,050)
—	7	563	—	—	—	—	—	570
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	(12)	—	(8,124)	836	2	(3)	3	—
—	—	—	—	—	—	—	31	31
—	—	—	—	—	—	—	—	(49)
—	(1,245)	—	—	—	—	—	(1,836)	(2,979)
—	**(5,454)**	**(675)**	**9,605**	**(979)**	**(35,628)**	**(1,856)**	**10,337**	**97,585**

CONSOLIDATED STATEMENTS OF CHANGES IN TOTAL EQUITY FOR THE YEARS ENDED 31 DECEMBER 2022, 2021 AND 2020

EUR million

	Capital	Share premium	Equity instruments issued (not capital)	Other equity instruments	Accumulated retained earnings
Balance at 31 December 2020[A]	**8,670**	**52,013**	**627**	**163**	**65,583**
Adjustments due to errors	—	—	—	—	—
Adjustments due to changes in accounting policies	—	—	—	—	—
Opening balance at 1 January 2021[A]	**8,670**	**52,013**	**627**	**163**	**65,583**
Total recognised income and expense	**—**	**—**	**—**	**—**	**—**
Other changes in equity	**—**	**(4,034)**	**31**	**(11)**	**(5,310)**
Issuance of ordinary shares	—	—	—	—	—
Issuance of preferred shares	—	—	—	—	—
Issuance of other financial instruments	—	—	—	—	—
Maturity of other financial instruments	—	—	—	—	—
Conversion of financial liabilities into equity	—	—	—	—	—
Capital reduction	—	—	—	—	—
Dividends	—	(477)	—	—	—
Purchase of equity instruments	—	—	—	—	—
Disposal of equity instruments	—	—	—	—	—
Transfer from equity to liabilities	—	—	—	—	—
Transfer from liabilities to equity	—	—	—	—	—
Transfers between equity items	—	(3,557)	—	—	(5,310)
Increases (decreases) due to business combinations	—	—	—	—	—
Share-based payment	—	—	—	(62)	—
Others increases or (-) decreases in equity	—	—	31	51	—
Balance at 31 December 2021*	**8,670**	**47,979**	**658**	**152**	**60,273**

A. Presented for comparison purposes only (note 1.d).
The accompanying notes 1 to 54 and appendices are an integral part of the consolidated statement of changes in total equity for the year ended 31 December 2022.

						Non-controlling interest		
Revaluation reserves	Other reserves	(-) Own shares	Profit attributable to shareholders of the parent	(-) Interim dividends	Other comprehensive income	Other comprehensive income	Other items	Total
—	**(3,596)**	**(69)**	**(8,771)**	**—**	**(33,144)**	**(1,800)**	**11,646**	**91,322**
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	**(3,596)**	**(69)**	**(8,771)**	**—**	**(33,144)**	**(1,800)**	**11,646**	**91,322**
—	**—**	**—**	**8,124**	**—**	**54**	**(274)**	**1,529**	**9,433**
—	**(881)**	**(825)**	**8,771**	**(836)**	**371**	**(30)**	**(948)**	**(3,702)**
—	—	—	—	—	—	—	17	17
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	(836)	—	—	(648)	(1,961)
—	—	(1,645)	—	—	—	—	—	(1,645)
—	23	820	—	—	—	—	—	843
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	(275)	—	8,771	—	371	(30)	30	—
—	—	—	—	—	—	—	(5)	(5)
—	—	—	—	—	—	—	—	(62)
—	(629)	—	—	—	—	—	(342)	(889)
—	**(4,477)**	**(894)**	**8,124**	**(836)**	**(32,719)**	**(2,104)**	**12,227**	**97,053**

CONSOLIDATED STATEMENTS OF CHANGES IN TOTAL EQUITY FOR THE YEARS ENDED 31 DECEMBER 2022, 2021 AND 2020

EUR million

	Capital	Share premium	Equity instruments issued (not capital)	Other equity instruments	Accumulated retained earnings
Balance at 31 December 2019[A]	**8,309**	**52,446**	**598**	**146**	**61,028**
Adjustments due to errors	—	—	—	—	—
Adjustments due to changes in accounting policies	—	—	—	—	—
Opening balance at 1 January 2020[A]	**8,309**	**52,446**	**598**	**146**	**61,028**
Total recognised income and expense	**—**	**—**	**—**	**—**	**—**
Other changes in equity	**361**	**(433)**	**29**	**17**	**4,555**
Issuance of ordinary shares	361	(72)	—	—	—
Issuance of preferred shares	—	—	—	—	—
Issuance of other financial instruments	—	—	—	—	—
Maturity of other financial instruments	—	—	—	—	—
Conversion of financial liabilities into equity	—	—	—	—	—
Capital reduction	—	—	—	—	—
Dividends	—	(361)	—	—	—
Purchase of equity instruments	—	—	—	—	—
Disposal of equity instruments	—	—	—	—	—
Transfer from equity to liabilities	—	—	—	—	—
Transfer from liabilities to equity	—	—	—	—	—
Transfers between equity items	—	—	—	—	4,555
Increases (decreases) due to business combinations	—	—	—	—	—
Share-based payment	—	—	—	(53)	—
Others increases or (-) decreases in equity	—	—	29	70	—
Balance at 31 December 2020*	**8,670**	**52,013**	**627**	**163**	**65,583**

A. Presented for comparison purposes only (note 1.d).
The accompanying notes 1 to 54 and appendices are an integral part of the consolidated statement of changes in total equity for the year ended 31 December 2022.

						Non-controlling interest		
Revaluation reserves	**Other reserves**	**(-) Own shares**	**Profit attributable to shareholders of the parent**	**(-) Interim dividends**	**Other comprehensive income**	**Other comprehensive income**	**Other items**	**Total**
—	**(3,110)**	**(31)**	**6,515**	**(1,662)**	**(24,168)**	**(982)**	**11,570**	**110,659**
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	**(3,110)**	**(31)**	**6,515**	**(1,662)**	**(24,168)**	**(982)**	**11,570**	**110,659**
—	**—**	**—**	**(8,771)**	**—**	**(8,976)**	**(818)**	**1,063**	**(17,502)**
—	**(486)**	**(38)**	**(6,515)**	**1,662**	**—**	**—**	**(987)**	**(1,835)**
—	70	—	—	—	—	—	5	364
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	(465)	(826)
—	—	(758)	—	—	—	—	—	(758)
—	1	720	—	—	—	—	—	721
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	298	—	(6,515)	1,662	—	—	—	—
—	—	—	—	—	—	—	(54)	(54)
—	—	—	—	—	—	—	—	(53)
—	(855)	—	—	—	—	—	(473)	(1,229)
—	**(3,596)**	**(69)**	**(8,771)**	**—**	**(33,144)**	**(1,800)**	**11,646**	**91,322**

CONSOLIDATED STATEMENTS OF CASH FLOWS FOR THE YEARS ENDED 2022, 2021 AND 2020

EUR million

	Note	2022	2021[A]	2020[A]
A. CASH FLOWS FROM OPERATING ACTIVITIES		**27,706**	**56,691**	**66,153**
Profit or loss for the year		**10,764**	**9,653**	**(7,708)**
Adjustments made to obtain the cash flows from operating activities		**23,970**	**21,363**	**37,836**
Depreciation and amortisation cost		2,985	2,756	2,810
Other adjustments		20,985	18,607	35,026
Net increase/(decrease) in operating assets		**108,774**	**27,258**	**51,385**
Financial assets held-for-trading		30,837	2,064	12,390
Non-trading financial assets mandatorily at fair value through profit or loss		218	969	(275)
Financial assets at fair value through profit or loss		(7,083)	(32,746)	(10,314)
Financial assets at fair value through other comprehensive income		(22,358)	(9,152)	6,549
Financial assets at amortized cost		105,618	73,181	43,541
Other operating assets		1,542	(7,058)	(506)
Net increase/(decrease) in operating liabilities		**107,244**	**56,945**	**90,356**
Financial liabilities held-for-trading		29,533	(1,386)	7,880
Financial liabilities designated at fair value through profit or loss		25,595	(14,316)	(10,907)
Financial liabilities at amortized cost		55,595	79,114	96,561
Other operating liabilities		(3,479)	(6,467)	(3,178)
Income tax recovered/(paid)		**(5,498)**	**(4,012)**	**(2,946)**
B. CASH FLOWS FROM INVESTING ACTIVITIES		**(3,898)**	**(3,715)**	**(7,220)**
Payments		**11,776**	**11,669**	**11,976**
Tangible assets	16	9,066	10,015	7,386
Intangible assets	18	1,774	1,388	1,134
Investments	13	152	126	525
Subsidiaries and other business units		784	140	2,931
Non-current assets held for sale and associated liabilities		—	—	—
Other payments related to investing activities		—	—	—
Proceeds		**7,878**	**7,954**	**4,756**
Tangible assets	16	5,558	6,382	2,014
Intangible assets	18	—	—	—
Investments	13	533	672	182
Subsidiaries and other business units		734	6	1,775
Non-current assets held for sale and associated liabilities	12	1,053	894	785
Other proceeds related to investing activities		—	—	—
C. CASH FLOW FROM FINANCING ACTIVITIES		**(9,964)**	**(1,322)**	**(1,909)**
Payments		**10,665**	**7,741**	**6,978**
Dividends	4	1,848	1,313	—
Subordinated liabilities	23	2,291	2,684	3,780
Redemption of own equity instruments		—	—	—
Acquisition of own equity instruments		2,050	1,645	758
Other payments related to financing activities		4,476	2,099	2,440
Proceeds		**701**	**6,419**	**5,069**
Subordinated liabilities	23	119	5,340	4,095
Issuance of own equity instruments		—	—	—
Disposal of own equity instruments		573	854	721
Other proceeds related to financing activities		9	225	253

CONSOLIDATED STATEMENTS OF CASH FLOWS FOR THE YEARS ENDED 2022, 2021 AND 2020

EUR million

	Note	2022	2021[A]	2020[A]
D. EFFECT OF FOREIGN EXCHANGE RATE DIFFERENCES		**(1,460)**	**5,196**	**(4,252)**
E. NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS		**12,384**	**56,850**	**52,772**
F. CASH AND CASH EQUIVALENTS AT BEGINNING OF THE YEAR		**210,689**	**153,839**	**101,067**
G. CASH AND CASH EQUIVALENTS AT END OF THE YEAR		**223,073**	**210,689**	**153,839**
COMPONENTS OF CASH AND CASH EQUIVALENTS AT END OF THE YEAR				
Cash		*8,929*	*8,142*	*7,817*
Cash equivalents at central banks		*200,830*	*193,102*	*137,047*
Other financial assets		*13,314*	*9,445*	*8,975*
Less, bank overdrafts refundable on demand		—	—	—
TOTAL CASH AND CASH EQUIVALENTS AT END OF THE YEAR		**223,073**	**210,689**	**153,839**
In which, restricted cash		—	—	—

A. Presented for comparison purposes only (note 1.d).
The accompanying notes 1 to 54 and appendices are an integral part of the consolidated statement of cash flows for the year ended 31 December 2022.

Notes to the consolidated financial statements

Banco Santander, S.A., and Companies composing Grupo Santander

Notes to the consolidated financial statements (consolidated annual accounts) for the year ended 31 December 2022

1. Introduction, basis of presentation of the consolidated financial statements (consolidated annual accounts) and other information

a) Introduction

Banco Santander, S.A. ('the parent' or 'Banco Santander'), is a private-law entity subject to the rules and regulations applicable to banks operating in Spain, where it was constituted and currently maintains its legal domicile, which is paseo de Pereda, numbers 9 to 12, 39004, Santander, Spain.

The principal headquarters of Banco Santander are located in Ciudad Grupo Santander, Avenida Cantabria s/n, 28660, Boadilla del Monte, Madrid, Spain.

The corporate purpose of Banco Santander, S.A., mainly entails carrying out all kinds of activities, operations and services inherent to the banking business in general and permitted by current legislation, and the acquisition, holding, enjoyment and disposal of all kinds of securities.

In addition to the operations carried on directly by it, Banco Santander is the head of a group of subsidiaries that engage in various business activities and which compose, together with it, Grupo Santander ('Santander' or 'the Group'). Therefore, Banco Santander is obliged to prepare, in addition to its own separate financial statements, the Group's consolidated financial statements, which also include the interests in joint ventures and investments in associates.

At 31 December 2022, Grupo Santander consisted of 743 subsidiaries of Banco Santander, S.A. In addition, other 170 companies are associates of the Group, joint ventures or companies of which the Group holds more than 5% (excluding the Group companies of negligible interest with respect to the fair presentation that the annual accounts must express).

Grupo Santander consolidated financial statements for 2020 were approved by the shareholders at the group´s annual general meeting on 26 March 2021. Grupo Santander consolidated financial statements for 2021 were approved by the shareholders at the group´s annual general meeting on 1 April 2022. The Group's 2022 consolidated financial statements, the financial statements of the parent and of substantially all the Group companies have not been approved yet by their shareholders at the respective annual general meetings. However, Banco Santander board of directors considers that the aforementioned financial statements will be approved without any significant changes.

b) Basis of presentation of the consolidated financial statements

Under Regulation (EC) n.º 1606/2002 of the European Parliament and of the Council of 19 July 2002 all companies governed by the law of an EU Member State and whose securities are admitted to trading on a regulated market of any Member State must prepare their consolidated financial statements for the years beginning on or after 1 January, 2005 in conformity with the International Financial Reporting Standards ('IFRS') previously adopted by the European Union ('EU-IFRS').

In order to adapt the accounting system of Spanish credit institutions with the principles and criteria established by the IFRS adopted by the European Union ('EU-IFRS'), the Bank of Spain published circular 4/2017, dated 27 November 2017, on Public and Confidential Financial Reporting Standards and Financial Statement Formats.

During 2021 and 2020, the Bank of Spain published Circulars 6/2021 of 22 December, 2/2020 and 3/2020 of 11 June, amending Circular 4/2017 of 27 November to credit institutions on Public and Confidential Financial Reporting Standards and Financial Statement Formats.

Grupo Santander consolidated financial statements for 2022 were authorised by the Bank's directors (at the board meeting on 27 February 2023) in accordance with International Financial Reporting Standards as adopted by the European Union and with Bank of Spain circular 4/2017 and subsequent modifications, and Spanish corporate and commercial law applicable to the Group, using the basis of consolidation, accounting policies and measurement bases set forth in note 2, accordingly, they present fairly the Group's equity and financial position at 31 December 2022, 2021 and 2020 and the consolidated results of its operations and the consolidated cash flows in 2022, 2021 and 2020. These consolidated annual accounts have been prepared on the basis of the accounting records held by Banco Santander and by each of the other companies of the Group, and include the adjustments and reclassifications required to standardise the accounting policies and valuation criteria applied by Grupo Santander.

The notes to the consolidated financial statements contain additional information to that presented in the consolidated balance sheet, consolidated income statement, consolidated statement of recognised income and expense, consolidated statement of changes in total equity and consolidated statement of cash flows. The notes provide, in a clear, relevant, reliable and comparable manner, narrative descriptions and breakdowns of these statements.

The figures of the consolidated annual accounts are presented in millions of euros unless another alternative monetary unit is indicated, rounded to the nearest million unit.

Adoption of new standards and interpretations issued

The following modifications came into force and were adopted by the European Union in 2022:

- Amendment to IFRS 3 Business Combinations: to update the references to the Conceptual Framework for Financial Reporting and add an exception for the recognition of liabilities and contingent liabilities within the scope of IAS 37 Provisions, Contingent Liabilities and Contingent Assets and IFRIC 21 Levies. The amendments also confirm that an acquirer should not recognize contingent assets acquired in a business combination. Applicable from 1 January 2022.

- Amendment to IAS 16 Property, Plant and Equipment: prevents an entity from deducting from the cost of an item of property, plant and equipment any revenue from the sale of finished goods while the entity is preparing the item for its intended use. It is also clear that an entity is "testing whether the asset is functioning properly" when evaluating the technical and physical performance of the asset. The financial performance of the asset should not be taken into account for this evaluation. Additionally, entities should disclose separately the amounts of income and expenses related to finished goods that are not the product of the entity's ordinary activities. Applicable from 1 January 2022.

- Amendment to IAS 37 Provisions, Contingent Liabilities and Contingent Assets: clarifies that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts. Before recognising a separate provision for an onerous contract, the entity recognises any impairment loss that has occurred on assets used in fulfilling the contract. Applicable from 1 January 2022.

- Amendment to IFRS Cycle (2018-2020): introduces minor amendments, applicable from 1 January 2022, to the following standards:

  - IFRS 9 Financial Instruments: clarifies which rates must be included in the 10% test for derecognition of financial liabilities.

  - IFRS 16 Leases: amendment to remove possible confusion regarding the treatment of leasing incentives in the application of IFRS 16 Leases.

  - IFRS 1, in relation to the first-time adoption of International Financial Reporting Standards, allows entities that have measured their assets and liabilities at the carrying amounts recorded in their parent's books to also measure any cumulative translation differences using the amounts reported by the parent. This amendment also applies to associates and joint ventures that have adopted the same exemption from IFRS 1.

The application of the aforementioned amendments to accounting standards and interpretations did not have any material effects on Grupo Santander consolidated financial statements.

Likewise, at the date of approval of these consolidated annual accounts, the following standards which effectively came into force have effective dates after 31 December 2022:

- IFRS 17 Insurance Contracts and amendments to IFRS 17: new general accounting standard for insurance contracts, which includes the recognition, measurement, presentation and disclosure of information. Insurance contracts combine financial and service provision features that, in many cases, generate variable long- term cash flows. To properly reflect these characteristics, IFRS 17 combines the measurement of future cash flows with the recording of the contract result during the period in which the service is provided, presents separately the financial results from the results for the provision of the service and allows entities, through the choice of an accounting policy option, to recognize the financial results in the income statement or in other comprehensive income. In accordance with current regulations, it will be applicable retrospectively from 1 January, 2023.

  The Group has carried out a project to implement IFRS 17 with all the Group entities affected and has prepared an accounting policy that establishes the accounting criteria for insurance contracts.

  Grupo Santander has concluded the analysis of the effects of this new standard without having identified any material impact on its consolidated financial statements due to its application, except for a balance sheet reclassification, recorded at 1 January 2023, amounting to EUR 16,025 million, from the heading 'Financial liabilities at amortized cost' to 'Liabilities under insurance or reinsurance contracts', related to the different treatment that this new standard establishes for the components of an insurance contract.

- The amendments to IAS 1 Presentation of Financial Statements require companies to disclose material information about their accounting policies rather than their significant accounting policies. It will be applicable from 1 January 2023.

- The amendments to IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors clarifies how to distinguish changes in accounting policies, which are generally applied retrospectively, from changes in accounting estimates, which are generally applied prospectively. It will be applicable from 1 January 2023.

- The amendments to IAS 12 Income Taxes require companies to recognise deferred tax on transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. In addition, entities should recognise deferred tax assets (to the extent that it is probable that they can be utilised) and deferred tax liabilities at the beginning of the earliest comparative period for all deductible and taxable temporary differences associated with:

  - Right-of-use assets and lease liabilities.

  - Decommissioning, restoration and similar liabilities, and the corresponding amounts recognised as part of the cost of the related assets.

The cumulative effect of recognising these adjustments is recognised in retained earnings, or another component of equity, as appropriate. It will be applicable from 1 January 2023.

Finally, at the date of approval of these consolidated annual accounts, the following standards which effectively come into force after 31 December 2022 had not yet been adopted by the European Union:

- Classification of Liabilities, amendments to IAS 1 Presentation of Financial Statements, considering non-current liabilities those in which the entity has the possibility of deferring payment for more than 12 months from the closing date of the reporting period.

  Likewise, during 2022, an additional amendment to IAS 1 on the classification of liabilities with covenants as current or non-current has been included, specifying that covenants that must be complied with after the reporting date do not affect the classification of liabilities and require additionally their respective breakdowns.

  It must be applied retrospectively in accordance with the normal requirements in IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors. It will apply from 1 January 2024.

- Amendment to IFRS 16 Lease Liability in a Sale and Leaseback requires a seller-lessee to subsequently measure lease liabilities arising from a leaseback without recognising any amount of the gain or loss that relates to the right of use retained. This new requirement does not prevent a seller-lessee from recognising in profit or loss any gain or loss relating to the partial or full termination of a lease. It will be applied retrospectively from 1 January 2024.

Grupo Santander is currently analyzing the possible effects of these new standards and interpretations, and unless expressly indicated otherwise, no significant impacts are expected from their application.

All accounting policies and measurement bases with a material effect on the consolidated financial statements for 2022 were applied in the preparation of these consolidated annual accounts.

c) Use of critical estimates

The consolidated results and the determination of consolidated equity are sensitive to the accounting policies, measurement bases and estimates used by the directors of Banco Santander in preparing the consolidated financial statements.

The main accounting policies and measurement bases are set forth in note 2.

In the consolidated financial statements estimates were occasionally made by the senior management of Grupo Santander in order to quantify certain of the assets, liabilities, income, expenses and obligations reported herein. These estimates, which were made on the basis of the best information available, relate basically to the following:

- The impairment losses on certain assets: it applies to financial assets at fair value through other comprehensive income, financial assets at amortised cost, non-current assets held for sale, investments, tangible assets and intangible assets (see notes 6, 7, 10, 12, 13, 16, 17, 18 and 53).
- The assumptions used in the actuarial calculation of the post-employment benefit liabilities and commitments and other obligations (see note 25).
- The useful life of the tangible and intangible assets (see notes 16 and 18).
- The measurement of goodwill arising on consolidation (see note 17).
- The calculation of provisions and the consideration of contingent liabilities (see note 25).
- The fair value of certain unquoted assets and liabilities (see notes 6, 7, 8, 9, 10, 11, 20, 21 and 22).
- The recoverability of deferred tax assets (see note 27).
- The fair value of the identifiable assets acquired and the liabilities assumed in business combinations in accordance with IFRS 3 (see note 17).

To update the previous estimates, the Group's management has taken into account the current macroeconomic scenario resulting from the Ukrainian war, as well as the growing level of inflation and the difficulties in the supply chains, which is having a certain impact on the economic evolution and is being closely monitored, and which generates uncertainty in the Group's estimates. For this reason, the Management of the Group has carried out an evaluation of the current situation in accordance with the best information available to date, developing in the notes the main estimates made and the potential impacts of the Ukrainian war and the macroeconomic situation on them during the period ended December 31, 2022 (see notes 17 and 53).

Although these estimates have been made on the basis of the best information available at the end of the year 2022, and considering information updated at the date of preparation of these consolidated annual accounts, it is possible that events that may take place in the future may make it necessary to modify them (upwards or downwards) in the coming years, which would be done, if appropriate, in a prospective manner, recognising the effects of the change in estimate in the corresponding consolidated income statement.

d) Information relating to 2021 and 2020

The segment information corresponding to the year ended 31 December 2021 and 2020 were restated for comparative purposes in accordance with the Group's new organizational structure, as required by IFRS 8 (see note 51).

Additionally, the information in notes 46 and 47.c for December 2021 and 2020 corresponding to the staff and branches, respectively, has been restated in accordance with the Group's standardization criteria (see notes 46 and 47.c).

In order to interpret the changes in the balances with respect to 31 December 2022, it is necessary to take into consideration the exchange rate effect arising from the volume of foreign currency balances held by Grupo Santander in view of its geographic diversity (see note 51.b) and the impact of the appreciation/depreciation of the various currencies against the euro in 2022, based on the exchange rates at the end of 2022: Mexican peso (11.28%), US dollar (6.07%) , Brazilian real (11.85%) , Argentine peso (-38.50%), Sterling pound (-5.26%), Chilean peso (6.08%), and Polish zloty (-1.86%); as well as the evolution of the comparable average rates: Mexican peso (13.48%), US dollar (12.45%), Brazilian real (17.55%), Sterling pound (0.82%), Chilean peso (-2.13%) and Polish zloty (-2.54%).

e) Capital management

i. Regulatory and economic capital

Credit institutions must meet a number of minimum capital and liquidity requirements. These minimum requirements are governed by the European Capital Requirements Regulation (hereinafter CRR) and the Capital Requirements Directive (hereinafter CRD). In June 2019, these regulations were significantly amended.

As the Directives need to be transposed into the legal systems of the different Member States in order to be applicable, in the case of Spain, Royal Legislative Decree 7/2021 and Royal Decree 970/2021 were published for this purpose in 2021. In 2022, the transposition of the CRD into Spanish law has been completed with the publication of Bank of Spain Circular 3/2022, which amends Circular 2/2016, on supervision and solvency; Circular 2/2014, on the exercise of various regulatory options of the CRR and Circular 5/2012, addressed to credit institutions and payment service providers, on transparency of banking services and responsibility in the granting of loans.

The CRD introduced important modifications such as Pillar 2G regulation ('P2 Guidance' supervisory recommendation on Pillar 2 requirements). On 27 October 2021, the European Commission published the draft review of the European banking legislation: CRR and CRD.

This review completes the implementation of the Basel III reform, which was agreed at the end of 2017 and aims to reduce the variability of risk-weighted assets and improve comparability between banks.

Progress was made in 2022 on discussions about the new texts and the final proposal is expected to be approved in 2023.

The banking package consists of the following elements: 1) Implementation of the final Basel III reforms, 2) Contribution to sustainability and green transition and 3) Stronger supervision: ensuring sound management of EU banks and better protection of financial stability.

The first element is reflected in the Commission's proposal to amend the text of the CRR. This proposal contains changes concerning, among other things, key risk factors, standardised credit risk, internal models, the output floor and operational risk.

The second element, relating to the contribution to sustainability and green transition, is reflected in the fact that the legislative proposals continue to incorporate ESG (environmental, social and governance) factors into the various areas of prudential regulation: governance, supervision, risk management, reporting obligations to competent authorities and disclosure requirements, among other topics. In this regard, it is important to note the Commission's mandate to the European Banking Authority (EBA) to assess whether specific prudential treatment is required for environmental and social risks. In line with this mandate, in 2022, the EBA issued the first consultation on the role of environmental risks within the prudential framework. Based on the feedback received in said consultation, and depending on the final wording of the CRR/CRD, the EBA shall publish a report on the matter.

Finally, the third element, which refers to stronger supervision and protection of financial stability, is expressed in a series of provisions concerning: fit-and-proper requirements, the extension of the scope by revising certain definitions that would cover groups managed by fintechs, and the establishment of third-country branches in the EU in order to achieve greater harmonisation of rules and better supervision of this type of entity.

The European Council's proposal on CRR and CRD was published on 8 November 2022. During 2023, it is expected that the Parliament makes its position text public, which will be followed by the beginning of the trialogues process that will eventually result in the final versions of the regulations.

The new CRR/CRD regulations are expected to enter into force from 1 January 2025.

With regard to the resolution framework, institutions must have an adequate funding structure to ensure that, in the event of financial distress, the institution has sufficient liabilities to absorb losses in order to recover its position or be resolved, while ensuring the protection of depositors and financial stability. The entities must therefore meet several minimum loss-absorbing requirements, named Total Loss-Absorbing Capacity (TLAC) and Minimum Requirement for own funds and Eligible Liabilities (MREL), which are regulated by the CRR and by the Bank Recovery and Resolution Directive (BRRD).

In June 2019, the CRR introduced the minimum TLAC requirement, which only applies to global systemically important banks (G-SIBs). This requirement involves two metrics, the first is a minimum requirement for own funds and eligible liabilities in terms of a percentage of the total risk exposure amount (TREA), set at 18% from 1 January 2022 once the transition period ended. The second is a metric to set a minimum requirement for own funds and eligible liabilities in terms of a percentage of the average exposure to the Basel III Tier I leverage ratio of 6.75% from 1 January 2022 once the transition period ended.

For large banks (defined as banks with total assets of more than EUR 100 billion) or banks deemed to be systemically important by the resolution authority, the BRRD sets a minimum subordination requirement that will be higher between a 13.5% of risk-weighted assets and 5% of the leverage ratio. For the remaining institutions, the subordination requirement is set by the resolution authority on a case-by-case basis.

On 25 October 2022, the regulation on prudential treatment for global systemically important banks was published. This modifies both the CRR and the BRRD as regards prudential treatment of global systemically important banks (G-SIBs) with a multiple point of entry (MPE) resolution strategy, as well as methodologies for the indirect subscription of instruments (Daisy Chains) eligible for meeting the minimum requirement for own funds and eligible liabilities.

This Regulation, known as the 'Quick Fix', covers the following objectives:

- Inclusion in the BRRD and CRR of references to third countries that allow adjustment of the deduction applied for the TLAC holding instruments issued by subsidiaries in third countries based on excess TLAC/MREL at the said subsidiaries, as well as the adjustment where the sum of the requirements for own funds and eligible liabilities of G-SIBs under an MPE strategy exceed the theoretical requirements for the same group under a single point of entry (SPE) strategy. In other words, the latter adjustment is based on a comparison between the two possible resolution strategies.

  For subsidiaries in jurisdictions without a resolution regime in place, the Regulation provides for a transitional period until 31 December 2024. During this transitional period the entities may adjust the deductions based on excess above capital requirements in subsidiaries in third countries, if they meet certain requirements.

- Inclusion of a deduction scheme for MREL instrument holdings through entities of the same resolution group other than the resolution entity. This Regulation sets a deduction for the intermediate entity (Daisy Chains) that buy instruments issued by another entity as a result of this the deduction. The intermediate entity is obligated to issue the same amount that is repurchasing to the Resolution Entity, transferring internal MREL needs to the Resolution Entity, which will finally cover the required amount with external MREL.

This Regulation is applicable since 14 November 2022, except for the provisions relating to Daisy Chains, which apply since 1 January 2024.

Finally, Deposit Guarantee Schemes (DGSs) are regulated by the Deposit Guarantee Schemes Directive (DSGD), which has not undergone any significant changes since its publication in 2014. It aims to harmonise the deposit guarantee schemes of the Member States, thus ensuring stability and balance in different countries. It creates an appropriate framework for depositors to have better access to DGSs than was the case before the publication of this Directive through clear coverage, shorter repayment periods, better information and robust funding requirements. This Directive is transposed into Spanish law by Royal Decree 2606/1996, with its amendments set forth in Royal Decree 1041/2021.

To ensure that depositors' funds are secured, the DGSs collect funds available through contributions that must be made by their members at least once a year; a target level of 0.8% of the guaranteed deposits total must be met by 3 July 2024. These annual collections are set depending on the guaranteed deposits total and the degree of risk faced by the entities involved in the DGS. The method for calculating contributions is stated in the EBA Guidelines (EBA/GL/2015/10). A review and evaluation process was opened for these Guidelines by the EBA in 2022 (EBA/CP/2022/10).

Additionally, recent market developments have caused substantial increases in energy prices, which have consequently generated increases in the margins required by central counterparty entities (CCPs) to cover exposures. In response to this issue, Delegated Regulation (EU) 2022/2311 was published in November this year, amending Delegated Regulation (EU) 153/2013, which sets forth regulatory technical standards on the requirements that CCPs must meet. The new Regulation broadens the catalogue of guarantees that CCPs can accept as eligible collateral until November 2023.

At 31 December 2022 Grupo Santander met the minimum capital requirements established by current legislation (see note 53.d).

ii. Plan for the roll-out of advanced approaches and authorisation from the supervisory authorities

Grupo Santander remains committed to adopting the Basel II advanced internal ratings-based (AIRB) approach for its banks, increasing the amount of exposure managed using internal models. This approach will be applied progressively over the coming years. The commitment to the supervisory authority means adapting the advanced approaches in the Group's core markets.

This objective of covering IRB models in the group should be seen in the context of the current supervisory focus on the robustness and adequacy of existing models, as well as the simplification strategy recently agreed with ECB.

Grupo Santander has supervisory approval to use advanced approaches for calculating regulatory capital for credit risk for the parent and its main subsidiaries in Spain, the United Kingdom and Portugal, and for some portfolios in Germany, Mexico, Brazil, Chile, Nordic countries (Sweden, Finland and Norway), France and the United States.

f) Environmental impact

In view of the business activities carried on by the Group entities, the Group does not have any environmental liability, expenses, assets, provisions or contingencies that might be material with respect to its consolidated equity, financial position or results (see note 53.a.).

g) Events after the reporting period

On 28 December 2022 the Law establishing a new temporary levy on credit institutions and financial credit institutions was published in Spain (see note 27 for additional information). On 1 January 2023 an estimated amount of EUR 225 million has been accounted for in accordance with IFRIC 21 due to this new levy.

In accordance with the agreement reached by the April 2022 general shareholders' meeting, on 1 February 2023 the board of directors approved a capital reduction, subject to corresponding regulatory authorization from the ECB, of EUR 170,203,286 through the redemption of 340,406,572 shares, representing 2.03% of the capital, acquired in the first share buyback program.

2. Accounting policies

The accounting policies applied in preparing the consolidated financial statements were as follows:

a) Foreign currency transactions

i. Presentation currency

Banco Santander's functional and presentation currency is the euro. Also, the presentation currency of the Group is the euro.

ii. Translation of foreign currency balances

Foreign currency balances are translated to euros in two consecutive stages:

- Translation of foreign currency to the functional currency (currency of the main economic environment in which the entity operates).

- Translation to euros of the balances held in the functional currencies of entities whose functional currency is not the euro.

Translation of foreign currency to the functional currency

Foreign currency transactions performed by consolidated entities (or entities accounted for using the equity method) not located in European Monetary Union ("EMU") countries are initially recognised in their respective currencies. Monetary items in foreign currency are subsequently translated to their functional currencies using the closing rate.

Furthermore:

- Non-monetary items measured at historical cost are translated to the functional currency at the exchange rate at the date of acquisition.

- Non-monetary items measured at fair value are translated at the exchange rate at the date when the fair value was determined.

- Income and expenses are translated at the average exchange rates for the year for all the transactions performed during the year. When applying this criterion, the Group considers whether there have been significant changes in the exchange rates in the year which, in view of their materiality with respect to the consolidated financial statements taken as a whole, would make it necessary to use the exchange rates at the transaction date rather than the aforementioned average exchange rates.

- The balances arising from non-hedging forward foreign currency/foreign currency and foreign currency/euro purchase and sale transactions are translated at the closing rates prevailing in the forward foreign currency market for the related maturity.

Translation of functional currencies to euros

The balances in the financial statements of consolidated entities (or entities accounted for using the equity method) whose functional currency is not the euro are translated to euros as follows:

- Assets and liabilities, at the closing rates.
- Income and expenses, at the average exchange rates for the year.
- Equity items, at the historical exchange rates.

iii. Recognition of exchange differences

The exchange differences arising on the translation of foreign currency balances to the functional currency are generally recognised at their net amount under 'Exchange differences, net' in the consolidated income statement, except for exchange differences arising on financial instruments at fair value through profit or loss, which are recognised in the consolidated income statement without distinguishing them from other changes in fair value, and for exchange differences arising on non-monetary items measured at fair value through equity, which are recognised under 'Other comprehensive income–Items that may be reclassified to profit or loss–Exchange differences' except for exchange differences on equity instruments, where the option to irrevocably elect to be measured at fair value through changes in accumulated other comprehensive income, which are recognised in accumulated 'Other Comprehensive Income - Items not to be reclassified to profit or loss - Changes in fair value of equity instruments measured at fair value' through other comprehensive income (see note 29).

The exchange differences arising on the translation to euros of the financial statements denominated in functional currencies other than the euro are recognised in 'Other comprehensive income–Items that may be reclassified to profit or loss–Exchange differences' in the consolidated balance sheet, whereas those arising on the translation to euros of the financial statements of entities accounted for using the equity method are recognised in equity under 'Other comprehensive income–Items that may be reclassified to profit or loss and Items not reclassified to profit or loss–Other recognised income and expense' of investments in subsidiaries, joint ventures and associates (see note 29), until the related item is derecognised, at which time they are recognised in profit or loss.

Exchange differences arising on actuarial gains or losses when converting to euros the financial statements denominated in the functional currencies of entities whose functional currency is different from the euro are recognised under equity 'Other comprehensive income–Items not reclassified to profit or loss–Actuarial gains or (-) losses' on defined benefit pension plans (see note 29).

iv. Entities located in hyperinflationary economies

When a subsidiary operates in a country with hyperinflationary economy, IAS 29 Financial Information in Hyperinflationary Economies is applied, which means that:

– Historical cost of non-monetary assets and liabilities and of the various items of equity have to be adjusted to reflect the changes in the purchasing power of the currency due to inflation from their date of acquisition or incorporation into the consolidated balance sheet.

– The different items of the income statement are adjusted by the inflationary index since their generation, with a balancing entry in 'Other comprehensive income'.

– The loss on the net monetary position is recorded in the income for the year against 'Accumulated Other comprehensive income'.

– All components of the financial statements of the subsidiary are translated at the closing exchange rate.

The deterioration of the economic situation in Argentina over the last years caused, among other impacts, a significant increase in inflation, which by the end of 2018 had reached 48% per year (147% accumulated in three years). This led the Group to conclude that it was necessary to apply IAS 29 Financial Information in Hyperinflationary Economies to its activities in the country in question in its consolidated financial statements from that year on.

At that moment, according with Group's accounting policies, exchange differences arising on the translation to the Group´s presentation currency of financial statements denominated in functional currencies other than euro for subsidiaries located in countries with high inflation rates were recorded in the consolidated statement of changes in total 'Equity-Other reserves'.

However, on the basis of the meeting held on 3 March 2020 by the International Financial Reporting Standards Committee (IFRIC), in 2020 Grupo Santander changed its accounting policy with regard to the presentation of exchange differences and the effects of hyperinflation in the operations generated in Argentina. This change in accounting policy and its consequent restatement between different equity items has no impact on the total equity of Grupo Santander.

In accordance with the provisions of the Argentine Federation of Professional Councils in Economic Sciences (Fcpce), which is the organization that issues the professional accounting standards in said country, the inflation indexes applied are the wholesale internal price index (WPI) until 30 November 2016 and the National Consumer Price Index published by the National Institute of Statistics and Censuses (Indec) from 1 December 2016 on. Inflation during 2022 was 94.8% for the year (50.9% at 31 December 2021). The exchange rate at 31 December 2021 has been of 189.12 Argentine pesos per euro (116.30 Argentine pesos per euro at 31 December 2021).

At 31 December 2022, no other country in which the consolidated and associated entities of Grupo Santander are located is considered to have a hyperinflationary economy in accordance with the criteria established in this regard by the International Financial Reporting Standards adopted by the European Union.

v. Exposure to foreign currency risk

Grupo Santander hedges a portion of its long-term foreign currency positions using foreign exchange derivative financial instruments (see note 36). Also, the Group manages foreign exchange risk dynamically by hedging its short-term position (with a potential impact on profit or loss) in order to limit the impact of currency depreciations while optimising the cost of financing the hedges.

The following tables show the sensitivity of the consolidated income statement and consolidated equity to percentage changes of ± 1% in the foreign exchange rate positions arising from investments in Grupo Santander companies with currencies other than the euro (with its hedges) and in their results (with its hedges), in which the Group maintains significant balances.

The estimated effect on the consolidated equity attributable to Grupo Santander and on consolidated profit and loss account of a 1% appreciation of the euro against the corresponding currency is as follows:

EUR million

	Effect on consolidated equity			Effect on consolidated profit		
Currency	2022	2021	2020	2022	2021	2020
US dollar	(146.0)	(133.3)	(123.6)	(4.4)	(8.6)	(4.1)
Chilean peso	(14.8)	(11.4)	(20.4)	(2.0)	(2.4)	(4.4)
Pound sterling	(94.7)	(105.9)	(107.9)	(1.5)	(2.3)	(1.2)
Mexican peso	(27.7)	(23.1)	(21.7)	(2.0)	(0.9)	(2.0)
Brazilian real	(100.1)	(80.8)	(75.0)	(5.9)	(15.4)	(12.6)
Polish zloty	(19.8)	(27.5)	(26.7)	(1.3)	(1.1)	(2.2)
Argentine peso	(17.1)	(10.7)	(7.9)	(2.1)	(2.5)	(1.8)

Similarly, the estimated effect on the Group's consolidated equity and on consolidated profit and loss account of a 1% depreciation of the euro against the corresponding currency is as follows:

EUR million

	Effect on consolidated equity			Effect on consolidated profit		
Currency	2022	2021	2020	2022	2021	2020
US dollar	148.9	136.0	126.1	4.5	8.8	4.2
Chilean peso	15.1	11.6	20.8	2.1	2.4	4.5
Pound sterling	96.7	108.0	110.1	1.5	2.3	1.2
Mexican peso	28.2	23.6	22.1	2.0	0.9	2.0
Brazilian real	102.1	82.4	76.5	6.0	15.7	12.8
Polish *zloty*	20.2	28.0	27.2	1.4	1.1	2.2
Argentine peso	17.4	11.0	8.0	2.2	2.6	1.8

The above data were obtained as follows:

a) Effect on consolidated equity: in accordance with the accounting policy detailed in note 2.a.iii, foreign exchange rate impact arising on the translation to euros of the financial statements in the functional currencies of the Group entities whose functional currency is not the euro are recognised in consolidated equity. The potential effect that a change in the exchange rates of the related currency would have on the Group's consolidated equity was therefore determined by applying the aforementioned change to the net value of each unit's assets and liabilities -including, where appropriate, the related goodwill- and by taking into consideration the offsetting effect of the hedges of net investments in foreign operations.

b) Effect on consolidated profit: the effect was determined by applying the up and down movements in the average exchange rates of the year, as indicated in note 2.a.ii (except in the case of Argentina, which is a hyperinflationary economy and has applied the closing exchange rate), to translate to euros the income and expenses of the consolidated entities whose functional currency is not the euro, taking into consideration, where appropriate, the offsetting effect of the various hedging transactions in place.

The estimates used to obtain the foregoing data were performed considering the effects of the changes in the exchange rate in standalone basis not considering the effect of the performance of other variables whose changes would affect equity and profit or loss, such as variations in the interest rates of the reference currencies or other market factors. Accordingly, all variables other than the exchange rate variations were kept constant with respect to their positions at 31 December 2022, 2021 and 2020.

b) Basis of consolidation

i. Subsidiaries

Subsidiaries are defined as entities over which the Bank has the capacity to exercise control. The Bank controls an entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

The financial statements of the subsidiaries are fully consolidated with those of the Bank. Accordingly, all balances and effects of the transactions between consolidated companies are eliminated on consolidation.

On acquisition of control of a subsidiary, its assets, liabilities and contingent liabilities are recognised at their acquisition-date fair values. Any positive differences between the acquisition cost and the fair values of the identifiable net assets acquired are recognised as goodwill (see note 17). Negative differences are recognised in profit or loss on the date of acquisition.

Additionally, the share of third parties of Grupo Santander equity is presented under 'Non-controlling interests' in the consolidated balance sheet (see note 28). Their share of the profit for the year is presented under 'Profit attributable to non-controlling interests' in the consolidated income statement.

The results of subsidiaries acquired during the year are included in the consolidated income statement from the date of acquisition to year-end. Similarly, the results of subsidiaries for which control is lost during the year are included in the consolidated income statement from the beginning of the year to the date of disposal.

At 31 December 2022, apart from the structured consolidated entities, Grupo Santander does not control any company in which it maintains a percentage of direct participation in its share capital of less than 50%.

The appendices contain significant information on the subsidiaries.

ii. Interests in joint ventures

Joint ventures are deemed to be entities that are not subsidiaries but which are jointly controlled by two or more unrelated entities. This is evidenced by contractual arrangements whereby two or more parties have interests in entities so that decisions about the relevant activities require the unanimous consent of all the parties sharing control.

In the consolidated financial statements, investments in joint ventures are accounted for using the equity method, i.e. at the Group's share of net assets of the investee, after taking into account the dividends received therefrom and other equity eliminations. The profits and losses resulting from transactions with a joint venture are eliminated to the extent of the Group's interest therein.

The appendices contain relevant information on the joint ventures.

iii. Associates

Associates are entities over which Banco Santander is in a position to exercise significant influence, but not control or joint control. It is presumed that Banco Santander exercises significant influence if it holds 20% or more of the voting power of the investee.

In the consolidated financial statements, investments in associates are accounted for using the equity method, i.e. at the Group's share of net assets of the investee, after taking into account the dividends received therefrom and other equity eliminations. The profits and losses resulting from transactions with an associate are eliminated to the extent of the Group's interest in the associate.

There are certain investments in entities which, although Grupo Santander owns 20% or more of their voting power, are not considered to be associates because the Group is not in a position to exercise significant influence over them. At 31 December 2022, 2021 and 2020 this was the situation of the investment in Project Quasar Investments 2017, S.L., despite maintaining a 49% interest in its share capital (see appendix II). The remaining investments are not significant for the Group.

There are also certain investments in associates where the Group owns less than 20% of the voting rights, as it is determined that it has the capacity to exercise significant influence over them. The impact of these companies is immaterial in the Group's consolidated financial statements.

The appendices contain significant information on the associates.

iv. Structured entities

When Grupo Santander incorporates entities, or holds ownership interests therein, to enable its customers to access certain investments, or for the transfer of risks or other purposes, also called structured entities since the voting, or similar power is not a key factor in deciding who controls the entity, the Group determines, using internal criteria and procedures and taking into consideration the applicable legislation, when control, as defined above, exists and, therefore, whether these entities should be consolidated. Specifically, for those entities to which this policy applies (mainly investment funds and pension funds), the Group analyses the following factors:

- Percentage of ownership held by Grupo Santander; 20% is established as the general threshold.
- Identification of the fund manager, and verification as to whether it is a company controlled by the Group since this could affect Grupo Santander ability to direct the relevant activities.
- Existence of agreements between investors that might require decisions to be taken jointly by the investors, rather than by the fund manager.
- Existence of currently exercisable removal rights (possibility of removing the manager from his position), since the existence of such rights might limit the manager's power over the fund, and it may be concluded that the manager is acting as an agent of the investors.
- Analysis of the fund manager's remuneration regime, taking into consideration that a remuneration regime that is proportionate to the service rendered does not, generally, create exposure of such importance as to indicate that the manager is acting as the principal. Conversely, if the remuneration regime is not proportionate to the service rendered, this might give rise to an exposure that would lead the Group to a different conclusion.

These structured entities also include the securitisation special purpose vehicles, which are consolidated in the case of the Special Purpose Vehicles (SPVs) over which, being exposed to variable yield, it is considered that the Group continues to exercise control.

The exposure associated with unconsolidated structured entities, additional to investments in the equity of investment funds (note 8), are not material with respect to the Group's consolidated financial statements.

v. Business combinations

A business combination is the bringing together of two or more separate entities or economic units into one single entity or group of entities.

Business combinations whereby Grupo Santander obtains control over an entity or a business are recognised for accounting purposes as follows:

- Grupo Santander measures the cost of the business combination, which is normally the consideration transferred, defined as the acquisition-date fair values of the assets transferred, the liabilities incurred to the former owners of the acquiree and the equity instruments issued, if any, by the acquirer. In cases where the amount of the consideration to be transferred has not been definitively established at the acquisition date, but rather depends on future events, any contingent consideration is recognised as part of the consideration transferred and measured at its acquisition-date fair value. Moreover, acquisition-related costs do not for these purposes form part of the cost of the business combination.

- The fair values of the assets, liabilities and contingent liabilities of the acquired entity or business, including any intangible assets identified in the business combination which might not have been recognised by the acquiree, are estimated and recognised in the consolidated balance sheet; the Group also estimates the amount of any non-controlling interests and the fair value of the previously held equity interest in the acquiree.

- Any positive difference between the aforementioned items is recognised as discussed in note 2.m. Any negative difference is recognised under 'Negative Goodwill' recognised in the consolidated income statement.

Goodwill is only calculated and recognised once, when control of a business or an entity is obtained.

vi. Changes in the levels of ownership interests in subsidiaries

Acquisitions and disposals not giving rise to a change in control are recognised as equity transactions, and no gain or loss is recognised in the income statement and the initially recognised goodwill is not remeasured. The difference between the consideration transferred or received and the decrease or increase in non-controlling interests, respectively, is recognised in reserves.

Similarly, when control over a subsidiary is lost, the assets, liabilities and non-controlling interests and any other items recognised in 'Other Comprehensive income' of that company are derecognised from the consolidated balance sheet, and the fair value of the consideration received and of any remaining equity interest is recognised. The difference between these amounts is recognised in profit or loss.

vii. Acquisitions and sales

Note 3 provides information on the most significant acquisitions and sales in the last three years.

c) Definitions and classification of financial instruments

i. Definitions

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

An equity instrument is a contract that evidences a residual interest in the assets of the issuing entity after deducting all of its liabilities.

A financial derivative is a financial instrument whose value changes in response to the change in an observable market variable (such as an interest rate, foreign exchange rate, financial instrument price, market index or credit rating), whose initial investment is very small compared with other financial instruments with a similar response to changes in market factors, and which is generally settled at a future date.

Hybrid financial instruments are contracts that simultaneously include a non-derivative host contract together with a derivative, known as an embedded derivative, that is not separately transferable and has the effect that some of the cash flows of the hybrid contract vary in a way similar to a stand-alone derivative.

Compound financial instruments are contracts that simultaneously create for their issuer a financial liability and an own equity instrument (such as convertible bonds, which entitle their holders to convert them into equity instruments of the issuer).

The preference shares contingently convertible into ordinary shares eligible as Additional Tier 1 capital (CCPSs) -perpetual shares, which may be repurchased by the issuer in certain circumstances, the interest on which is discretionary, and would convert into variable number of newly issued ordinary shares if the capital ratio of the Bank or its consolidated group falls below a given percentage (trigger event), as those two terms are defined in the related issue prospectuses are recognised for accounting purposes by the Group as compound instruments. The liability component reflects the issuer's obligation to deliver a variable number of shares and the equity component reflects the issuer's discretion in relation to the payment of the related coupons. In order to effect the initial allocation, the Group estimates the fair value of the liability as the amount that would have to be delivered if the trigger event were to occur immediately and, accordingly, the equity component, calculated as the residual amount, is zero. In view of the aforementioned discretionary nature of the payment of the coupons, they are deducted directly from equity.

Capital perpetual preference shares (CPPS), with the possibility of purchase by the issuer in certain circumstances, whose remuneration is discretionary, and which will be amortised permanently, totally or partially, in the event that the bank or its consolidated group submits a capital ratio lesser than a certain percentage (trigger event), as defined in the corresponding prospectuses, are accounted for by the Group as equity instruments.

The following transactions are not treated for accounting purposes as financial instruments:

- Investments in associates and joint ventures (see note 13).
- Rights and obligations under employee benefit plans (see note 25).
- Rights and obligations under insurance contracts (see note 15).
- Contracts and obligations relating to employee remuneration based on own equity instruments (see note 34).

ii. Classification of financial assets for measurement purposes

Financial assets are initially classified into the various categories used for management and measurement purposes, unless they have to be presented as 'Non-current assets held for sale' or they relate to 'Cash, cash balances at central banks and other deposits on demand', 'Changes in the fair value of hedged items in portfolio hedges of interest rate risk (asset side)', 'Hedging derivatives and Investments', which are reported separately.

Classification of financial instruments: the classification criteria for financial assets depends on the business model for their management and the characteristics of their contractual flows.

Grupo Santander business models refer to the way in which it manages its financial assets to generate cash flows. In defining these models, the Group takes into account the following factors:

- How key management staff are assessed and reported on the performance of the business model and the financial assets held in the business model.
- The risks that affect the performance of the business model (and the financial assets held in the business model) and, specifically, the way in which these risks are managed.
- How business managers are remunerated.
- The frequency and volume of sales in previous years, as well as expectations of future sales.

The analysis of the characteristics of the contractual flows of financial assets requires an assessment of the congruence of these flows with a basic loan agreement. The Group determines if the contractual cash flows of its financial assets that are only principal and interest payments on the outstanding principal amount at the beginning of the transaction. This analysis takes into consideration four factors (performance, clauses, contractually linked products and currencies). Furthermore, among the most significant judgements used by the Group in carrying out this analysis, the following ones are included:

- The return on the financial asset, in particular in cases of periodic interest rate adjustments where the term of the reference rate does not coincide with the frequency of the adjustment. In these cases, an assessment is made to determine whether or not the contractual cash flows differ significantly from the flows without this change in the time value of money, establishing a tolerance level of 5%.
- The contractual clauses that may modify the cash flows of the financial asset, for which the structure of the cash flows before and after the activation of such clauses is analysed.
- Financial assets whose cash flows have different priority for payment due to a contractual link to underlying assets (e.g. securitisations) require a look-through analysis by the Group so as to review that both the financial asset and the underlying assets are only principal and interest payments and that the exposure to credit risk of the set of underlying assets belonging to the tranche analysed is less than or equal to the exposure to credit risk of the set of underlying assets of the instrument.

Depending on these factors, the asset can be measured at amortised cost, at fair value with changes in other comprehensive income, or at fair value with changes through profit and loss. IFRS 9 also establishes an option to designate an instrument at fair value with changes in profit or loss, when doing so eliminates or significantly reduces a measurement or recognition inconsistency (sometimes referred to as 'accounting asymmetry') that would otherwise arise from measuring assets or liabilities or recognising gains and losses on different bases.

Grupo Santander uses the following criteria for the classification of financial debt instruments:

- Amortised cost: financial instruments under a business model whose objective is to collect principal and interest flows, over which there is no significant unjustified sales and fair value is not a key element in the management of these assets and contractual conditions they give rise to cash flows on specific dates, which are only payments of principal and interest on the outstanding principal amount. In this sense, unjustified sales are considered to be those other than those related to an increase in the credit risk of the asset, unanticipated funding needs (stress case scenarios). Additionally, the characteristics of its contractual flows represent substantially a 'basic financing agreement'.
- Fair value with changes in other comprehensive income: financial instruments held in a business model whose objective is to collect principal and interest cash flows and the sale of these assets, where fair value is a key factor in their management. Additionally, the contractual cash flow characteristics substantially represent a 'basic financing agreement'.
- Fair value with changes in profit or loss: financial instruments included in a business model whose objective is not obtained through the above mentioned models, where fair value is a key factor in managing of these assets, and financial instruments whose contractual cash flow characteristics do not substantially represent a 'basic financing agreement'. In this section it can be enclosed the portfolios classified under 'Financial assets held for trading', 'Non-trading financial assets mandatorily at fair value through profit or loss' and 'Financial assets at fair value through profit or loss'. In this regard, most of the financial assets presented in the category of 'Financial assets designated at value reasonable with change in results' are instruments financial services that, not being part of the portfolio of negotiation, are contracted jointly with other financial instruments that are recorded in the category of 'held for trading', and that by both are recorded at fair value with changes in results, so your record in any other category would produce accounting asymmetries.