3. Risk

3.1. General Risk Management and Control Model

The BBVA Group has a general risk management and control model (hereinafter, the 'Model') that is appropriate for its business model, its organisation, the countries where it operates and its corporate governance system. This model allows the Group to carry out its activity within the risk management and control strategy and policy defined by the corporate bodies of BBVA and to adapt itself to a changing economic and regulatory environment, facing this management at a global level and aligned to the circumstances at all times.

The Model, for which the Group's Chief Risk Officer (CRO) is responsible, must be updated or reviewed at least annually. The Model, which is fully applied in the Group, comprises the following basic elements:

- Governance and organisation
- Risk Appetite Framework
- Assessment, monitoring and reporting
- Infrastructure

The Group promotes the development of a risk culture that ensures a consistent application of the Model in the Group, and that guarantees that the risks function is understood and internalised at all levels of the organisation. These elements are described in the "Risk Management" section of the Management Report accompanying the Consolidated Financial Statements of BBVA Group.

3.2. Credit and Counterparty Risk

3.2.1. Scope and nature of the Credit Risk measurement and reporting systems for capital framework purposes

Credit risk is based on the likelihood that one party to the financial instrument's contract will fail to meet its contractual obligations on the grounds of insolvency or inability to pay and will cause a financial loss for the other party.

It is the Group's most important risk and includes counterparty risk, issuer risk, settlement risk and country risk management.

The Group has a risk strategy determined by the Board of Directors of the parent company, which establishes the Group's Risk Appetite statement, the core metrics and statements and by type of risk metrics in which this materializes, as well as the General Risk Management and Control Model.

The Risks and Compliance Committee assists the Board of Directors in a variety of risk control and monitoring areas, complementing these functions with the submission to the Board of proposals on the Group's strategy, control and risk management. In addition, the CRC proposes, in a manner consistent with the Risk Appetite Framework of the Group approved by the Board of Directors, the management and control policies of the different risks of the Group.

The Risks and Compliance Committee, Executive Committee and the Board itself conduct proper monitoring of the implementation of the Group's risk strategy and risk profile.

Based on the risk strategy determined by the Board of Directors, the Global Risk Management Committee approves the management limits structure that articulates the Risk Appetite Framework for the different geographies, types of risks, classes of assets and portfolios, including the proposed Asset Allocation management limits with the determined level of disaggregation. The limits are established annually, at maximum levels of exposure by type of portfolio.

The Asset Allocation limits for portfolios, businesses and risks are defined taking into account the established metrics in terms of exposure, economic capital and mix of portfolios, and are geared to maximizing the Group's generation of recurring economic earnings, subject to the framework of restrictions resulting from the definition of the target risk profile.

The Corporate Risk Area establishes risk concentration thresholds: individual, per portfolio and sector, and geographical. These thresholds are established in terms of EAD and Herfindahl indices in order to limit the impact on capital consumption.

The Business Areas work in line with the global vision and defined metrics, optimizing each of the portfolios for which they are responsible in terms of risk/return, within the Group's limits and policies.

The existing gaps with respect to the target portfolio are identified at global level and transmitted to the Business Areas, establishing plans at global and local level to adapt the risk to the predefined target profile and taking into account the future expected performance of the portfolios.

For managing risk and capital, BBVA quantifies its credit risk using two main metrics: expected loss ("EL") and economic capital ("EC"). The expected loss reflects the average value of the losses and is viewed as a business cost. However, economic capital is the amount of capital considered necessary to cover unexpected losses if actual losses are greater than expected losses.

These risk metrics are combined with information on profitability in value-based management, thus integrating the profitability-risk binomial into decision-making, from the definition of business strategy to the approval of individual loans, price setting, assessment of non-performing loan portfolios, incentives to areas in the Group, etc.

There are three essential parameters in the process of calculating the EL and EC measurements: the probability of default ("PD"), loss given default ("LGD") and exposure at default ("EAD"), mainly based on the estimate of credit conversion factors ("CCF"). They are generally estimated using historical information available on the systems and are assigned to operations and customers according to their particular characteristics.

In this context, the rating and scoring tools assess the risk in each customer/transaction according to their credit quality by assigning them a score, which is used to assign risk metrics together with other additional information: transaction seniority, loan to value ratio, customer segment, etc.

Section 3.2.5.1 of this Document details the definitions, approaches and data used by the Group to determine the regulatory capital requirements for estimating the parameters of probability of default (PD), loss given default (LGD) and exposure at default (EAD).

3.2.2. Definitions and accounting methodologies

The "expected losses" impairment model is applied to financial assets valued at amortised cost, to debt instruments valued at fair value with changes in other accumulated comprehensive income, to financial guarantee contracts and other commitments. All financial instruments valued at fair value through profit or loss are excluded from the impairment model.

For more information about the accounting impairment model, and other accounting definitions (according to Article 442 of CRR), refer to Note 2.2.1 of the Consolidated Financial Statements of BBVA Group.

3.2.3. Information on credit risk

3.2.3.1. Exposure to credit risk

According to Article 5 of the CRR, with respect to the regulatory capital requirements for credit risk, exposure is understood to be any asset item and all items included in the Group's off-balance sheet accounts involving credit risk and not deducted from the Group's bank capital. Accordingly, mainly loan and advances to customers are included, with their corresponding undrawn balances, letters of credit and guarantees, debt securities and capital instruments, cash and balances with central banks and credit institutions, repurchase and reverse repurchase agreements, financial derivatives and intangible assets.

The credit risk exposure specified in the following sections of this document is broken down into credit risk according to the standardised approach (Section 3.2.4), credit risk according to the advanced approach (Section 3.2.5), counterparty credit risk (Section 3.2.6), securitisation credit risk (Section 3.2.7) and structural equity risk (Section 3.4).

In addition to the exposure at default and the risk-weighted assets, the table below shows the original exposure, the exposure net of provisions and the exposure after conversion factors under the standardised and advanced approaches as of December 31, 2020 and December 31, 2019 (including counterparty credit risk):

Table 11. Credit Risk and Counterparty Risk Exposure (Million Euros. 12-31-2020)

Exposure Class	Original Exposure[1]	Provisions[2]	Net exposure of provisions[3]	On-balance exposure after credit risk mitigation techniques[4a]	Off-balance exposure after credit risk mitigation techniques[4b]	Exposure in the adjusted value[5]	EAD[6]	RWA's[7]	RWA density (8=(7)/(6))
Central governments or central banks	177,273	(120)	177,153	204,373	9,038	213,411	207,083	29,392	14%
Regional governments or local authorities	19,740	(28)	19,712	6,881	851	7,732	7,207	2,317	32%
Public sector entities	1,926	(1)	1,925	1,678	242	1,920	1,835	768	42%
Multilateral development banks	271	-	271	303	38	341	303	7	2%
International organisations	-	-	-	-	-	-	-	-	0%
Institutions	35,589	(41)	35,548	15,386	13,541	28,927	17,047	7,827	46%
Corporates	106,523	(1,507)	105,016	64,598	30,885	95,483	79,985	77,822	97%
Retail	82,631	(1,815)	80,816	46,040	25,794	71,833	49,019	34,362	70%
Secured by mortgages on immovable property	35,013	(324)	34,690	34,433	216	34,649	34,614	12,769	37%
Exposures in default	8,392	(4,309)	4,083	3,847	170	4,017	3,959	4,480	113%
Exposures associated with particularly high risk	4,122	(544)	3,578	3,035	419	3,454	3,172	4,758	150%
Covered bonds	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	1	-	1	1	-	1	1	1	88%
Collective investments undertakings	8	-	8	-	5	5	3	3	100%
Other exposures	20,030	-	20,030	19,964	675	20,638	20,389	12,071	59%
Total standardised approach	**491,521**	**(8,691)**	**482,830**	**400,539**	**81,872**	**482,412**	**424,616**	**186,576**	**44%**
Central governments or central banks	13,333	(7)		14,233	193	14,427	14,328	849	6%
Institutions	112,423	(33)		91,252	5,813	97,065	94,455	7,084	8%
Corporates	162,314	(2,335)		82,250	69,516	151,767	115,181	60,324	52%
Corporates (SMEs)	23,254	(1,028)		14,156	4,019	18,175	15,734	11,452	73%
Corporates: Specialised lending	6,407	(23)		5,790	616	6,407	6,136	4,912	80%
Corporates: Others	132,653	(1,285)		62,304	64,881	127,185	93,312	43,960	47%
Retail	115,544	(3,020)		91,886	21,425	113,310	95,236	18,471	19%
Of which: secured by immovable property	76,070	(1,129)		71,737	4,308	76,045	71,824	7,319	10%
Of which: Qualifying revolving	22,516	(734)		6,222	16,293	22,516	9,035	5,987	66%
Of which: Others	16,959	(1,157)		13,926	823	14,749	14,377	5,165	36%
Retail: Other SMEs	5,768	(296)		2,765	813	3,578	3,211	1,289	40%
Retail: Other Non-SMEs	11,191	(862)		11,161	10	11,171	11,166	3,876	35%
Total IRB approach	**403,615**	**(5,395)**	**-**	**279,622**	**96,946**	**376,568**	**319,200**	**86,729**	**27%**
Total credit risk dilution and delivery	**895,135**	**(14,086)**	**482,830**	**680,161**	**178,819**	**858,980**	**743,816**	**273,304**	**37%**
Total positions in securitisation[7]	**1,723**	**-**	**-**	**1,649**	**-**	**1,649**	**1,649**	**347**	**21%**
Equity	**6,123**	**-**	**6,123**	**6,123**	**-**	**6,123**	**6,123**	**14,532**	**237%**
Simple risk weight approach	812		812	812	-	812	812	1,831	226%
Exposures in sufficiently diversified portfolios (RW 190%)	586		586	586	-	586	586	1,114	190%
Exchange traded exposures (RW 290%)	147		147	147	-	147	147	425	290%
Others (RW 370%)	79		79	79	-	79	79	291	370%
PD/LGD approach	1,869		1,869	1,869	-	1,869	1,869	3,945	211%
Internal models approach	185		185	185	-	185	185	613	331%
Exposures subject to a 250% risk weight	3,257		3,257	3,257	-	3,257	3,257	8,144	250%
Total credit risk	**902,981**	**(14,086)**	**488,953**	**687,934**	**178,819**	**866,753**	**751,588**	**288,184**	**38%**

[1] Gross exposure value before credit risk mitigation techniques and CCF, excluding contributions to the default fund for a CCP.

[2] Includes provisions and impairment of financial assets and contingent risk and commitments.

[3] Standardised Approach exposures are adjusted by credit risk adjustments. The original equity exposure is shown net of impairment.

[4a][4b] Eligible credit risk mitigation techniques are included, either on-balance sheet or off-balance sheet, according to Chapter 4 of CRR. In the case of securitisation exposure, unfunded credit protection is included.

[5] It corresponds to the exposure value adjusted by eligible credit risk mitigation techniques.

[6] Exposure at default, calculated as (4a)+((4b)*CCF).

[7] This row includes the SEC-SA, SEC-ERBA and SEC-IRBA methods. The exposure of securitisations with a risk weight of 1,250% which are deducted from own funds is included (€29 million).

Credit Risk and Counterparty Risk Exposure (Million Euros. 12-31-2019)

Exposure Class	Original Exposure[1]	Provisions[2]	Net exposure of provisions[3]	On-balance exposure after credit risk mitigation techniques[4a]	Off-balance exposure after credit risk mitigation techniques[4b]	Exposure in the adjusted value[5]	EAD[6]	RWA's[7]	Densidad APR (8=(7)/(6))
Central governments or central banks	130,050	(128)	129,922	148,210	5,624	153,834	148,863	29,685	20%
Regional governments or local authorities	10,665	(23)	10,642	6,830	1,049	7,879	7,101	1,644	23%
Public sector entities	1,764	(2)	1,763	1,643	227	1,870	1,779	790	44%
Multilateral development banks	167	(0)	167	210	38	247	210	11	5%
International organisations	0	-	0	0	0	0	0	-	-
Institutions	36,102	(32)	36,070	12,270	13,202	25,472	13,333	5,366	40%
Corporates	112,830	(1,106)	111,723	72,768	32,558	105,327	89,826	87,486	97%
Retail	89,038	(1,781)	87,257	52,116	30,403	82,519	54,871	38,493	70%
Secured by mortgages on immovable property	39,867	(229)	39,638	39,423	164	39,587	39,561	14,983	38%
Exposures in default	8,276	(4,673)	3,603	3,198	328	3,526	3,423	3,808	111%
Exposures associated with particularly high risk	4,472	(509)	3,962	3,317	419	3,736	3,424	5,136	150%
Covered bonds	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	1	(0)	1	1	-	1	1	1	96%
Collective investments undertakings	22	(0)	22	6	4	10	8	8	100%
Other exposures	21,063	(45)	21,018	25,346	825	26,172	25,843	12,767	49%
Securitisation exposures	3,953	-	3,953	134	-	134	134	61	45%
Total standardised approach	**458,271**	**(8,529)**	**449,742**	**365,472**	**84,841**	**450,313**	**388,379**	**200,237**	**52%**
Central governments or central banks	11,018	(5)		13,172	656	13,829	13,498	673	5%
Institutions	115,854	(39)		93,188	5,521	98,708	96,262	6,646	7%
Corporates	156,624	(2,356)		86,917	66,987	153,903	119,106	59,615	50%
Corporates (SMEs)	23,121	(1,029)		17,135	4,588	21,723	18,979	12,478	66%
Corporates: Specialised lending	7,310	(62)		6,639	671	7,310	6,986	5,407	77%
Corporates: Others	126,192	(1,266)		63,142	61,728	124,870	93,140	41,730	45%
Retail	118,897	(2,467)		96,129	22,696	118,825	100,020	22,128	22%
Of which: secured by immovable property	78,379	(941)		73,978	4,376	78,353	74,139	8,904	12%
Of which: Qualifying revolving	24,618	(646)		7,190	17,428	24,618	10,430	7,365	71%
Of which: Others	15,901	(880)		14,961	893	15,854	15,452	5,859	38%
Retail: Other SMEs	4,444	(268)		3,524	878	4,401	4,006	1,636	41%
Retail: Other Non-SMEs	11,456	(611)		11,438	15	11,453	11,445	4,223	37%
Securitisation exposures	2,794	-		2,714	-	2,714	2,714	856	32%
Total IRB approach	**405,188**	**(4,867)**	**-**	**292,120**	**95,860**	**387,979**	**331,600**	**89,917**	**27%**
Total credit risk dilution and delivery	**863,459**	**(13,396)**	**449,742**	**657,592**	**180,701**	**838,293**	**719,979**	**290,153**	**40%**
Equity	**7,124**	**-**	**7,124**	**7,124**	**-**	**7,124**	**7,124**	**16,167**	**227%**
Simple risk weight approach	961		961	961	-	961	961	2,309	240%
Exposures in sufficiently diversified portfolios	563		563	563	-	563	563	1,070	190%
Exchange traded exposures	290		290	290	-	290	290	841	290%
Others	108		108	108	-	108	108	399	370%
PD/LGD approach	2,883		2,883	2,883	-	2,883	2,883	5,554	193%
Internal models approach	138		138	138	-	138	138	449	324%
Exposures subject to a 250% risk weight	3,142		3,142	3,142	-	3,142	3,142	7,854	250%
Total credit risk	**870,583**	**(13,396)**	**456,867**	**664,716**	**180,701**	**845,417**	**727,103**	**306,321**	**42%**

[1] Gross exposure value before credit risk mitigation techniques and CCF, excluding contributions to the default fund for a CCP.

[2] Includes provisions and impairment of financial assets and contingent risk and commitments.

[3] Standardised Approach exposures are adjusted by credit risk adjustments. The original equity exposure is shown net of impairment.

[4a][4b] Eligible credit risk mitigation techniques are included, either on-balance sheet or off-balance sheet, according to Chapter 4 of CRR. In the case of securitisation exposure, unfunded credit protection is included.

[5] It corresponds to the exposure value adjusted by eligible credit risk mitigation techniques.

[6] Exposure at default, calculated as (4a)+((4b)*CCF).

[7] The exposure of securitisations with a risk weight of 1,250%, which are deducted from own funds is included (€25 million).

3.2.3.2. Distribution and maturity of credit risk exposure

The following table provides the average amount of credit risk exposure during 2020 and 2019, both for the standardised approach and the advanced method by exposure categories:

Table 12. EU CRB-B - Total and average net amount of exposures (including counterparty credit risk) (Million Euros)

	12-31-2020		12-31-2019	
	Net value of exposures at the end of the period (4Q)[1]	Average net exposures over the period	Net value of exposures at the end of the period (4Q)[1]	Average net exposures over the period
Central governments or central banks	13,326	11,683	11,014	9,178
Institutions	112,390	124,029	115,815	114,552
Corporates	159,979	161,320	154,267	146,359
Of which: Specialised lending	6,384	6,718	7,249	7,343
Of which: SMEs	22,227	22,104	22,092	20,810
Retail	112,524	111,749	116,431	115,975
Secured by immovable property	74,941	75,528	77,437	78,385
Qualifying revolving	21,782	21,001	23,973	23,199
Other retail	15,801	15,220	15,021	14,391
SMEs	5,472	4,934	4,176	3,984
Non-SMEs	10,329	10,286	10,845	10,408
Equity	6,123	6,008	7,124	7,145
Total IRB approach	**404,343**	**414,790**	**404,651**	**393,210**
Central governments or central banks	177,153	161,564	129,922	125,611
Regional governments or local authorities	19,712	19,456	10,642	10,948
Public sector entities	1,925	1,697	1,763	1,285
Multilateral development banks	271	273	167	288
International organisations	-	-	0	0
Institutions	35,548	37,132	36,070	38,088
Corporates	105,016	110,359	111,723	119,071
Of which: SMEs	14,366	14,509	13,154	22,949
Retail	80,816	81,897	87,257	86,432
Of which: SMEs	27,629	26,024	25,382	25,919
Secured by mortgages on immovable property	34,690	36,333	39,638	40,128
Of which: SMEs	12,458	11,526	13,689	13,111
Exposures in default	4,083	3,883	3,603	3,874
Exposures associated with particularly high risk	3,578	3,820	3,962	3,602
Covered bonds	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	1	2	1	3
Collective investments undertakings	8	90	22	165
Equity exposures	-	-	-	-
Other exposures	20,030	19,258	21,018	20,177
Total standardised approach	**482,830**	**475,763**	**445,789**	**449,673**
Total	**887,172**	**890,553**	**850,440**	**842,883**

[1] For the purpose of this table, the original exposure is shown net of credit risk adjustments and provisions reported in the COREP statements for credit risk under both the standardised and IRB approaches. Additionally, it includes equity credit risk and excludes securitisation exposures.

The distribution by geographical area of the original exposure, net of provisions based on the country of the counterparty is shown below. The distribution includes credit risk exposure and counterparty credit risk exposure, as well as equity credit exposure.

Table 13. EU CRB-C - Geographical breakdown of exposures (including counterparty credit risk) (Million Euros. 12-31-2020)

	Original Exposure net of provisions[1][2]						
Exposure Class	Spain	Turkey	Mexico	USA	South America	Other areas[3]	Total
Central governments or central banks	16	-	22	7,078	257	5,555	12,928
Institutions	20,015	48	236	1,931	431	10,708	33,369
Corporates	68,471	384	20,573	18,046	2,604	44,917	154,996
Retail	96,805	1	15,132	39	62	481	112,521
Equity	4,016	176	592	733	275	332	6,123
Total IRB approach	**189,323**	**609**	**36,556**	**27,827**	**3,628**	**61,993**	**319,937**
Central governments or central banks	86,033	12,737	27,838	18,819	9,576	8,644	163,647
Regional governments or local authorities	547	155	3,581	14,743	581	41	19,648
Public sector entities	14	43	14	582	842	0	1,494
Multilateral development banks	-	-	-	-	121	149	270
International organisations	0	-	-	-	-	-	0
Institutions	11,717	1,899	4,047	3,331	400	5,061	26,455
Corporates	3,944	23,121	3,945	46,360	16,875	6,629	100,873
Retail	14,592	20,121	11,725	14,398	17,787	1,765	80,388
Secured by mortgages on immovable property	2,917	2,367	10,724	9,497	7,119	2,066	34,690
Exposures in default	696	1,073	519	965	704	127	4,083
Exposures associated with particularly high risk	174	1,964	517	221	654	0	3,531
Covered bonds	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	1	-	-	0	-	3	5
Collective investments undertakings	-	-	-	-	1	-	1
Equity exposures	-	-	-	-	-	-	-
Other exposures	7,420	2,115	5,001	2,348	2,953	192	20,030
Total standardised approach	**128,054**	**65,594**	**67,910**	**111,264**	**57,612**	**24,679**	**455,113**
Total	**317,377**	**66,204**	**104,466**	**139,091**	**61,240**	**86,672**	**775,050**

[1] Geographical areas determined based on the counterparty.

[2] For the purpose of this table, the original exposure is shown net of credit risk adjustments and provisions reported in the COREP statements for credit risk under both the standardised and IRB approaches. Additionally, it includes equity credit risk and excludes securitisation exposures.

[3] Includes all other countries not included in the previous columns. The countries with the greatest exposure in this area are: United Kingdom, France, Italy, Germany and Portugal.

EU CRB-C - Geographical breakdown of exposures (including counterparty credit risk) (Million Euros. 12-31-2019)

	Original Exposure net of provisions[1][2]						
Exposure Class	Spain	Turkey	Mexico	USA	South America	Other areas[3]	Total
Central governments or central banks	17	-	130	5,365	189	3,713	9,414
Institutions	22,059	32	426	1,276	488	10,014	34,295
Corporates	62,344	495	23,625	18,781	2,685	42,416	150,345
Retail	98,367	1	17,418	39	69	532	116,427
Equity	4,742	198	977	333	458	416	7,124
Total IRB approach	**187,461**	**732**	**42,288**	**26,313**	**3,750**	**57,062**	**317,606**
Central governments or central banks	56,903	13,632	27,222	9,582	8,401	6,587	122,327
Regional governments or local authorities	282	99	3,315	6,726	82	63	10,568
Public sector entities	-	44	63	625	864	0	1,595
Multilateral development banks	-	-	-	-	144	23	167
International organisations	0	-	-	-	-	-	0
Institutions	11,620	1,566	3,406	2,694	154	4,299	23,738
Corporates	5,217	25,314	3,378	49,189	20,003	5,665	108,766
Retail	14,310	20,914	15,798	16,375	17,271	2,065	86,733
Secured by mortgages on immovable property	3,213	3,671	11,395	10,361	8,785	2,213	39,638
Exposures in default	703	1,136	408	477	755	123	3,602
Exposures associated with particularly high risk	200	2,259	527	254	689	1	3,931
Covered bonds	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	1	-	-	2	-	7	10
Collective investments undertakings	0	-	-	-	1	-	1
Equity exposures	-	-	-	-	-	-	-
Other exposures	7,564	2,122	5,293	2,485	3,295	260	21,018
Total standardised approach	**100,013**	**70,758**	**70,806**	**98,769**	**60,443**	**21,307**	**422,096**
Total	**287,474**	**71,490**	**113,094**	**125,082**	**64,193**	**78,369**	**739,702**

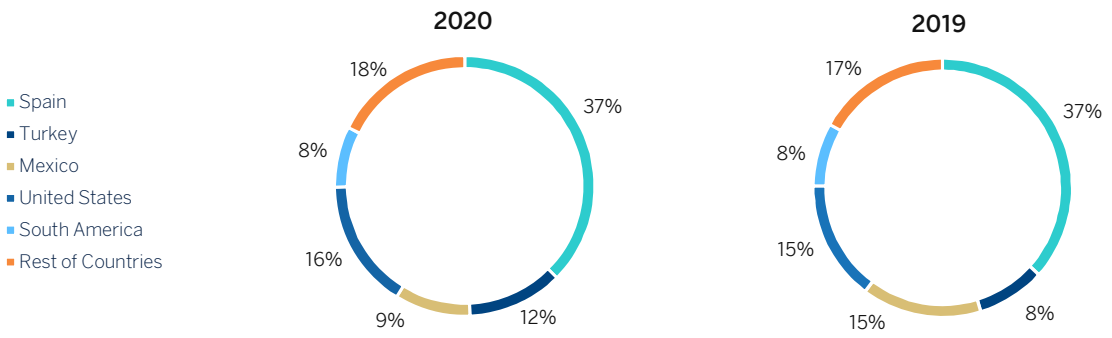
[1] Geographical areas determined based on the counterparty.

[2] For the purpose of this table, the original exposure is shown net of credit risk adjustments and provisions reported in the COREP statements for credit risk under both the standardised and IRB approaches. Additionally, it includes equity credit risk and excludes securitisation exposures.

[3] Includes all other countries not included in the previous columns. The countries with the greatest exposure in this area are: United Kingdom, France, Italy, Germany and Portugal.

A graphic depiction of the original exposure distribution by geographic area, revealing the Group's high level of geographic diversification, which constitutes one of the key factors for its strategic growth is below.

Chart 5. Distribution of credit risk exposures by geographical areas



(*) Includes all other countries not included in the above groupings. The countries with the greatest exposure in this area are United Kingdom, France, Italy, Germany and Portugal.

In addition, the following table shows the distribution of original exposure net of provisions by economic sector for financial assets and contingenct risk and commitments (standardised and advanced approach), excluding counterparty credit risk but including equity credit risk:

Table 14. EU CRB-D - Concentration of exposures by industry or counterparty types (excluding counterparty credit risk) (Million Euros. 12-31-2020)

Exposure Class	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing Industry	Energy supply	Water supply	Construction	Wholesale and retail trade	Transport and storage	Accommodation and food service activities	Information and communication	Financial activities and insurance	Real estate activities	Professional, scientific and technical activities	Administrative and support service activities	Public administration and defense, compulsory social security	Education	Human health services and social work activities	Arts, entertainment and recreation	Other services	Total[1]
Central governments or central banks	-	-	0	-	-	-	-	-	-	-	5,944	-	-	-	6,984	0	-	-	-	12,928
Institutions	4	-	62	455	273	479	17	1,340	2	31	9,903	103	66	189	20,156	2	91	24	170	33,369
Corporates	2,036	5,274	44,855	18,035	1,634	11,469	17,737	6,081	6,171	8,140	13,372	6,663	6,682	3,776	21	291	1,333	985	442	154,996
Retail	577	45	2,039	98	69	1,976	4,167	1,432	1,523	532	224	455	1,764	655	51	275	745	336	95,558	112,521
Equity	-	-	-	-	-	1,291	0	17	-	925	2,354	(1)	(1)	1	-	-	-	-	1,537	6,123
Total IRB approach	**2,617**	**5,319**	**46,956**	**18,588**	**1,976**	**15,214**	**21,921**	**8,870**	**7,696**	**9,628**	**31,798**	**7,221**	**8,511**	**4,621**	**27,212**	**567**	**2,169**	**1,345**	**97,708**	**319,937**
Central governments or central banks	-	0	0	-	-	0	0	-	-	-	49,749	-	-	0	111,468	0	-	-	2,430	163,647
Regional governments or local authorities	0	-	29	7	84	53	3	126	-	0	0	70	1	1	16,722	878	937	17	719	19,648
Public sector entities	(0)	10	247	484	25	(0)	(0)	6	-	61	4	(0)	-	0	650	3	2	0	2	1,494
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	229	-	-	-	41	0	-	-	-	270
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Institutions	-	0	-	-	-	0	0	-	-	1	25,145	54	-	-	1,007	-	-	-	246	26,455
Corporates	1,684	2,315	27,778	6,261	356	4,442	10,862	5,895	2,116	2,049	6,384	12,369	1,876	2,282	147	648	3,289	731	9,390	100,873
Retail	1,218	289	4,441	206	64	2,027	11,251	2,235	1,742	467	307	1,028	2,251	1,370	398	1,346	1,619	353	47,778	80,388
Secured by mortgages on immovable property	335	173	1,369	29	9	525	2,311	401	883	161	301	16,028	1,401	1,095	351	945	962	98	7,314	34,690
Exposures in default	69	54	639	36	3	372	559	265	285	33	62	242	117	74	12	60	75	45	1,082	4,083
Exposures associated with particularly high risk	1	1	4	469	-	644	68	1	1	505	567	1,231	12	8	-	0	1	1	18	3,531
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5
Collective investments undertakings	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other exposures	0	-	0	-	-	0	0	0	-	1	11,917	906	57	-	0	-	0	-	7,148	20,030
Total standardised approach	**3,307**	**2,842**	**34,506**	**7,492**	**540**	**8,062**	**25,054**	**8,929**	**5,027**	**3,278**	**94,673**	**31,927**	**5,715**	**4,830**	**130,794**	**3,880**	**6,884**	**1,245**	**76,127**	**455,113**
Total	**5,925**	**8,161**	**81,463**	**26,080**	**2,516**	**23,276**	**46,976**	**17,798**	**12,722**	**12,906**	**126,471**	**39,148**	**14,226**	**9,451**	**158,006**	**4,447**	**9,053**	**2,590**	**173,835**	**775,050**

[1] For the purpose of this table, the original exposure is shown net of credit risk adjustments and provisions reported in the COREP statements for credit risk under both the standardised and IRB approaches. Additionally, it includes equity credit risk and excludes securitisation exposures

EU CRB-D - Concentration of exposures by industry or counterparty types (excluding counterparty credit risk) (Million Euros. 12-31-2019)

Exposure Class	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing Industry	Energy supply	Water supply	Construction	Wholesale and retail trade	Transport and storage	Accommodation and food service activities	Information and communication	Financial activities and insurance	Real estate activities	Professional, scientific and technical activities	Administrative and support service activities	Public administration and defense, compulsory social security	Education	Human health services and social work activities	Arts, entertainment and recreation	Other services	Total[1]
Central governments or central banks	-	-	0	-	-	-	-	-	-	-	2,474	-	81	-	6,860	0	-	-	0	9,414
Institutions	3	-	170	434	310	594	12	1,342	9	66	11,614	93	67	243	19,189	1	92	19	38	34,295
Corporates	1,923	5,086	44,062	17,235	1,434	11,845	19,697	4,675	4,893	6,304	11,543	9,115	6,223	3,466	38	303	1,378	804	322	150,345
Retail	581	45	1,858	105	64	1,922	3,814	1,408	1,439	490	223	458	1,711	637	-	252	706	304	100,409	116,427
Equity	-	-	-	-	-	830	0	-	-	2,830	2,352	0	0	-	34	-	-	-	1,078	7,124
Total IRB approach	**2,506**	**5,131**	**46,090**	**17,775**	**1,808**	**15,190**	**23,523**	**7,425**	**6,341**	**9,690**	**28,206**	**9,666**	**8,082**	**4,346**	**26,121**	**557**	**2,175**	**1,126**	**101,847**	**317,606**
Central governments or central banks	-	-	0	-	-	-	0	1	-	-	27,355	-	-	0	92,720	0	1	0	2,250	122,327
Regional governments or local authorities	0	-	52	27	65	48	4	140	-	0	0	-	1	2	8,614	653	860	10	93	10,568
Public sector entities	2	0	304	427	25	0	0	8	-	29	44	-	0	0	711	5	0	0	37	1,595
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	114	-	-	-	53	-	-	-	-	167
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Institutions	1	0	14	62	-	29	15	53	24	35	21,755	51	215	293	662	0	177	0	354	23,738
Corporates	1,712	1,996	31,688	5,984	339	3,909	13,210	6,404	5,381	3,756	4,902	12,438	2,256	2,696	234	684	3,951	523	6,704	108,766
Retail	1,109	403	4,619	214	51	2,034	11,192	1,922	1,452	457	680	921	2,420	1,793	-	1,529	1,879	310	53,748	86,733
Secured by mortgages on immovable property	408	218	1,821	179	10	653	2,947	516	1,172	187	321	17,433	1,605	1,494	-	1,076	1,164	123	8,310	39,638
Exposures in default	109	65	351	31	5	431	521	221	181	39	72	233	170	107	4	45	52	25	940	3,602
Exposures associated with particularly high risk	2	1	4	660	0	843	356	4	4	1	223	1,123	655	35	-	1	1	1	20	3,931
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	10
Collective investments undertakings	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other exposures	0	-	0	-	-	0	0	0	-	0	12,476	565	53	-	0	-	0	-	7,924	21,018
Total standardised approach	**3,342**	**2,683**	**38,853**	**7,585**	**496**	**7,946**	**28,245**	**9,269**	**8,213**	**4,505**	**67,955**	**32,764**	**7,373**	**6,419**	**102,999**	**3,993**	**8,085**	**991**	**80,380**	**422,096**
Total	**5,849**	**7,814**	**84,942**	**25,359**	**2,304**	**23,136**	**51,768**	**16,694**	**14,554**	**14,195**	**96,161**	**42,430**	**15,455**	**10,765**	**129,119**	**4,550**	**10,260**	**2,117**	**182,227**	**739,702**

[1] For the purpose of this table, the original exposure is shown net of credit risk adjustments and provisions reported in the COREP statements for credit risk under both the standardised and IRB approaches. Additionally, it includes equity credit risk and excludes securitisation exposures.

The following table shows the distribution of original exposure, net of value adjustments and provisions, by residual maturity of financial assets and contingent risk and commmitments, broken down by categories of exposure under the standard and advanced approaches, excluding counterparty risk and including equity credit risk:

Table 15. EU CRB-E - Maturity of exposures (excluding counterparty credit risk) (Million Euros. 12-31-2020)

	Net exposure value[1]					
Exposure Class	**On demand**	**≤ 1 year**	**> 1 year ≤ 5 years**	**> 5 years**	**No stated maturity**	**Total**
Central governments or central banks	9	4,629	2,435	205	5,649	12,928
Institutions	974	4,768	15,222	5,467	6,937	33,369
Corporates	330	51,184	69,964	24,434	9,085	154,996
Retail	4	804	9,366	80,243	22,104	112,521
Equity	-	-	-	-	6,123	6,123
Total IRB approach	**1,317**	**61,385**	**96,988**	**110,349**	**49,898**	**319,937**
Central governments or central banks	52,119	22,439	27,249	31,231	30,610	163,647
Regional governments or local authorities	67	1,274	2,194	15,972	140	19,648
Public sector entities	10	844	120	520		1,494
Multilateral development banks	47	48	38	137	-	270
International organisations	-	-	-	0	0	0
Institutions	2,928	8,982	3,532	2,698	8,315	26,455
Corporates	4,538	31,990	42,333	17,715	4,298	100,873
Retail	3,082	23,507	31,781	14,752	7,265	80,388
Secured by mortgages on immovable property	168	3,908	3,002	27,597	14	34,690
Exposures in default	37	852	733	1,815	646	4,083
Exposures associated with particularly high risk	58	1,362	1,148	672	291	3,531
Covered bonds	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	-	4			1	5
Collective investments undertakings	1	0	-	-	-	1
Equity exposures	-	-	-	-	-	-
Other exposures	5,475	3,590	30	(628)	11,563	20,030
Total standardised approach	**68,529**	**98,800**	**112,159**	**112,482**	**63,144**	**455,113**
Total	**69,846**	**160,185**	**209,147**	**222,830**	**113,043**	**775,050**

[1] For the purpose of this table, the original exposure is shown net of credit risk adjustments and provisions reported in the COREP statements for credit risk under both the standardised and IRB approaches. Additionally, it includes equity credit risk and excludes securitisation exposures.

EU CRB-E - Maturity of exposures (excluding counterparty credit risk) (Million Euros. 12-31-2019)

	Net exposure value[1]					
Exposure Class	**On demand**	**≤ 1 year**	**> 1 year ≤ 5 years**	**> 5 years**	**No stated maturity**	**Total**
Central governments or central banks	-	591	6,081	262	2,480	9,414
Institutions	577	9,668	7,971	11,583	4,497	34,295
Corporates	481	52,945	64,965	22,967	8,988	150,345
Retail	7	2,049	6,624	83,415	24,332	116,427
Equity	-	-	-	-	7,124	7,124
Total IRB approach	**1,065**	**65,253**	**85,640**	**118,227**	**47,421**	**317,606**
Central governments or central banks	25,424	14,468	30,707	50,840	888	122,327
Regional governments or local authorities	9	640	2,113	7,800	6	10,568
Public sector entities	84	814	182	516	-	1,595
Multilateral development banks	54	83	16	15	-	167
International organisations	-	-	-	0	0	0
Institutions	4,303	9,503	4,727	1,234	3,973	23,738
Corporates	5,538	35,147	48,740	18,648	694	108,766
Retail	2,762	28,464	35,917	14,687	4,904	86,733
Secured by mortgages on immovable property	231	4,595	4,062	30,739	11	39,638
Exposures in default	51	767	64	1,625	1,096	3,602
Exposures associated with particularly high risk	104	1,483	916	1,036	391	3,931
Covered bonds	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assesment	-	6		-	4	10
Collective investments undertakings	1	0	-	-	-	1
Equity exposures	-	-	-	-	-	-
Other exposures	4,053	5,495	24	-	11,447	21,018
Total standardised approach	**42,613**	**101,465**	**127,467**	**127,138**	**23,412**	**422,096**
Total	**43,677**	**166,717**	**213,108**	**245,365**	**70,834**	**739,702**

[1] For the purpose of this table, the original exposure is shown net of credit risk adjustments and provisions reported in the COREP statements for credit risk under both the standardised and IRB approaches. Additionally, it includes equity credit risk and excludes securitisation exposures.

3.2.3.3. Credit quality of exposures

The carrying amount of performing and non-performing exposures, broken down by product and counterparty sector, as of December 31, 2020, is below. The information as of 2019 is also included for comparative purposes:

Table 16. EU CR1 - Performing and non-performing exposures and related provisions (Million Euros. 12-31-2020)

	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures			Non-performing exposures					
		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3	Accumulated partial write-off	On performing exposures	On non-performing exposures
Loans and advances	329,513	298,940	30,572	14,684	-	14,684	(4,331)	(2,042)	(2,289)	(7,820)	-	(7,820)	21,963	159,684	4,152
Central banks	6,229	6,229	-	-	-	-	(20)	(20)	-	-	-	-	-	479	-
General governments	19,447	19,247	200	76	-	76	(23)	(14)	(9)	(25)	-	(25)	36	4,477	19
Credit institutions	14,607	14,587	20	6	-	6	(12)	(10)	(2)	(2)	-	(2)	4	237	-
Other financial corporations	9,347	9,252	95	14	-	14	(32)	(25)	(6)	(7)	-	(7)	3	1,977	-
Non-financial corporations	135,720	120,542	15,178	7,476	-	7,476	(1,882)	(772)	(1,110)	(4,238)	-	(4,238)	16,555	60,932	1,548
Of which: SME	50,784	44,160	6,624	4,150	-	4,150	(960)	(397)	(563)	(2,463)	-	(2,463)	5,060	30,142	1,107
Households	144,163	129,082	15,080	7,113	-	7,113	(2,361)	(1,200)	(1,161)	(3,548)	-	(3,548)	5,364	91,583	2,585
Debt securities	84,765	84,350	416	20	-	20	(119)	(75)	(44)	(16)	-	(16)	-	-	-
Central banks	1,624	1,624	-	-	-	-	(13)	(13)	-	-	-	-	-	-	-
General governments	69,339	68,934	405	-	-	-	(93)	(50)	(43)	-	-	-	-	-	-
Credit institutions	2,064	2,064	-	-	-	-	(1)	(1)	-	-	-	-	-	-	-
Other financial corporations	7,429	7,424	5	19	-	19	(9)	(8)	-	(15)	-	(15)	-	-	-
Non-financial corporations	4,309	4,304	5	1	-	1	(3)	(3)	(1)	(1)	-	(1)	-	-	-
Off-balance-sheet exposures	177,866	165,184	12,682	1,032	-	1,032	(454)	(239)	(215)	(274)	-	(274)	-	7,021	103
Central banks	125	125	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	3,244	3,146	98	7	-	7	(2)	(1)	(1)	(3)	-	(3)	-	46	-
Credit institutions	17,049	16,743	306	1	-	1	(13)	(11)	(2)	-	-	-	-	2	-
Other financial corporations	8,798	8,316	483	-	-	-	(6)	(6)	-	-	-	-	-	123	-
Non-financial corporations	106,978	97,395	9,583	917	-	917	(281)	(110)	(172)	(258)	-	(258)	-	6,525	100
Households	41,672	39,460	2,212	107	-	107	(152)	(112)	(40)	(13)	-	(13)	-	325	3
Total exposures December 2020	**592,144**	**548,474**	**43,670**	**15,736**	**-**	**15,736**	**(4,903)**	**(2,355)**	**(2,548)**	**(8,110)**	**-**	**(8,110)**	**21,963**	**166,705**	**4,255**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

(**)The Group's general policy is to align the default and stage 3 concepts so that they are uniform at the management level. However, for portfolios where IRB models are used, there may be some differences due to the use of materiality thresholds on wholesale exposures by other prudential specifications. In any case, the Group estimates that the difference between these two concepts is not material on 31 December 2020 as it would not exceed 1% of the defaulted exposures.

EU CR1 - Performing and non-performing exposures and related provisions (Million Euros. 12-31-2019)

	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures			Non-performing exposures					
		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3	Accumulated partial write-off	On performing exposures	On non-performing exposures
Loans and advances	396,946	363,449	33,498	15,957	-	15,957	(4,326)	(2,143)	(2,183)	(8,092)	-	(8,092)	26,206	181,867	5,132
Central banks	4,285	4,285	-	-	-	-	(9)	(9)	-	-	-	-	0	5	-
General governments	28,787	28,105	682	88	-	88	(38)	(15)	(22)	(21)	-	(21)	32	11,897	21
Credit institutions	13,519	13,361	158	6	-	6	(11)	(9)	(3)	(2)	-	(2)	5	193	-
Other financial corporations	10,951	10,815	136	17	-	17	(22)	(19)	(2)	(10)	-	(10)	3	3,385	1
Non-financial corporations	165,239	149,223	16,017	8,465	-	8,465	(1,713)	(808)	(904)	(4,748)	-	(4,748)	17,064	55,548	2,003
Of which: SME	47,042	40,279	6,764	4,078	-	4,078	(723)	(331)	(392)	(2,259)	-	(2,259)	4,820	20,602	1,301
Households	174,165	157,660	16,505	7,381	-	7,381	(2,534)	(1,282)	(1,252)	(3,312)	-	(3,312)	9,102	110,839	3,107
Debt securities	77,534	77,178	356	34	-	34	(135)	(60)	(75)	(18)	-	(18)	-	-	-
Central banks	1,015	1,015	-	-	-	-	(5)	(5)	-	-	-	-	-	-	-
General governments	64,505	64,195	310	-	-	-	(116)	(44)	(72)	-	-	-	-	-	-
Credit institutions	1,057	1,057	-	0	-	0	(0)	(0)	-	(0)	-	(0)	-	-	-
Other financial corporations	7,851	7,823	28	33	-	33	(12)	(10)	(2)	(17)	-	(17)	-	-	-
Non-financial corporations	3,106	3,088	18	1	-	1	(2)	(1)	(1)	(1)	-	(1)	-	-	-
Off-balance-sheet exposures	179,717	169,265	10,452	1,001	-	1,001	(443)	(248)	(196)	(268)	-	(268)	-	7,324	109
Central banks	2	2	-	0	-	0	(0)	(0)	-	(0)	-	(0)	-	-	-
General governments	3,756	3,672	84	7	-	7	(2)	(2)	(0)	(1)	-	(1)	-	91	-
Credit institutions	18,689	18,422	267	1	-	1	(5)	(5)	(1)	(0)	-	(0)	-	2	-
Other financial corporations	7,655	7,495	160	0	-	0	(3)	(3)	(1)	(0)	-	(0)	-	66	0
Non-financial corporations	103,232	95,604	7,628	920	-	920	(252)	(111)	(141)	(254)	-	(254)	-	6,774	106
Households	46,383	44,071	2,313	73	-	73	(181)	(128)	(53)	(12)	-	(12)	-	391	4
Total exposures December 2019	**654,197**	**609,892**	**44,306**	**16,992**	**-**	**16,992**	**(4,905)**	**(2,451)**	**(2,454)**	**(8,378)**	**-**	**(8,378)**	**26,206**	**189,191**	**5,242**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

(**)The Group's general policy is to align the default and stage 3 concepts so that they are uniform at the management level. However, for portfolios where IRB models are used, there may be some differences due to the use of materiality thresholds on wholesale exposures by other prudential specifications. In any case, the Group estimates that the difference between these two concepts is not material on 31 December 2019 as it would not exceed 1% of the defaulted exposures.

The distribution by geographical area of total and non-performing exposures of financial assets and contingent risk and commitments, as well as credit risk adjustments, as well as the impairment, is below:

Table 17. EU CQ4 - Credit quality of exposures by geography (Million Euros. 12-31-2020)

	Gross carrying amount[2]/nominal amount						
		Of which: non performing	Of which: defaulted	Of which: subject to impairment[3]	Accumulated impairment	Provisions on off-balance sheet	Accumulated negative changes in fair value due to credit risk on non-performing exposures
On balance expousures	488,309	14,704	14,704	487,291	(12,285)		-
Spain	239,786	7,826	7,826	239,650	(5,365)		-
Turkey	73,056	1,791	1,791	72,846	(2,220)		-
Mexico	50,602	2,842	2,842	49,998	(2,240)		-
USA	18,043	32	32	17,975	(44)		-
South America	49,521	1,744	1,744	49,520	(1,997)		-
Other areas[1]	57,301	469	469	57,301	(419)		-
Off balance expousures	178,898	1,032	1,032			(728)	
Spain	52,907	536	536			(224)	
Turkey	17,391	86	86			(114)	
Mexico	15,480	210	210			(246)	
USA	36,284	100	100			(11)	
South America	10,357	82	82			(98)	
Other areas[1]	46,479	19	19			(35)	
Total	**667,207**	**15,736**	**15,736**	**487,291**	**(12,285)**	**(728)**	**-**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

(1) Includes all other countries not included on the previous columns. The countries with the greatest exposure in this area are: United Kingdom, France, Italy, Germany and Portugal.

(2) Includes gross carrying amount of assets at amortised cost, assets at fair value through other comprehensive income and assets designated at fair value through profit and loss other than those held for trading.

(3) Includes gross carrying amount of assets at amortised cost and assets at fair value through other comprehensive income.

EU CQ4 - Credit quality of exposures by geography (Million Euros. 12-31-2019)

	Gross carrying amount[2]/nominal amount						
		Of which: non performing	Of which: defaulted	Of which: subject to impairment[3]	Accumulated impairment	Provisions on off-balance sheet	Accumulated negative changes in fair value due to credit risk on non-performing exposures
On balance expousures	527,907	15,991	15,991	526,725	(12,572)		-
Spain	207,925	8,107	8,107	207,276	(4,946)		-
Turkey	75,033	1,478	1,478	74,951	(2,017)		-
Mexico	55,628	3,238	3,238	55,183	(2,460)		-
USA	90,258	682	682	90,258	(704)		-
South America	48,831	1,851	1,851	48,830	(1,908)		-
Other areas(1)	50,233	633	633	50,226	(537)		-
Off balance expousures	180,718	1,001	1,001			(711)	
Spain	52,127	530	530			(195)	
Turkey	19,551	7	7			(105)	
Mexico	16,901	242	242			(181)	
USA	38,014	130	130			(101)	
South America	11,783	73	73			(101)	
Other areas(1)	42,342	19	19			(28)	
Total	**708,625**	**16,992**	**16,992**	**526,725**	**(12,572)**	**(711)**	**-**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

(1) Includes all other countries not included on the previous columns. The countries with the greatest exposure in this area are: United Kingdom, France, Italy, Germany and Portugal.

(2) Includes gross carrying amount of assets at amortised cost, assets at fair value through other comprehensive income and assets designated at fair value through profit and loss other than those held for trading.

(3) Includes gross carrying amount of assets at amortised cost and assets at fair value through other comprehensive income.

The distribution by counterparty sector of total and non-performing exposures of loans and advances, as well as their impairment, are shown below:

Table 18. EU CQ5 - Credit quality of loans and advances by industry or counterparty types (Million Euros. 12-31-2020)

	Gross carrying amount[1]/nominal amount				Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
		Of which: non performing	Of which: defaulted	Of which: subject to impairment[2]		
Agriculture, forestry and fishing	3,438	132	132	3,438	(108)	-
Mining and quarrying	4,349	47	47	4,349	(59)	-
Manufacturing	33,811	1,486	1,486	33,771	(1,129)	-
Electricity, gas, steam and air conditioning supply	13,490	591	591	13,490	(509)	-
Water supply	899	17	17	899	(15)	-
Construction	10,021	1,397	1,397	10,019	(722)	-
Wholesale and retail trade	24,594	1,456	1,456	24,594	(1,223)	-
Transport and storage	8,117	489	489	8,117	(368)	-
Accommodation and food service activities	8,337	358	358	8,337	(294)	-
Information and communication	6,179	73	73	5,764	(60)	-
Real estate activities	5,289	123	123	5,289	(132)	-
Financial activities and insurance	10,099	617	617	10,025	(494)	-
Professional, scientific and technical activities	2,895	177	177	2,886	(124)	-
Administrative and support service activities	4,031	142	142	4,031	(192)	-
Public administration and defence, compulsory social security	129	5	5	129	(4)	-
Education	665	54	54	665	(43)	-
Human health services and social work activities	1,812	67	67	1,812	(59)	-
Arts, entertainment and recreation	1,131	46	46	1,131	(65)	-
Other services	3,911	198	198	3,911	(521)	-
Total	**143,196**	**7,476**	**7,476**	**142,655**	**(6,120)**	**-**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

(1) Includes gross carrying amount of assets at amortised cost, assets at fair value through other comprehensive income and assets designated at fair value through profit and loss other than those held for trading.

(2) Includes gross carrying amount of assets at amortised cost and assets at fair value through other comprehensive income.

EU CQ5 - Credit quality of loans and advances by industry or counterparty types (Million Euros. 12-31-2019)

	Gross carrying amount[1]/nominal amount				Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
		Of which: non performing	Of which: defaulted	Of which: subject to impairment[2]		
Agriculture, forestry and fishing	3,758	154	154	3,758	(124)	-
Mining and quarrying	4,669	100	100	4,669	(86)	-
Manufacturing	39,517	1,711	1,711	39,517	(1,242)	-
Electricity, gas, steam and air conditioning supply	12,305	684	684	12,305	(575)	-
Water supply	900	14	14	900	(16)	-
Construction	10,945	1,377	1,377	10,945	(876)	-
Wholesale and retail trade	27,467	1,799	1,799	27,467	(1,448)	-
Transport and storage	9,638	507	507	9,638	(392)	-
Accommodation and food service activities	8,703	279	279	8,703	(203)	-
Information and communication	6,761	95	95	6,316	(65)	-
Real estate activities	6,856	191	191	6,856	(139)	-
Financial activities and insurance	19,435	782	782	19,435	(527)	-
Professional, scientific and technical activities	4,375	167	167	4,375	(140)	-
Administrative and support service activities	3,428	118	118	3,428	(134)	-
Public administration and defence, compulsory social security	282	5	5	282	(6)	-
Education	903	41	41	903	(38)	-
Human health services and social work activities	4,696	66	66	4,696	(55)	-
Arts, entertainment and recreation	1,396	47	47	1,396	(39)	-
Other services	7,672	329	329	7,658	(356)	-
Total	**173,704**	**8,465**	**8,465**	**173,247**	**(6,460)**	**-**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

(1) Includes gross carrying amount of assets at amortised cost, assets at fair value through other comprehensive income and assets designated at fair value through profit and loss other than those held for trading.

(2) Includes gross carrying amount of assets at amortised cost and assets at fair value through other comprehensive income.

The distribution of the gross carrying amount of performing and non-performing exposures of loans and debt securities by residual maturity is shown in the following table, which includes the amounts as of December 31, 2020 and the main figures as of December 31, 2019 for comparative purposes only:

Table 19. EU CQ3 - Credit quality of performing and non-performing exposures by past due days (Million Euros. 12-31-2020)

	Gross carrying amount/nominal amount											
	Performing exposures			Non-performing exposures								
		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
Loans and advances	329,513	327,647	1,866	14,684	7,800	1,251	948	1,972	2,393	179	141	14,684
Central banks	6,229	6,229	-	-	-	-	-	-	-	-	-	-
General governments	19,447	19,444	3	76	53	-	1	2	3	-	17	76
Credit institutions	14,607	14,607	-	6	4	2	-	-	-	-	-	6
Other financial corporations	9,347	9,346	1	14	6	7	-	-	1	-	-	14
Non-financial corporations	135,720	135,310	410	7,476	4,102	322	413	995	1,443	113	88	7,476
Of which: SME	50,784	50,590	194	4,150	1,714	246	269	655	1,144	92	29	4,150
Households	144,163	142,710	1,453	7,113	3,635	921	534	976	945	65	36	7,113
Debt securities	84,765	84,765	-	20	17	3	-	-	-	-	-	20
Central banks	1,624	1,624	-	-	-	-	-	-	-	-	-	-
General governments	69,339	69,339	-	-	-	-	-	-	-	-	-	-
Credit institutions	2,064	2,064	-	-	-	-	-	-	-	-	-	-
Other financial corporations	7,429	7,429	-	19	16	3	-	-	-	-	-	19
Non-financial corporations	4,309	4,309	-	1	1	-	-	-	-	-	-	1
Off-balance-sheet exposures	177,866	-	-	1,032	-	-	-	-	-	-	-	1,032
Central banks	125	-	-	-	-	-	-	-	-	-	-	-
General governments	3,244	-	-	7	-	-	-	-	-	-	-	7
Credit institutions	17,049	-	-	1	-	-	-	-	-	-	-	1
Other financial corporations	8,798	-	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	106,978	-	-	917	-	-	-	-	-	-	-	917
Households	41,672	-	-	107	-	-	-	-	-	-	-	107
Total exposures December 2020	**592,144**	**412,412**	**1,866**	**15,736**	**7,817**	**1,254**	**948**	**1,972**	**2,393**	**179**	**141**	**15,736**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

EU CQ3 - Credit quality of performing and non-performing exposures by past due days (Million Euros. 12-31-2019)

	Gross carrying amount/nominal amount											
	Performing exposures			Non-performing exposures								
		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
Loans and advances	396,946	393,722	3,224	15,957	8,107	1,323	1,930	2,329	1,970	148	149	15,957
Central banks	4,285	4,285	-	-	-	-	-	-	-	-	-	-
General governments	28,787	28,783	4	88	61	1	2	3	2	4	16	88
Credit institutions	13,519	13,518	1	6	4	2	0	0	-	-	-	6
Other financial corporations	10,951	10,950	1	17	9	5	1	0	2	-	-	17
Non-financial corporations	165,239	164,549	691	8,465	4,433	396	914	1,400	1,152	83	86	8,465
Of which: SME	47,042	46,624	418	4,078	1,719	203	504	878	719	23	31	4,078
Households	174,165	171,638	2,527	7,381	3,600	918	1,012	926	815	62	48	7,381
Debt securities	77,534	77,534	-	34	31	3	-	-	-	-	-	34
Central banks	1,015	1,015	-	-	-	-	-	-	-	-	-	-
General governments	64,505	64,505	-	-	-	-	-	-	-	-	-	-
Credit institutions	1,057	1,057	-	0	0	-	-	-	-	-	-	0
Other financial corporations	7,851	7,851	-	33	30	3	-	-	-	-	-	33
Non-financial corporations	3,106	3,106	-	1	1	-	-	-	-	-	-	1
Off-balance-sheet exposures	179,717	-	-	1,001	-	-	-	-	-	-	-	1,001
Central banks	2	-	-	0	-	-	-	-	-	-	-	0
General governments	3,756	-	-	7	-	-	-	-	-	-	-	7
Credit institutions	18,689	-	-	1	-	-	-	-	-	-	-	1
Other financial corporations	7,655	-	-	0	-	-	-	-	-	-	-	0
Non-financial corporations	103,232	-	-	920	-	-	-	-	-	-	-	920
Households	46,383	-	-	73	-	-	-	-	-	-	-	73
Total exposures December 2019	**654,197**	**471,256**	**3,224**	**16,992**	**8,138**	**1,325**	**1,930**	**2,329**	**1,970**	**148**	**149**	**16,992**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

3.2.3.4. Impairment losses in the period

The breakdown of impairment losses on financial assets and contingent risk and commitments, as well as transfers to written-off recorded directly in the income statement in 2020 and 2019 is below:

Table 20. EU CR2-A - Changes in the stock of general and specific credit risk adjustments (Million Euros. 12-31-2020)

	Accumulated credit risk adjustment[1]
Opening balance	**13,396**
Increases due to origination and acquisition	1,571
Decrease due to derecognition repayments and disposals	(1,444)
Changes due to change in credit risk (net)	3,699
Changes due to modifications without derecognition (net)	283
Changes due to update in the institution's methodology for estimation (net)	-
Decrease in allowance account due to write-offs	(2,568)
Other adjustments	(1,924)
Closing balance	**13,013**
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	(338)
Specific credit risk adjustments recorded directly to the statement of profit or loss	314

[1] The closing balance excludes the impairment losses of BBVA USA and BBVA Paraguay which are included in "Other adjustments" (see section 1.1.3).

Regarding the flow statements of non-performing loans, fixed income and guarantees given between December 31, 2019 and December 31, 2020 are included in Note 7.2.5 of Consolidated Financial Statements of BBVA Group.

A table with a general overview of forborne exposures is shown below, which includes the amounts as of December 31, 2020 and the main figures as of December 31, 2019 for comparative purposes only:

Table 21. EU CQ1 - Credit quality of forborne exposures (Million Euros. 12-31-2020)

	Gross carrying amount/nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
		Non-performing forborne						
	Performing forborne		Of which defaulted	Of which impaired	On performing forborne exposures	On non-performing forborne exposures		Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
Loans and advances	7,659	9,040	9,040	9,040	(759)	(4,100)	7,408	3,149
Central banks	-	-	-	-	-	-	-	-
General governments	83	56	56	56	(3)	(12)	45	14
Credit institutions	-	-	-	-	-	-	-	-
Other financial corporations	2	2	2	2	-	-	1	-
Non-financial corporations	2,996	5,023	5,023	5,023	(372)	(2,565)	2,638	1,158
Households	4,579	3,958	3,958	3,958	(384)	(1,522)	4,725	1,977
Debt Securities	-	-	-	-	-	-	-	-
Loan commitments given	182	57	57	57	(4)	(4)	1	1
Total exposures December 2020	**7,841**	**9,097**	**9,097**	**9,097**	**(763)**	**(4,104)**	**7,409**	**3,150**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

EU CQ1 - Credit quality of forborne exposures (Million Euros. 12-31-2019)

	Gross carrying amount/nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
		Non-performing forborne						
	Performing forborne		Of which defaulted	Of which impaired	On performing forborne exposures	On non-performing forborne exposures		Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
Loans and advances	6,888	9,350	9,350	9,350	(623)	(4,164)	7,304	3,423
Central banks	-	-	-	-	-	-	-	-
General governments	96	62	62	62	(3)	(7)	49	16
Credit institutions	-	-	-	-	-	-	-	-
Other financial corporations	1	5	5	5	(0)	(4)	1	1
Non-financial corporations	2,853	5,235	5,235	5,235	(294)	(2,722)	2,417	1,185
Households	3,938	4,048	4,048	4,048	(326)	(1,431)	4,838	2,221
Debt Securities	-	-	-	-	-	-	-	-
Loan commitments given	134	45	45	45	(5)	(7)	-	-
Total exposures December 2019	**7,022**	**9,395**	**9,395**	**9,395**	**(628)**	**(4,172)**	**7,304**	**3,423**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

The collateral obtained by taking possession and execution processes as of December 31, 2020 are shown below, distinguishing between collateral classified as property, plant and equipment and other types of collateral:

Table 22. EU CQ7 - Collateral obtained by taking possession and execution processes (Million Euros)

	12-31-2020		12-31-2019	
	Collateral obtained		Collateral obtained	
	Value at initial recognition(1)	Accumulated negative changes(2)	Value at initial recognition(1)	Accumulated negative changes(2)
Property, plant and equipment (PP&E)	-	-	641	-
Other than PP&E	3,028	(853)	2,996	(738)
Residential immovable property	1,504	(371)	1,438	(377)
Commercial Immovable property	367	(135)	348	(152)
Movable property (auto, shipping, etc.)	23	(11)	1	(0)
Equity and debt instruments	1,074	(279)	1,177	(209)
Other	60	(57)	31	-
Total	**3,028**	**(853)**	**3,637**	**(738)**

(*) Includes the carrying amount of reverse repurchase agreements and positions subject to the securitisation framework. Excluding the assets of BBVA USA and BBVA Paraguay, which are accounted for as non-current assets held for sale (see Note 1.3 of the Consolidated Financial Statements).

(1) Value at initial recognition: the gross carrying amount of the collateral obtained by taking possession at initial recognition in the balance sheet.

(2) Accumulated negative changes: accumulated impairment or accumulated negative changes to the initial recognition value of the collateral obtained by taking possession.

3.2.3.5. Public guarantees and moratorium programmes in response to COVID-19 crisis

Information about public guarantees and moratorium schemes, introduced by the governments in response to COVID-19 crisis is shown below. For further information on these programmes, refer to Note 7.2 of the Consolidated Financial Statements of BBVA Group:Information on the standardised approach.

Table 23. Information on loans and advances subject to to legislative and non-legislative moratoria (Million euros. 12-31-2020)

	Gross carrying amount							Accumulated impairment, accumulated negative changes in fair value due to credit risk							Gross carriyng amount
	Performing				Non Performing			Performing				Non performing			
			Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days			Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days	Inflows to non-performing exposures
Loans and advances subject to moratorium	6,803	6,265	1,311	3,049	538	488	502	(582)	(457)	(257)	(427)	(126)	(104)	(106)	59
of which: Households	4,657	4,179	614	1,874	478	447	464	(267)	(166)	(42)	(149)	(100)	(86)	(91)	35
of which: Collateralised by residential immovable property	3,664	3,248	441	1,421	417	406	411	(169)	(93)	(24)	(88)	(76)	(74)	(74)	21
of which: Non-financial corporations	2,086	2,026	697	1,175	60	41	37	(315)	(290)	(215)	(278)	(26)	(18)	(15)	25
of which: Small and Medium-sized Enterprises	1,031	983	217	544	48	34	30	(145)	(126)	(70)	(118)	(19)	(15)	(11)	21
of which: Collateralised by commercial immovable property	918	886	213	416	31	21	22	(101)	(92)	(60)	(86)	(9)	(6)	(6)	10

(*) For more information on loans subject to moratoria, see note 7.2 of the Consolidated Financial Statements of BBVA Group.

Table 24. Breakdown of loans and advances subject to legislative and non-legislative moratoria by residual maturity of moratoria (Million Euros. 12-31-2020)

	Gross carrying amount								
					Residual maturity of moratoria				
	Number of obligors[1]		Of which: legislative moratoria	Of which: expired	<= 3 months	> 3 months <= 6 months	> 6 months <= 9 months	> 9 months <= 12 months	> 1 year
Loans and advances for which moratorium was offered	2,866,628	35,150							
Loans and advances subject to moratorium (granted)	2,843,977	33,828	30,101	27,025	3,173	1,987	1,415	213	15
of which: Households		21,333	17,628	16,676	1,835	1,612	1,113	98	-
of which: Collateralised by residential immovable property		12,387	9,148	8,723	1,005	1,490	1,074	95	-
of which: Non-financial corporations		12,237	12,217	10,151	1,309	357	289	115	15
of which: Small and Medium-sized Enterprises		6,087	6,086	5,056	644	94	199	85	9
of which: Collateralised by commercial immovable property		2,511	2,503	1,593	548	38	228	92	12

(1) For further information on loans subject to moratorium measures, see note 7.2 of the Group's Consolidated Annual Accounts

Table 25. Information on new loans and advances subject to public guarantee schemes introduced in response to the COVID-19 crisis (12-31-2020. Million euros)

	Gross carrying amount		Maximum amount of collateral that can be considered	Gross carrying amount
		of which: forborne	Public guarantees received	Inflows to non-performing exposures
Newly originated loans and advances subject to public guarantee schemes	18,619	170	15,242	60
of which: Households	1,237			3
of which: Collateralised by residential immovable property	1			-
of which: Non-financial corporations	17,303	168	14,163	57
of which: Small and medium-sized enterprises	11,373			39
of which: Collateralised by commercial immovable property	4			0

(*) For further information on loans under public guarantee programmes, see note 7.2 of the Group's Consolidated Financial Statements.

3.2.4. Information on the standardised approach

3.2.4.1. Identification of external rating agencies

The external credit assessment institutions (ECAIs) appointed by the Group to determine the risk weightings applicable to its exposure are as follows: *Standard&Poors, Moodys, Fitch* and *DBRS*.

The exposure for which the ratings of ECAI are used are those corresponding to wholesale portfolios, basically those involving "Sovereigns and central banks" in developed countries, and "Financial Institutions".

In cases where a counterparty has ratings from different ECAIs, the Group follows the procedure laid down in Article 138 of the Solvency Regulations, which specifies the order of priority to be used in the assignment of ratings.

When two different credit ratings made by designated ECAIs are available for a rated exposure, the higher risk weighting will be applied. However, when there are more than two credit ratings for the same rated exposure, use is to be made of the two credit ratings that provide the lowest risk weightings. If the two lowest risk weightings coincide, then that weighting will be applied; if they do not coincide, the higher of the two will be applied.

The correspondence between the alphanumeric scale of each agency used and the risk categories used by the Group are defined in the Final Draft Implementing Technical Standards on the mapping of ECAIs credit assessment under Article 136(1) and (3) of Regulation (EU) No. 575/2013; complying with the provisions of Article 136 of the CRR.

3.2.4.2. Assignment of the credit ratings to public share issues

The number of cases and the amount of these assignments are not relevant for the Group in terms of credit admission and issuer risk management.

3.2.4.3. Exposure values before and after the application of credit risk mitigation techniques

The original exposure net of value adjustments and provisions, exposure after risk mitigation techniques, and RWA density for each exposure category, according to the standardised approach, are shown below, excluding securitisation and counterparty credit risk exposure, which is presented in Section 3.2.6 of this Report.

Table 26. EU CR4 - Standardised approach - credit risk exposure and credit risk mitigation effects (Million Euros. 12-31-2020)

	Exposures before CCF and CRM[1]		Exposures post-CCF and CRM[2]		RWA[3] and RWA Density	
Exposure Class	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA Density
Central governments or central banks	159,908	3,740	202,956	2,709	29,227	14%
Regional governments or local authorities	18,791	857	6,880	326	2,316	32%
Public sector entities	1,195	298	1,525	157	690	41%
Multilateral development banks	232	38	302	-	7	2%
International Organisations	-	-	-	-	-	-
Institutions	12,604	13,851	12,698	1,661	7,014	49%
Corporates	69,279	31,594	62,616	15,387	75,827	97%
Retail	53,759	26,629	46,005	2,979	34,337	70%
Secured by mortgages on immovable property	34,472	218	34,433	180	12,769	37%
Exposures in default	3,911	172	3,847	112	4,480	113%
Exposures associated with particularly high risk	3,104	426	2,988	137	4,687	150%
Covered bonds	-	-	-	-	-	-
Institutions and corporates with a short term credit assessment	1	-	1	-	1	87%
Collective Investment Undertakings	-	5	-	3	3	100%
Equity	-	-	-	-	-	-
Other Items	20,030	-	19,964	425	12,120	59%
Total	**377,286**	**77,828**	**394,215**	**24,077**	**183,479**	**44%**

[1] Net OE: original exposure net of value adjustments and provisions.

[2] EAD: original exposure net of value adjustments and provisions after CRM and CCF.

[3] RWAs: EAD after risk-weighting.

EU CR4 - Standardised approach - credit risk exposure and credit risk mitigation effects (Million Euros. 12-31-2019)

Exposure Class	Exposures before CCF and CRM [1]		Exposures post-CCF and CRM[2]		RWA[3] and RWA Density	
	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA Density
Central governments or central banks	117,878	4,449	146,001	654	29,629	20%
Regional governments or local authorities	9,512	1,056	6,827	271	1,643	23%
Public sector entities	1,383	212	1,504	137	714	43%
Multilateral development banks	130	38	210	-	11	5%
International Organisations	-	-	-	-	-	-
Institutions	10,202	13,536	10,239	1,063	4,725	42%
Corporates	75,447	33,319	71,354	17,058	86,058	97%
Retail	56,081	30,653	52,060	2,755	38,451	70%
Secured by mortgages on immovable property	39,471	167	39,423	138	14,983	38%
Exposures in default	3,273	330	3,197	225	3,806	111%
Exposures associated with particularly high risk	3,502	428	3,285	107	5,088	150%
Covered bonds	-	-	-	-	-	-
Institutions and corporates with a short term credit assessment	1	-	1	-	1	96%
Collective Investment Undertakings	6	4	4	3	7	100%
Equity	-	-	-	-	-	0%
Other Items	21,018	-	21,211	496	12,767	59%
Total	**337,904**	**84,191**	**355,316**	**22,907**	**197,882**	**52%**

[1] Net OE: original exposure net of value adjustments and provisions.

[2] EAD: original exposure net of value adjustments and provisions after CRM and CCF.

[3] RWAs: EAD after risk-weighting.

In addition, the following tables show the exposure net of provisions, before and after the application of credit risk mitigation techniques by risk weights and exposure categories under the standardised approach, excluding securitisation positions and counterparty credit risk exposure.

Exposure net of provisions and after applying CCF and CRM related to counterparty credit risk are shown in table EU CCR3 of Section 3.2.6 of this report.

Table 27. Standardised approach: exposure values before application of credit risk mitigation techinques (Million Euros. 12-31-2020)

Exposure Class	Risk Weight															Total credit exposures amount (pre CCF and pre-CRM)	Of which: unrated[1]
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others		
Central Government or central banks	131,891	-	-	-	6,501	-	4,612	-	-	16,541	660	3,441	-	-	-	163,647	60,006
Regional government or local authorities	526	-	-	-	14,806	-	1,181	-	-	3,136	-	-	-	-	-	19,648	16,891
Public sector entities	-	-	-	-	561	-	654	-	-	278	-	-	-	-	-	1,494	1,034
Multilateral development banks	218	-	-	-	-	-	52	-	-	-	-	-	-	-	-	270	229
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	280	-	-	18,089	-	2,941	-	-	5,062	83	-	-	-	-	26,455	24,326
Corporates	-	-	-	-	57	-	808	-	-	98,776	1,231	-	-	-	-	100,873	99,478
Retail	-	-	-	-	-	-	-	-	80,388	-	-	-	-	-	-	80,388	80,388
Secured by mortgages on immovable property	-	-	-	-	-	30,065	3,552	-	846	228	-	-	-	-	-	34,690	34,690
Exposures in default	-	-	-	-	-	-	-	-	-	2,973	1,110	-	-	-	-	4,083	4,083
Exposures associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	3,531	-	-	-	-	3,531	3,531
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1
Collective investment undertakings	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	5	5
Other Items	7,280	-	-	-	-	-	-	-	-	12,750	-	-	-	-	-	20,030	20,030
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**139,916**	**280**	**-**	**-**	**40,015**	**30,065**	**13,798**	**-**	**81,233**	**139,748**	**6,617**	**3,441**	**-**	**-**	**-**	**455,113**	**344,692**

[1] Of which: Unrated refers to exposure for which no credit rating from designated ECAIs is available.

Standardised approach: exposure values before application of credit risk mitigation techinques (Million Euros. 12-31-2019)

Exposure Class	Risk Weight															Total credit exposures amount (pre CCF and pre-CRM)	Of which: unrated [1]
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others		
Central Government or central banks	90,680	-	-	-	4,536	-	5,923	-	-	17,045	872	3,271	-	-	-	122,327	51,205
Regional government or local authorities	244	-	-	-	6,827	-	3,360	-	-	136	-	-	-	-	-	10,568	9,110
Public sector entities	-	-	-	-	672	-	634	-	-	289	1	-	-	-	-	1,595	1,092
Multilateral development banks	77	-	-	-	90	-	-	-	-	-	-	-	-	-	-	167	114
International Organisations	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	250	-	-	6,292	-	15,024	-	-	2,152	21	-	-	-	-	23,738	20,511
Corporates	-	399	-	-	142	-	2,935	-	-	104,209	1,081	-	-	-	-	108,766	107,315
Retail	-	-	-	-	-	-	-	-	84,589	2,145	-	-	-	-	-	86,733	86,601
Secured by mortgages on immovable property	-	-	-	-	-	33,296	4,898	-	810	634	-	-	-	-	-	39,638	39,634
Exposures in default	-	-	-	-	-	-	-	-	-	2,797	805	-	-	-	-	3,602	3,596
Exposures associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	3,931	-	-	-	-	3,931	3,931
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions and corporates with a short- term credit assessment	-	-	-	-	0	-	-	-	-	1	-	-	-	-	-	1	-
Collective investment undertakings	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	10	10
Other Items	7,484	-	-	-	6	-	-	-	-	13,527	0	-	-	-	-	21,018	20,941
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**98,485**	**649**	**-**	**-**	**18,566**	**33,296**	**32,774**	**-**	**85,398**	**142,946**	**6,711**	**3,271**	**-**	**-**	**-**	**422,096**	**344,060**

[1] Of which: Unrated refers to exposures for which no credit rating from designated ECAIs is available.

Table 28. EU CR5 - Standardised approach: exposure values after application of credit risk mitigation techniques (Million Euros. 12-31-2020)

Exposure Class	Risk Weight															Total credit exposures amount (pre CCF and pre-CRM)	Of which: unrated[1]
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others		
Central Government or central banks	176,481	-	-	-	3,752	-	4,797	-	-	16,534	660	3,441	-	-	-	205,665	59,394
Regional government or local authorities	1	-	-	-	5,582	-	847	-	-	776	-	-	-	-	-	7,206	2,032
Public sector entities	-	-	-	-	905	-	534	-	-	242	-	-	-	-	-	1,681	643
Multilateral development banks	288	-	-	-	-	-	14	-	-	-	-	-	-	-	-	302	229
International Organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	280	-	-	7,826	-	1,701	-	-	4,472	80	-	-	-	-	14,359	12,720
Corporates	-	-	-	-	50	-	498	-	-	76,550	904	-	-	-	-	78,003	76,329
Retail	-	-	-	-	-	-	-	-	48,984	-	-	-	-	-	-	48,984	48,984
Secured by mortgages on immovable property	-	-	-	-	-	30,049	3,506	-	844	215	-	-	-	-	-	34,614	34,614
Exposures in default	-	-	-	-	-	-	-	-	-	2,917	1,042	-	-	-	-	3,959	3,959
Exposures associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	3,125	-	-	-	-	3,125	3,125
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1
Collective investment undertakings	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3
Other Items	8,269	-	-	-	-	-	-	-	-	12,120	-	-	-	-	-	20,389	20,389
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**185,038**	**280**	**-**	**-**	**18,116**	**30,049**	**11,895**	**-**	**49,829**	**113,831**	**5,812**	**3,441**	**-**	**-**	**-**	**418,291**	**262,422**

[1] Of which: Unrated refers to exposure for which no credit rating from designated ECAIs is available

EU CR5 - Standardised approach: exposure values after application of credit risk mitigation techniques (Million Euros. 12-31-2019)

Exposure Class	Risk Weight															Total credit exposures amount (pre CCF and pre-CRM)	Of which: unrated[1]
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others		
Central Government or central banks	118,530	-	-	-	1,230	-	5,708	-	-	17,044	872	3,271	-	-	-	146,655	50,520
Regional government or local authorities	1	-	-	-	6,579	-	381	-	-	136	-	-	-	-	-	7,098	7,075
Public sector entities	-	-	-	-	798	-	578	-	-	264	1	-	-	-	-	1,641	497
Multilateral development banks	157	-	-	-	53	-	-	-	-	-	-	-	-	-	-	210	114
International Organisations	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Institutions	-	250	-	-	5,757	-	3,474	-	-	1,802	19	-	-	-	-	11,302	8,756
Corporates	-	-	-	-	34	-	1,895	-	-	85,656	828	-	-	-	-	88,412	86,955
Retail	-	-	-	-	-	-	-	-	54,814	-	-	-	-	-	-	54,814	54,682
Secured by mortgages on immovable property	-	-	-	-	-	33,285	4,843	-	804	629	-	-	-	-	-	39,561	39,558
Exposures in default	-	-	-	-	-	-	-	-	-	2,655	767	-	-	-	-	3,423	3,423
Exposures associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	3,392	-	-	-	-	3,392	3,392
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	0	-	-	-	-	1	-	-	-	-	-	1	0
Collective investment undertakings	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	7	7
Other Items	8,935	-	-	-	6	-	-	-	-	12,765	0	-	-	-	-	21,707	21,707
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**127,622**	**250**	**-**	**-**	**14,458**	**33,285**	**16,879**	**-**	**55,618**	**120,959**	**5,880**	**3,271**	**-**	**-**	**-**	**378,222**	**276,846**

[1] Of which: Unrated refers to exposure for which no credit rating from designated ECAIs is available

The following table shows the flow statements of credit and counterparty credit risk RWA under standardised approach during the fourth quarter of 2020:

Table 29. RWA flow statements of credit risk exposures under the standardised approach (Million Euros)

	Credit Risk		Counterparty Credit Risk		Total	
	RWA amounts	Capital Requirements	RWA amounts	Capital Requirements	RWA amounts	Capital requirements
RWAs as of September 30, 2020	179,907	14,393	3,612	289	183,519	14,682
Asset size	5,602	448	(14)	(1)	5,588	447
Asset quality	(97)	(8)	(8)	(1)	(105)	(8)
Model updates	-	-	-	-	-	-
Methodology and policy	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-
Foreign exchange movements	(1,933)	(155)	(493)	(39)	(2,426)	(194)
Other	-	-	-	-	-	-
RWAs as of December 31, 2020	183,479	14,678	3,097	248	186,576	14,926

Regarding credit risk RWA (ex-FX effect) under standardised approach, the fourth quarter figures reveal a wide deviation of roughly €5,590 million, mostly due to the great spike in Corporates, Retail and Institutions (with emphaseis in Turkey and Mexico), in addition to a noticeable upswing in Sovereign exposures (mostly in Turkey, Perú and Colombia).

Regarding the effect of the exchange rate, the credit risk RWA in the portfolios under the standard method have fallen by €2,425 million euros, mainly due to the depreciation of the US dollar (-5%) and to a lesser extent by the depreciation of the Argentine peso and the Peruvian sol that completely neutralize the impact of the appreciation registered in the Mexican peso.

The full annual serie of flow statements related to credit risk under the standard approach is available in the editable file "Pillar III 2020 – Tables & Annexes".

3.2.5. Information on the IRB approach

3.2.5.1. General information

3.2.5.1.1. Authorisation by the supervisor to use the IRB approach

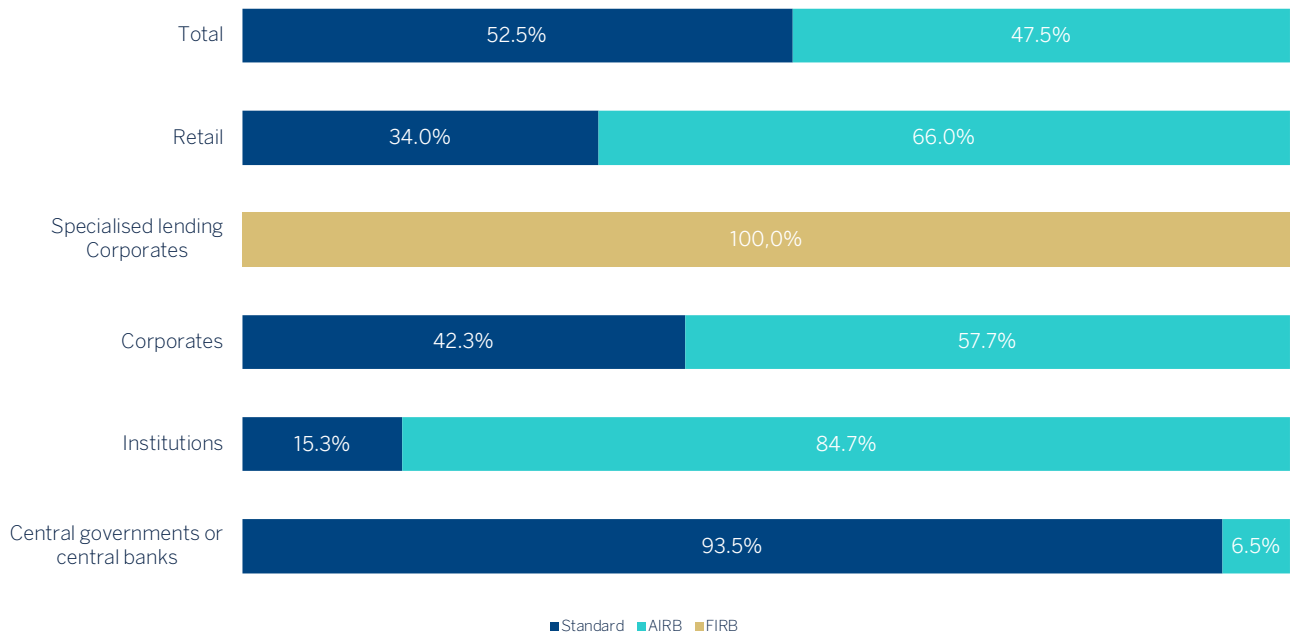
The following are the models authorised by the supervisor for use in the calculation of regulatory capital requirements.

Table 30. Models authorised by the supervisor for the purpose of their use in the calculation of capital requirements (12-31-2020)

Institution Portfolio	Portfolio	Number of models	Model description
BBVA S.A.	Financial institutions	4	1 Rating, 1 PD model, 1 LGD model, 1 EAD model
	Public institutions	5	1 Rating, 1 PD model, 2 LGD models, 1 EAD model
	Specialised finance	2	1 Slotting criteria, 1 EAD model
	Developers	4	1 Rating, 1 PD model, 1 LGD model, 1 EAD model
	Small Corporates	5	1 Rating, 1 PD model, 2 LGD models, 1 EAD model
	Medium-sized Corporates	5	1 Rating, 1 PD model, 2 LGD models, 1 EAD model
	Large Corporates	5	1 Rating, 1 PD model, 2 LGD models, 1 EAD model
	Mortgages	6	2 Scorings, 2 PD models, 1 LGD model, 1 EAD model
	Consumer finance	5	2 Scorings, 2 PD models, 1 LGD model
	Credit cards	10	2 Scorings, 2 PD models, 3 LGD models, 3 EAD models
	Automobiles	4	2 Scorings, 1 PD model, 1 LGD model
BBVA Bancomer	Retail Revolving (Credit Cards)	11	4 Scorings, 5 PD models, 1 LGD model, 1 EAD model
	Large Corporates	5	1 Rating, 1 PD model, 2 LGD models, 1 EAD model
	Medium-sized Corporates	5	1 Rating, 1 PD model, 2 LGD models, 1 EAD model
Grupo BBVA	Equity	1	1 capital model

The following chart shows the distribution of exposures at default (EAD) related to credit risk and counterparty credit risk by model for each exposure category, as of December, 31, 2020:

Chart 6. Distribution of EAD by Exposure Category and Method for Credit and Counterparty Risk



(*) Regulatory credit risk exposure categories other than those included in the chart is subjet to standardised approach

The main types of rating models used in the IRB portfolios are ratings for wholesale portfolios and proactive and reactive scorings in the case of retail portfolios.

The rating models give contracts/customers a score that orders customers according to their credit quality. This score is determined by the characteristics of the transactions, economic and financial conditions of the customer, information on payment behavior, credit bureau, etc.

The approval of the models by the supervisor includes both own estimations of the probability of default (PD), loss given default (LGD) and the internal estimation of credit conversion factors (CCFs).

The Group continues with the development of a new rollout plan that increases the coverage of IRB models.

3.2.5.1.2. Structure of internal rating systems and relationship between internal and external ratings

The Group has rating tools for each exposure category listed in the Basel Agreement.

The retail portfolio has scoring tools for determining the credit quality of transactions on the basis of information on the transaction itself and on the customer. The scoring models are algorithms calculated using statistical methods that score each transaction. This score reflects the transaction's level of risk and is in direct relation to its probability of default (PD).

These decision models are the basic tool to decide who should receive a loan and the amount to be granted, thereby contributing to both the arrangement and management of retail-type loans.

For the wholesale portfolio, the Group has rating tools that, unlike scorings, do not assess transactions but rather customers. The Group has different tools for rating the various customer segments: small companies, corporates, government and the public sector, etc. In those wholesale portfolios where the number of defaults is very low (sovereign risk, corporates, financial institutions) the internal information is supplemented by the benchmarks of external rating agencies.

The PD estimates made by the Group are transferred to the Master Scale, enabling a comparison to be made with the scales used by external agencies.

Table 31. Master Scale of BBVA's rating (12-31-2020)

External rating	Internal rating	Probability of default (basic points)		
Standard & Poor's List	Reduced List (22 groups)	Average	Minimum from >=	Maximum
AAA	AAA	1	0	2
AA+	AA+	2	2	3
AA	AA	3	3	4
AA-	AA-	4	4	5
A+	A+	5	5	6
A	A	8	6	9
A-	A-	10	9	11
BBB+	BBB+	14	11	17
BBB	BBB	20	17	24
BBB-	BBB-	31	24	39
BB+	BB+	51	39	67
BB	BB	88	67	116
BB-	BB-	150	116	194
B+	B+	255	194	335
B	B	441	335	581
B-	B-	785	581	1,061
CCC+	CCC+	1,191	1,061	1,336
CCC	CCC	1,500	1,336	1,684
CCC-	CCC-	1,890	1,684	2,121
CC+	CC+	2,381	2,121	2,673
CC	CC	3,000	2,673	3,367
CC-	CC-	3,780	3,367	4,243

3.2.5.1.3. Use of internal estimates for purposes other than the calculation of regulatory capital requirements

The Group's internal estimates are a critical component of management based on value creation, giving rise to criteria for assessing the risk-return trade-off.

These measures have a broad range of uses, from the adoption of strategic business decisions through to the individual admission of transactions.

Specifically, internal estimates are used in everyday business in support of credit risk management through their inclusion in admission and monitoring processes, as well as in the pricing of transactions.

The management use of performance metrics that consider expected loss, economic capital and risk-adjusted return enables the monitoring of portfolios and the assessment of non-performing positions, among others.

3.2.5.1.4. Process for managing and recognizing the effects of credit risk mitigation

Mitigation is an iterative process whose purpose is to recognize the benefits of the existence of collateral and guarantees, ordering them from the highest to the lowest credit quality.

The Group uses risk mitigation techniques for exposure pertaining to the wholesale portfolio by replacing the debtor's PD with that of the guarantor, in cases in which the latter is eligible and its PD is lower than the debtor's. In retail admission processes the guarantor is included in the scoring itself.

Collateral in IRB models is recognised through the LGD and must meet eligibility criteria based on maturity and minimum exposure coverage, and making the necessary adjustments depending on the type of existing collateral, financial or real.

3.2.5.1.5. Control mechanisms for internal rating models

The Group has a management framework for rating models that includes all the phases of its life cycle: from the time when a need that triggers the construction or modification of a model is identified, through to its use and monitoring.

Appropriate monitoring allows detection of unexpected behavior, identification of incorrect use and even anticipation when changes in the risk profile of the portfolios or products require corrective action to be taken. The monitoring of the risk rating models is performed with a frequency that is appropriate to the nature of the model, the availability of new data, modeling techniques and the importance of its use in management. This is analysed from a twofold perspective: performance and use.

The aim of performance monitoring is to detect deficiencies in the performance of the rating models for risk anticipating its possible deterioration over time. It allows us to determine if these systems work correctly, helping to verify that the model components work as expected. The monitoring performance framework can identify weaknesses and establish the plans of action needed to ensure correct operation. This analytical framework, a fundamental component of risk model planning, sets out the minimum criteria to be taken into account, as well as the metrics and thresholds that make it possible to flag unwanted behaviors.

The purpose of the use monitoring is to verify that the model is used generally, in the way it was intended, and appropriately. This control mechanism allows continued detection of deviations from the planned use of models, as well as the establishment of action plans for their correction.

Additionally, the Group has an area independent of the developers and users of the rating models and the departments responsible for their monitoring, whose main function is to perform an effective contrast to the models used, in order to guarantee their accuracy, robustness and stability.

This review process is not restricted as to the time of approval, or the inclusion of changes in the models, but rather is framed within a plan that allows for a periodic evaluation of them, resulting in the issuance of recommendations and mitigating actions for the deficiencies identified.

The various aspects to be improved and detected during the review process, carried out by this independent area, are reflected in the validation reports by setting recommendations. These reports are presented to the appropriate Risk Committees, together with the status of the action plans associated with the recommendations, to ensure their resolution and the proper operation of the rating models at any time.

3.2.5.1.6. Description of the internal rating process

There follows a description of the internal rating process by type of customer:

- **Central banks and central governments:** For this segment, the assignment of ratings is made by the Risk units appointed for this purpose, which periodically analyze this type of customer, rating them according to the parameters included in the corresponding rating model. There are 3 different methodologies currently in use for allocating country ratings: (i) ratings from external agencies, used for developed countries, emerging countries with elevated incomes and emerging countries where the Group has little risk; (ii) internal rating based on a proprietary tool used for emerging countries where the Group has an appreciable risk; and lastly (iii) the country risk scores published by the Belgian export credit agency (which manages the quantitative model used by the OECD to assign its country risk scores) for countries of marginal importance for the Group that have no external ratings. Sovereign ratings are generated in local and foreign currency for all countries, as well as a transfer rating, which evaluates the risk of inconvertibility/transfer restrictions.

  In the case of emerging countries where BBVA subsidiaries or branches are present, the rating in local currency is adjusted to the rating obtained by the emerging countries tool under the authorisation of the Risk Committee assigned for this purpose.

- **Institutions:** The rating for Public Institutions is generally provided by the risk units responsible for their approval, on a yearly basis, coinciding with the review of customer risk or with the reporting of their financial accounts.

  In the case of financial institutions, the responsible Risk unit gives a regular rating for these customers, continuously monitoring them on domestic and international markets. External ratings are a key factor in assigning ratings for financial institutions.

- **Large Companies:** Includes the rating of exposure with corporate business groups. The result is affected both by indicators of business risk (evaluation of the competitive environment, business positioning, regulation, etc.) and financial risk indicators (size of the group by sales, cash generation, levels of debt, financial flexibility, etc.).

  In accordance with the characteristics of the large companies, the rating model has a global nature with specific algorithms according to the sector of activity and geographical adaptations. The rating of these customers is generally calculated within the framework of the annual risk review process, or the admission of new operations.

  The responsibility for the assessment lies with the units proposing the risk, while those responsible of approvals, validate it when the decision is taken.

- **Medium-sized companies:** This segment also takes into account quantitative factors derived from economic and financial information, and qualitative factors that are related to the age of the company, the sector, management quality, etc. and alert factors derived from risk monitoring.

  As in the Corporate segment, the rating tends to run parallel to the admission process, so the responsibility for rating lies with the unit proposing the risk, while the decision-making level is in charge of validating it.

- **Small-sized companies:** As in the case of medium-sized companies, this segment also takes into account quantitative factors derived from economic and financial information, and qualitative factors that are related to the age of the company, the sector, management quality, etc. and alert factors derived from risk monitoring. Similarly, the rating tends to run parallel with the admission process, so the responsibility for rating is with the unit proposing the risk, while the decision-making level is in charge of validating it.

- **Specialised Lending:** To classify this segment, the Group has chosen to use the approach of slotting criteria, as included in the Basel Accord of June 2004 and in the solvency regulations (CRR Article 153.5)

- **Developers:** The rating of real estate developers covers the rating of both customers who are developers and the Property Projects unit. Its use makes it easier to monitor and rate projects during their execution phase, as well as enriching the admission processes.

- **BBVA Mexico Corporates:** This segment also takes into account quantitative factors derived from economic and financial information and bureau information, as well as qualitative factors related to the age of the company, the sector, the quality of its management, etc. The rating tends to run parallel to the admission process, so that responsibility for the rating is with the unit originating the risk, while the decision-making body validates it.

  In general in the wholesale area, the rating of customers is not limited to admission, as the ratings are updated according to new information available at any time (economic and financial data, changes in the company, external factors, etc.)

- **Retailers:** Retail exposure is rated by models developed internally by the Entity that allow the credit risk of portfolios to be assessed. The model score can be assigned at the customer or product level and transformed into a probability of default, allowing for management based on risk groups. Depending on the information available, ratings can be reactive or proactive. The reactive ratings are generated from the customer's request to take out a product, while the proactive ratings are periodically calculated on the basis of the information available, internal and external, on the customer's payment behavior. Proactive models allow offers of pre-approved and/or pre-offered products, which are instrumentalised in mass marketing campaigns. Ratings are integrated into admission and monitoring processes for retail portfolios, ensuring adequate credit risk management.

  The rating process is as follows for each specific category of retail exposure:

  a. *Mortgages, Consumer Finance and Retail Cards - Spain:* The manager collects data on the customer (personal, financial, banking relationship information) and on the transaction (LTV, amount, maturity, destination etc.) and calculates the rating of the transaction with the scoring. The decision on whether it is approved is made based on the results of applying the model and risk policies.

  b. *Consumer Finance Autos Spain:* The financing request may come through the call center or be directly recorded in the web application by our authorised dealers. The necessary information on the customer (personal, financial information, authorisation to consult the external bureau of credit) and on the transaction (maturity, amount, etc.) is recorded to rate the transaction with the scoring. Once the validity of the information provided is verified, the decision of whether to approve it is made based on the results of applying the model and risk policies.

  c. *Retail Revolving- Cards BBVA Mexico:* The manager or specialist party gathers the necessary information on the customer (personal, financial information and authorisation to consult the external bureau of credit) and on the transaction (limit requested) to rate the transaction with the scoring. There are additional processes for validating and checking this information through the back office or operational support areas. The decision on whether it is approved is made based on the results of applying the model and risk policies.

     - Behavioral: Every month all the active cards are rated according to their transactional behavior and payment status.
     - Proactive: Each month all the customers who have asset positions on credit cards, consumer finance or mortgages and liabilities positions are rated, based on information on internal behavior and flows.

  d. *Proactive - Spain:* Each month all the customers who have asset positions in credit cards, consumer finance or mortgages and first and second in liability seniority, are rated according to information on their behavior.

  e. *SMEs Spain (legal persons):* Management is based on the allocation of limits/ceilings at the customer level, based on the results of a proactive monthly update rating.

- **Equity:** For its portfolio position registered as equity, the Group is applying the rating obtained for customers as a result of their rating in the lending process.

3.2.5.1.7. Definitions, methods and data for estimating and validating risk parameters

The estimation of the parameters is based on the uniform definition of default established at Group level. Specifically, for a contract or customer to be considered in a situation of default, the provisions of current regulations must be met.

Specifically, there are two approaches in the Group for considering default and estimating parameters:

- The facility level approach is applied within the sphere of retail risk. Each customer transaction is handled as an independent unit in terms of credit risk. Therefore, noncompliance with credit obligations to the bank is handled at the transaction level, regardless of the customer's behavior with respect to other obligations.
- The obligor level approach is applied to the remainder portfolios. The significant unit for defining default is the customer's sum of contracts, which enter a situation of default en masse when the customer defaults.

Furthermore, to avoid including non material defaults in the estimates, non-performing volumes have to pass through a materiality filter that depends on the type of customer and transaction.

Estimating parameters

In the case of Spain and Mexico, the Group has an internal information system denominated RAR – Risk Adjusted Return that reflects exposure to credit risk in the Group's different portfolios included in advanced internal models.

This information system guarantees the availability of historical data recorded by the Group, which are used to estimate the parameters of Probability of Default (PD), Loss Given Default (LGD) and Credit Conversion Factors (CCF). These are then used to calculate the regulatory capital using the advanced approach, economic capital and expected loss by credit risk.

Other sources of information for the Bank may be used in addition, depending on any new needs detected in the estimation process. Internal estimates of the PD, LGD and CCF parameters are made for all the Group's portfolios.

In the case of low default portfolios (LDP), in which the number of defaults tends to be insufficient for obtaining empirical estimates, use is made of data from external agencies that are merged with the internal information available and expert criteria.

The following shows the estimation methodologies used for the PD, LGD and CCF risk parameters, for the purpose of calculating regulatory capital requirements.

Probability of default (PD)

The methodology used for estimating the PD in cases that have a sufficiently large mass of internal data is based on the creation of risk groups. The groups proposed with a view to calibration are defined by grouping contracts together, seeking to achieve intra-group homogeneity in terms of credit quality and differentiation with all the other risk groups. The largest possible number of groups is defined in order to allow a suitable discrimination of risk.

The fundamental metric used for making these groupings is the score, being supplemented by other metrics relevant to PD that are proven to be sufficiently discriminating depending on the portfolio.

Once the risk groups have been defined, the average empirical PD recorded for each one is obtained and adjusted to the cycle. The adjustment to the cycle provides stable estimates over the course of the economic cycle, referred to as PD-TTC (through the cycle). This calculation considers the portfolio's track record and provides long-term levels of PD.

In low default portfolios (LDPs) the empirical PDs observed by external rating agencies are used to obtain the PD of internal risk groups.

Finally, in obligor level portfolios there is a Master Scale, which is simply a standard and uniform rule for credit levels that makes it possible to make comparisons of credit quality in the Group's different portfolios.

Loss given default (LGD)

As a general rule, the method used to estimate loss given default (LGD) in portfolios with a sufficient number of defaults is Workout LGD. Here, the LGD of a contract is obtained as a quotient of the sum of all the financial flows recorded during the recovery process that takes place when a transaction defaults, and the transaction's exposure at the time of default.

This estimate is made by considering all the historical data recorded in internal systems. When making the estimates, there are transactions that have already defaulted but for which the recovery process is still ongoing. The loss given default recorded at the time of the estimate is therefore higher than it will ultimately be. The necessary adjustments are made in these cases so as not to distort the estimate.

These estimates are made by defining uniform risk groups in terms of the nature of the operations that determine the LGD. They are made in such a way that there are enough groups for each one to be distinguishable and receive a different estimate.

In line with the guidelines set out by the regulations, the estimates are made by distinguishing between wholesale and retail type exposure.

There is insufficient historical experience to make a robust estimate in low default portfolios (LDP) using the Workout LGD method, so external sources of information are used, combined with internal data to provide the portfolio with a representative rate of loss given default (LGD).

The loss given default (LGD) rates estimated according to the internal databases the Bank holds are conditioned to the moment of the cycle of the data window used, since loss given default varies over the economic cycle. Hence, the following concepts can be defined: long-run loss given default (LRLGD), the downturn loss given default (DLGD), and loss given default best estimate (LGD BE).

LRLGD is calculated by making an adjustment to capture the difference between the loss given default obtained empirically with the available sample and the average loss given default observed throughout the economic cycle if the observation of the cycle is complete. In addition, the loss given default observed in a period of stress in the economic cycle, the downturn loss given default (DLGD) is determined.

These estimates are made for those portfolios whose loss given default (LGD) is noticeably sensitive to the cycle. The different ways in which the recovery cycles can conclude are determined for each portfolio where this loss given default (LGD) in conditions of stress has not yet been observed, and the level these parameters would have in a downturn situation are estimated.

Finally, LGD BE is determined according to the loss given default (LGD) observed in the BE period, which aims to cover the defaults closest in time to the present, in other words those that have been produced at a time of the economic cycle that is similar to the present and that also correspond to a very similar portfolio to the present one.

However, for defaulted transactions, the LGD at the worst time will be the LGD BE plus a stress, which is measured based on the volatility of LGD.

Credit conversion factor (CCF)

As with the two preceding parameters, exposure at default is another of the necessary inputs for calculating expected loss and regulatory capital. A contract's exposure usually coincides with its balance. However, this is not applicable in all cases.

For example, for products with explicit limits, such as credit cards or credit facilities, the exposure should incorporate the potential increase in the balance that may be recorded up to the time of default.

In observance of regulatory requirements, exposure is calculated as the drawn balance, which is the real risk at any specific moment, plus a percentage (CCF) of the undrawn balance, which is the part that the customer can still use until the available limit is reached. Therefore, the CCF is defined as the percentage of the undrawn balance that is expected to be used before default occurs.

CCF is estimated by using the cohort[2] approach, analyzing how the exposure varies from a pre-established reference date through to the moment of default, obtaining the average performance according to the relevant metrics.

Different approaches are used for retail and wholesale exposure. The facility level approach analyzes the evolution of the exposure up to the time of the breach of contract, while the obligor level approach analyzes the evolution of the exposure up to the moment of the non-compliance of the client.

Again, in low-default portfolios there is not enough historical experience to be able to make a reliable estimate with the defined LGD methodology. In this case, external sources are also used, which are combined with internal data to obtain a CCF representative of the portfolio.

Validation process

The models used for calculating the parameters, as explained above, are subjected to an effective contrast, in accordance with the principle of proportionality, by the internal approval team, independent from those that have developed or used said calculation, in order to ensure its accuracy, robustness and stability.

This review process is not restricted as to the time of approval, or the inclusion of changes in the models, but rather is framed within a plan that allows for a periodic evaluation of them, resulting in the issuance of recommendations and mitigating actions for the deficiencies identified.

As such, all Models used in Regulatory Capital Calculations using Internal Models must be subjected to an annual review of the calculation, which must meet the minimum quantitative and qualitative test content requested by the regulator in Section 4 of the ECB's Guidelines on Internal Models (General Aspects); even when, in accordance with the principle of proportionality, certain aspects or models that are relatively insignificant within the capital calculation may be subject to revision in the context of a broader review cycle. However, this possibility does not provide an exemption from conducting the various tests defined in the Instructions for Reporting the Validation Results of Internal Models, issued by the ECB in February 2019, and that should—for internal models on capital for credit risk—be sent to the supervisor on an annual basis and include:

- Back-testing of the parameters by comparing the model estimates with the levels actually achieved in the annual study period.
- Discrimination Capacity Analysis, it being important to analyse the evolution of the calculated indices over time by comparing them with indices obtained at different points in time (for example, during model construction).
- Representativeness Analysis, both in order to analyse that the model's application perimeter is set to the approved and defined perimeter, and in order to analyse the representativeness of the historical data used in the estimation of the risk parameters applied; with particular emphasis on tracking the record of changes made to the definition.
- Override analyses, which modify the final score obtained as a large number of analyses could indicate that the model is lacking certain important information.
- Stability Analysis: in order to assess the stability of the rating system, analyses will be conducted on customer migrations, on the stability of the migration matrix and on concentration in rating grades; these analyses may be supplemented, optionally and based on results, by comparing the Stability Index (PSI).
- Evaluation of the Data Used in the Calibration by analysing the data extraction, processing and purging processes; analysing the Data Quality Management Framework and the results obtained therefrom.

3.2.5.2. Exposure values by category and PD range

The following table presents the information on credit risk as of December 31, 2020 (excluding counterparty credit risk, which is set out in detail in Table CCR4 in section 3.2.6.2.2) using the internal ratings-based (IRB) approach, by debtor grade for the different categories of exposure:

2. A cohort is a twelve-month window that has a reference date (end of each month) and contains all delinquent transactions whose date of noncompliance occurs within said cohort. All operations must have a contract date prior to the reference date.

Table 32. EU CR6 - IRB approach - Credit risk exposures by exposure class and PD range (Million Euros. 12-31-2020)

PD Scale as of 12-31-2020[1][7]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF[2]	EAD post CRM and post-CCF	Average PD[3]	Number of obligors	Average LGD[4]	Average Maturity (days)[5]	RWAs	RWA Density	EL	Value adjustments and provisions
Prudential portfolios for FIRB approach[6]	4,938	616	56.01%	5,283	-	332	-		4,263	81%	69	(23)
Corporate - Specialised lending	**4,938**	**616**	**56.01%**	**5,283**	**-**	**332**	**-**	**-**	**4,263**	**81%**	**69**	**(23)**
Prudential portfolios for AIRB approach	214,542	100,982	40.73%	231,880	4.03%	11,107,380	37.28%		81,798	35%	3,665	(5,372)
Central governments or central banks	**12,664**	**271**	**48.78%**	**13,930**	**0.27%**	**66**	**23.19%**	**370**	**843**	**6%**	**14**	**(7)**
0,00<0,15	12,315	108	48.31%	13,749	0.03%	28	22.91%	366	734	5%	1	(1)
0,15<0,25	79	51	50.30%	82	0.20%	4	43.62%	680	41	50%	0	(0)
0,25<0,50	3	3	40.68%	38	0.29%	3	48.72%	887	29	76%	0	(0)
0,50<0,75	-	0	52.14%	8	0.48%	1	51.81%	627	10	125%	0	(1)
0,75<2,50	63	1	51.20%	14	1.11%	4	47.73%	819	13	93%	0	(0)
2,50<10,00	14	41	54.35%	4	2.76%	14	47.03%	756	5	139%	0	(1)
10,00<100,00	1	7	50.24%	3	19.15%	6	39.87%	103	7	201%	0	(0)
100,00 (Default)	189	61	-	32	100.00%	6	39.99%	401	4	14%	13	(4)
Institutions	**26,470**	**6,932**	**55.10%**	**15,934**	**0.35%**	**3,200**	**42.50%**	**594**	**4,754**	**30%**	**26**	**(33)**
0,00<0,15	20,022	5,153	55.48%	12,803	0.07%	1,844	43.96%	591	3,099	24%	4	(8)
0,15<0,25	2,262	582	52.29%	1,011	0.20%	489	42.45%	529	402	40%	1	(2)
0,25<0,50	2,848	862	58.85%	1,006	0.31%	310	25.29%	683	297	30%	1	(3)
0,50<0,75	344	109	47.36%	265	0.51%	170	37.30%	1,143	160	61%	1	(1)
0,75<2,50	785	149	53.27%	725	1.44%	153	42.41%	403	616	85%	4	(2)
2,50<10,00	88	63	50.29%	71	5.27%	143	39.97%	690	101	143%	2	(1)
10,00<100,00	53	15	50.09%	31	16.97%	20	45.67%	817	75	242%	2	(0)
100,00 (Default)	67	0	46.88%	21	100.00%	71	53.92%	98	3	14%	11	(15)
Corporate SMEs	**17,961**	**5,155**	**39.27%**	**15,596**	**12.57%**	**34,205**	**44.14%**	**825**	**11,329**	**73%**	**866**	**(1,028)**
0,00<0,15	2,399	1,230	41.41%	2,796	0.11%	6,157	50.59%	654	739	26%	2	(3)
0,15<0,25	768	323	42.85%	795	0.20%	1,745	50.82%	632	307	39%	1	(2)
0,25<0,50	1,293	494	44.91%	1,274	0.31%	2,610	48.11%	676	632	50%	2	(3)
0,50<0,75	2,185	551	44.68%	1,803	0.52%	3,316	44.41%	879	1,232	68%	4	(8)
0,75<2,50	4,387	1,102	36.74%	3,342	1.12%	6,117	41.94%	946	2,934	88%	16	(26)
2,50<10,00	4,337	1,143	36.23%	3,213	4.79%	9,005	38.56%	1,148	3,753	117%	59	(131)
10,00<100,00	943	270	30.87%	773	19.39%	2,620	37.04%	1,264	1,248	162%	56	(54)
100,00 (Default)	1,649	42	33.17%	1,602	100.00%	2,635	45.37%	160	486	30%	727	(801)
Corporate Non-SMEs	**62,268**	**66,392**	**47.79%**	**89,319**	**2.31%**	**12,818**	**42.14%**	**692**	**42,456**	**48%**	**771**	**(1,285)**
0,00<0,15	21,200	30,625	48.69%	36,839	0.11%	2,576	43.93%	674	10,049	27%	18	(12)
0,15<0,25	10,499	14,432	46.99%	17,369	0.29%	1,259	41.95%	713	7,366	42%	21	(12)
0,25<0,50	11,463	11,008	47.28%	16,400	0.33%	2,149	40.57%	714	8,833	54%	22	(22)
0,50<0,75	7,248	5,041	46.21%	8,308	0.60%	1,831	39.72%	763	5,639	68%	20	(21)
0,75<2,50	6,295	3,768	47.32%	5,836	1.48%	1,990	41.20%	776	5,574	96%	36	(58)
2,50<10,00	3,115	1,093	48.51%	2,242	4.30%	2,167	41.84%	513	2,980	133%	40	(248)
10,00<100,00	907	306	42.02%	808	20.41%	270	40.92%	688	1,730	214%	66	(33)
100,00 (Default)	1,542	120	29.75%	1,517	100.00%	576	36.13%	211	286	19%	548	(880)
Retail - Mortgage exposures	**71,759**	**4,311**	**2.00%**	**71,824**	**4.17%**	**1,030,894**	**24.03%**	**-**	**7,319**	**10%**	**570**	**(1,129)**
0,00<0,15	55,416	-	0.00%	55,463	0.04%	824,534	23.35%	-	1,733	3%	6	(18)
0,15<0,25	3,312	-	0.00%	3,311	0.20%	41,258	28.60%	-	402	12%	2	(5)
0,25<0,50	1,703	-	0.00%	1,710	0.32%	24,476	30.88%	-	314	18%	2	(8)
0,50<0,75	2,197	261	0.00%	2,201	0.49%	30,465	27.96%	-	500	23%	3	(12)
0,75<2,50	3,737	321	2.00%	3,743	1.01%	49,590	27.08%	-	1,342	36%	10	(46)
2,50<10,00	2,167	210	2.01%	2,171	4.98%	27,586	26.23%	-	1,900	88%	28	(245)
10,00<100,00	509	42	2.00%	509	16.96%	6,337	27.23%	-	779	153%	24	(46)
100,00 (Default)	2,718	0	2.36%	2,715	100.00%	26,648	18.27%	-	350	13%	496	(749)

PD Scale as of 12-31-2020[1][7]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF[2]	EAD post CRM and post-CCF	Average PD[3]	Number of obligors	Average LGD[4]	Average Maturity (days)[5]	RWAs	RWA Density	EL	Value adjustments and provisions
Retail - Other exposures SMEs	**4,153**	**1,611**	**54.78%**	**3,208**	**15.63%**	**162,989**	**51.77%**	**-**	**1,287**	**40%**	**304**	**(296)**
0,00<0,15	422	-	52.31%	418	0.12%	25,064	52.62%	-	55	13%	0	(1)
0,15<0,25	193	-	56.80%	173	0.20%	7,615	52.35%	-	37	21%	0	(0)
0,25<0,50	327	-	55.55%	304	0.31%	13,110	52.43%	-	90	30%	0	(1)
0,50<0,75	387	218	54.38%	312	0.52%	15,445	51.71%	-	112	36%	1	(1)
0,75<2,50	863	329	56.98%	593	1.17%	32,103	50.92%	-	287	48%	4	(5)
2,50<10,00	1,283	276	57.58%	829	4.28%	44,179	46.67%	-	484	58%	17	(18)
10,00<100,00	252	41	45.84%	161	23.31%	10,139	47.24%	-	143	89%	18	(13)
100,00 (Default)	427	10	39.98%	418	100.00%	15,334	63.31%	-	80	19%	265	(256)
Retail - Other exposures Non-SMEs	**11,175**	**15**	**52.81%**	**11,166**	**8.58%**	**1,013,058**	**55.25%**	**-**	**3,876**	**35%**	**538**	**(862)**
0,00<0,15	4,751	4	42.32%	4,752	0.06%	362,577	52.40%	-	418	9%	1	(4)
0,15<0,25	440	1	60.42%	441	0.20%	48,192	57.91%	-	111	25%	1	(2)
0,25<0,50	1,129	1	76.75%	1,130	0.31%	120,280	57.51%	-	373	33%	2	(7)
0,50<0,75	881	1	56.92%	879	0.60%	97,446	56.22%	-	415	47%	3	(8)
0,75<2,50	1,612	3	47.86%	1,609	1.22%	169,642	58.61%	-	1,073	67%	11	(29)
2,50<10,00	1,322	3	56.00%	1,316	3.90%	122,097	57.46%	-	1,136	86%	30	(107)
10,00<100,00	234	1	33.85%	233	29.49%	23,870	55.79%	-	320	137%	38	(47)
100,00 (Default)	807	0	42.86%	806	100.00%	68,954	55.96%	-	30	4%	451	(657)
Retail - qualifying revolving (QRRE)	**6,222**	**16,294**	**17.26%**	**9,035**	**7.77%**	**8,850,150**	**67.80%**	**-**	**5,987**	**66%**	**557**	**(734)**
0,00<0,15	906	4,522	23.80%	1,982	0.04%	2,568,735	46.79%	-	25	1%	0	(1)
0,15<0,25	130	204	22.88%	177	0.21%	248,504	47.48%	-	10	5%	0	(1)
0,25<0,50	50	105	25.19%	76	0.31%	98,125	49.42%	-	7	9%	0	(0)
0,50<0,75	548	1,911	12.35%	784	0.53%	652,799	69.48%	-	147	19%	3	(4)
0,75<2,50	1,296	4,493	12.66%	1,865	1.19%	1,516,590	73.95%	-	688	37%	16	(31)
2,50<10,00	2,203	4,566	16.34%	2,949	5.28%	2,814,082	75.07%	-	3,120	106%	118	(206)
10,00<100,00	770	492	22.85%	883	22.59%	766,499	75.99%	-	1,977	224%	151	(230)
100,00 (Default)	319	0	25.27%	319	100.00%	184,816	84.02%	-	14	5%	268	(260)
Equity	**1,869**	**-**	**-**	**1,869**	**1.08%**	**-**	**90.00%**	**-**	**3,945**	**211%**	**18**	**-**
0,00<0,15	895	-	-	895	0.14%	-	90.00%	-	1,073	120%	1	-
0,15<0,25	106	-	-	106	0.20%	-	90.00%	-	160	151%	0	-
0,25<0,50	17	-	-	17	0.31%	-	90.00%	-	29	2	0	-
0,50<0,75	-	-	-	-	-	-	-	-	-	0%	-	-
0,75<2,50	285	-	-	285	1.50%	-	90.00%		831	292%	4	-
2,50<10,00	567	-	-	567	2.55%	-	90.00%	-	1,852	327%	13	-
10,00<100,00	-	-	-	-	-	-	-	-	-	-	0	-
100,00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Total Standardised Approach	**219,480**	**101,598**	**40.73%**	**237,163**	**4.03%**	**11,107,380**	**37.28%**		**86,061**	**36%**	**3,733**	**(5,395)**

(1) PD Intervals recommended by the EBA Guidelines on Disclosure Requirements under Part Eight of the CRR.

(2) Calculated as EAD after CCF for off-balance sheet exposure over total off-balance exposure before CCF.

(3) Corresponds to obligor grade PD weighted by EAD post CRM.

(4) Corresponds to obligor grade LGD weighted by EAD post CRM.

(5) Corresponds to the obligor maturity in days weighted by EAD post CRM. According to Regulation (EU) No 680/2014, it is reported only for categories in which the average maturities are relevant for the calculation of RWAs.

(6) Exposure classified in the FIRB approach corresponds to specialised lending exposure. The Group has chosen to use the slotting criteria, in line with Article 153.5 of the CRR.

(7) It does not include the frontloading amount to partially cover the regulatory impacts derived from Targeted Review of Internal Models (TRIM) and other regulatory/supervisory impacts.

EU CR6 - IRB approach - Credit risk exposures by exposure class and PD range (Million Euros. 12-31-2019)

PD Scale as of 12-31-2019[1][7]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF[2]	EAD post CRM and post-CCF	Average PD[3]	Number of obligors	Average LGD[4]	Average Maturity (days)[5]	RWAs	RWA Density	EL	Value adjustments and provisions
Prudential portfolios for FIRB approach[6]	5,676	671	51.66%	6,022	-	352	-		4,606	76%	113	(62)
Corporate - Specialised lending	**5,676**	**671**	**51.66%**	**6,022**	**-**	**352**	**-**	**-**	**4,606**	**76%**	**113**	**(62)**
Prudential portfolios for AIRB approach	215,544	96,342	41.11%	239,149	3.97%	11,054,690	37.74%		85,586	36%	3,457	(4,805)
Central governments or central banks	**9,109**	**310**	**49.59%**	**11,899**	**0.06%**	**60**	**26.68%**	**567**	**664**	**6%**	**3**	**(5)**
0,00<0,15	8,684	113	49.80%	11,489	0.04%	24	26.13%	550	596	5%	1	(2)
0,15<0,25	64	63	49.78%	324	0.21%	3	41.64%	1,176	20	6%	0	(0)
0,25<0,50	5	8	45.00%	46	0.29%	4	44.39%	613	5	10%	0	(2)
0,50<0,75	0	0	35.29%	0	0.58%	1	21.67%	402	0	30%	-	-
0,75<2,50	95	2	49.82%	7	0.91%	7	42.04%	580	3	51%	0	(0)
2,50<10,00	202	107	50.42%	28	4.25%	13	43.07%	292	31	112%	1	(1)
10,00<100,00	12	8	50.21%	5	18.09%	5	39.40%	128	9	194%	0	(0)
100,00 (Default)	47	8	0.00%	1	100.00%	3	39.20%	971	0	1%	0	(1)
Institutions	**27,634**	**6,701**	**55.70%**	**15,189**	**0.45%**	**2,845**	**42.17%**	**504**	**4,243**	**28%**	**27**	**(39)**
0,00<0,15	20,587	4,764	56.46%	11,976	0.07%	1,555	43.64%	470	2,428	20%	4	(9)
0,15<0,25	2,282	579	51.01%	952	0.20%	465	42.67%	524	370	39%	1	(2)
0,25<0,50	3,188	1,058	56.49%	995	0.32%	281	24.90%	777	320	32%	1	(4)
0,50<0,75	326	108	50.58%	235	0.54%	167	37.41%	1,115	148	63%	0	(1)
0,75<2,50	955	124	52.20%	877	1.38%	129	43.02%	422	764	87%	5	(2)
2,50<10,00	124	38	50.33%	68	4.19%	139	36.30%	973	87	127%	1	(1)
10,00<100,00	84	27	48.51%	55	14.42%	17	42.36%	857	121	222%	3	(4)
100,00 (Default)	89	3	49.73%	30	100.00%	92	37.85%	118	4	14%	11	(16)
Corporate SMEs	**18,431**	**4,551**	**40.20%**	**18,841**	**10.32%**	**32,755**	**44.17%**	**788**	**12,355**	**66%**	**816**	**(1,029)**
0,00<0,15	2,748	1,092	41.84%	3,980	0.11%	7,001	51.29%	715	1,058	27%	2	(12)
0,15<0,25	672	214	43.85%	901	0.20%	1,584	51.47%	705	346	38%	1	(3)
0,25<0,50	1,502	352	42.46%	1,686	0.32%	2,883	48.18%	738	832	49%	3	(6)
0,50<0,75	3,524	594	44.73%	3,380	0.52%	3,776	41.44%	908	2,351	70%	7	(14)
0,75<2,50	4,079	1,055	38.60%	3,642	1.17%	5,840	42.45%	986	3,190	88%	18	(25)
2,50<10,00	3,639	1,065	36.26%	3,136	4.21%	7,416	37.93%	855	3,337	106%	50	(179)
10,00<100,00	612	130	33.81%	458	18.44%	1,511	35.54%	1,250	772	169%	30	(27)
100,00 (Default)	1,656	48	37.92%	1,657	100.00%	2,744	42.56%	120	468	28%	705	(762)
Corporate Non-SMEs	**61,299**	**62,074**	**48.60%**	**90,321**	**2.42%**	**11,898**	**41.72%**	**706**	**40,643**	**45%**	**761**	**(1,266)**
0,00<0,15	26,073	34,260	48.63%	43,874	0.11%	2,755	43.53%	704	12,349	28%	21	(23)
0,15<0,25	6,583	8,835	49.24%	11,432	0.20%	1,046	40.73%	755	4,874	43%	9	(16)
0,25<0,50	13,183	11,376	49.87%	18,964	0.31%	1,797	39.94%	753	10,080	53%	24	(23)
0,50<0,75	6,077	3,529	46.25%	7,176	0.50%	1,711	38.84%	697	4,781	67%	14	(16)
0,75<2,50	4,184	2,382	46.82%	4,192	1.14%	1,701	42.05%	681	3,800	91%	20	(23)
2,50<10,00	2,942	1,298	41.08%	2,420	4.40%	2,082	41.60%	548	3,456	143%	45	(171)
10,00<100,00	500	280	45.66%	458	13.86%	169	42.51%	815	974	213%	27	(12)
100,00 (Default)	1,757	114	46.17%	1,805	100.00%	637	33.33%	233	330	18%	602	(982)
Retail - Mortgage exposures	**74,000**	**4,378**	**3.69%**	**74,139**	**4.36%**	**1,054,848**	**24.12%**	**-**	**8,904**	**12%**	**610**	**(941)**
0,00<0,15	56,265	3,104	3.69%	56,366	0.05%	838,237	23.26%	-	1,774	3%	6	(9)
0,15<0,25	2,005	28	3.70%	2,005	0.20%	25,223	29.24%	-	248	12%	1	(2)
0,25<0,50	3,281	423	3.69%	3,296	0.32%	42,025	30.85%	-	617	19%	3	(2)
0,50<0,75	1,953	255	3.69%	1,961	0.54%	26,409	29.99%	-	518	26%	3	(3)
0,75<2,50	4,268	328	3.69%	4,279	1.09%	55,196	26.98%	-	1,617	38%	13	(50)
2,50<10,00	2,297	199	3.69%	2,302	4.74%	28,834	26.87%	-	1,993	87%	29	(200)
10,00<100,00	1,112	40	3.69%	1,112	18.89%	11,614	26.86%	-	1,778	160%	58	(82)
100,00 (Default)	2,820	0	3.69%	2,818	100.00%	27,310	17.61%	-	359	13%	496	(593)

PD Scale as of 12-31-2019[1][7]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF[2]	EAD post CRM and post-CCF	Average PD[3]	Number of obligors	Average LGD[4]	Average Maturity (days)[5]	RWAs	RWA Density	EL	Value adjustments and provisions
Retail - Other exposures SMEs	**3,556**	**884**	**54.98%**	**4,002**	**12.64%**	**155,069**	**51.92%**	**-**	**1,635**	**41%**	**291**	**(268)**
0,00<0,15	327	238	53.30%	454	0.11%	23,712	51.75%	-	52	11%	0	(1)
0,15<0,25	146	66	53.94%	182	0.20%	7,173	52.52%	-	32	18%	0	(0)
0,25<0,50	256	95	55.62%	308	0.31%	11,021	51.93%	-	71	23%	0	(0)
0,50<0,75	343	119	54.22%	404	0.52%	15,094	51.96%	-	127	32%	1	(1)
0,75<2,50	871	188	57.10%	969	1.18%	33,664	51.38%	-	441	45%	6	(4)
2,50<10,00	1,019	140	57.71%	1,083	4.31%	42,177	50.48%	-	653	60%	23	(24)
10,00<100,00	197	29	50.15%	203	21.54%	8,279	46.14%	-	176	87%	20	(13)
100,00 (Default)	398	10	40.29%	400	100.00%	13,949	59.90%	-	82	21%	240	(225)
Retail - Other exposures Non-SMEs	**11,441**	**16**	**50.49%**	**11,445**	**6.68%**	**1,023,637**	**56.53%**	**-**	**4,223**	**37%**	**392**	**(611)**
0,00<0,15	4,856	5	37.66%	4,858	0.06%	385,973	54.67%	-	446	9%	2	(3)
0,15<0,25	642	1	50.83%	643	0.20%	65,735	61.12%	-	171	27%	1	(2)
0,25<0,50	794	1	57.89%	794	0.30%	81,542	59.77%	-	263	33%	1	(3)
0,50<0,75	1,017	4	56.77%	1,018	0.50%	107,899	60.19%	-	467	46%	3	(5)
0,75<2,50	1,321	1	59.13%	1,322	1.17%	135,038	60.27%	-	898	68%	9	(13)
2,50<10,00	1,984	3	60.58%	1,983	3.87%	171,172	55.94%	-	1,674	84%	43	(104)
10,00<100,00	212	1	40.54%	212	21.30%	20,638	57.20%	-	276	130%	26	(24)
100,00 (Default)	615	0	41.67%	615	100.00%	55,640	49.80%	-	29	5%	306	(457)
Retail - qualifying revolving (QRRE)	**7,190**	**17,428**	**18.59%**	**10,430**	**6.48%**	**8,773,578**	**68.56%**	**-**	**7,365**	**71%**	**527**	**(646)**
0,00<0,15	1,104	4,540	24.90%	2,234	0.04%	2,782,216	45.53%	-	30	1%	0	(1)
0,15<0,25	23	41	26.66%	34	0.20%	37,976	49.63%	-	2	6%	0	(0)
0,25<0,50	78	131	26.00%	112	0.29%	140,727	48.95%	-	8	8%	0	(0)
0,50<0,75	472	1,757	12.40%	690	0.52%	484,949	71.11%	-	130	19%	3	(3)
0,75<2,50	1,595	5,377	13.57%	2,324	1.15%	1,494,958	74.25%	-	836	36%	20	(33)
2,50<10,00	2,697	5,040	18.77%	3,643	5.05%	2,728,548	76.09%	-	3,797	104%	141	(204)
10,00<100,00	1,009	542	31.38%	1,179	20.92%	961,891	76.20%	-	2,549	216%	188	(247)
100,00 (Default)	213	1	29.70%	213	100.00%	142,313	82.07%	-	13	6%	175	(159)
Equity	**2,883**	**-**	**0.00%**	**2,883**	**1.18%**	**-**	**88.67%**	**-**	**5,554**	**193%**	**30**	**-**
0,00<0,15	1,687	-	0.00%	1,687	0.14%	-	89.56%	-	2,013	119%	2	-
0,15<0,25	110	-	0.00%	110	0.20%	-	65.00%	-	112	103%	0	-
0,25<0,50	0	-	0.00%	-	0.31%	-	65.00%	-	0	0%	-	-
0,50<0,75	14	-	0.00%	14	0.58%	-	65.00%	-	23	160%	0	-
0,75<2,50	443	-	-	443	0.78%	-	90.00%	-	1,081	244%	3	-
2,50<10,00	630	-	-	630	4.41%	-	90.00%	-	2,325	369%	25	-
10,00<100,00	-	-	-	-	-	-	-	-	-	-	-	-
100,00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Total Standardised Approach	**221,219**	**97,013**	**41.11%**	**245,171**	**3.97%**	**11,055,042**	**37.74%**		**90,193**	**37%**	**3,569**	**(4,867)**

(1) PD Intervals recommended by the EBA Guidelines on Disclosure Requirements under Part Eight of the CRR.

(2) Calculated as EAD after CCF for off-balance sheet exposure over total off-balance exposure before CCF.

(3) Corresponds to obligor grade PD weighted by EAD post CRM.

(4) Corresponds to obligor grade LGD weighted by EAD post CRM.

(5) Corresponds to the obligor maturity in days weighted by EAD post CRM. According to Regulation (EU) No 680/2014, it is reported only for categories in which the average maturities are relevant for the calculation of RWAs.

(6) Exposure classified in the FIRB approach corresponds to specialised lending. The Group has chosen to use the slotting criteria, in line with Article 153.5 of the CRR.

(7) It does not include the frontloading amount to partially cover the regulatory impacts derived from Targeted Review of Internal Models (TRIM) and other regulatory/supervisory impacts.

The information included in the above tables is set out below in graphic format (including counterparty risk):

Chart 7. IRB Approach: EAD by obligor category (Million Euros)

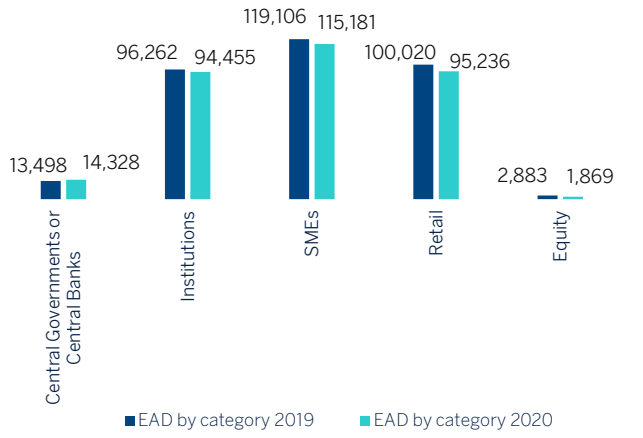


Chart 8. IRB Approach: Weighted average PD by EAD (Million Euros)

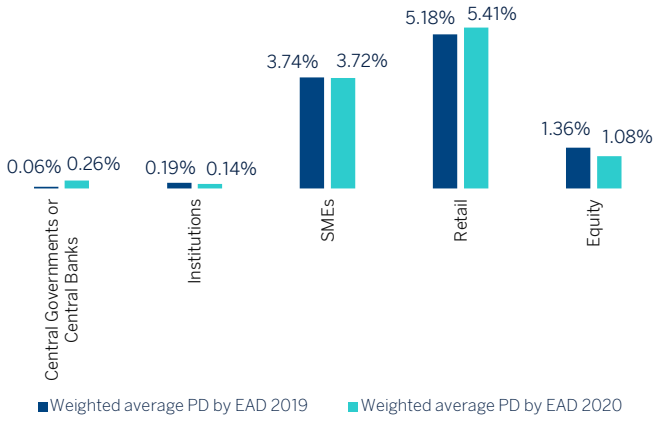


Chart 9. IRB Approach: Weighted average LGD by EAD

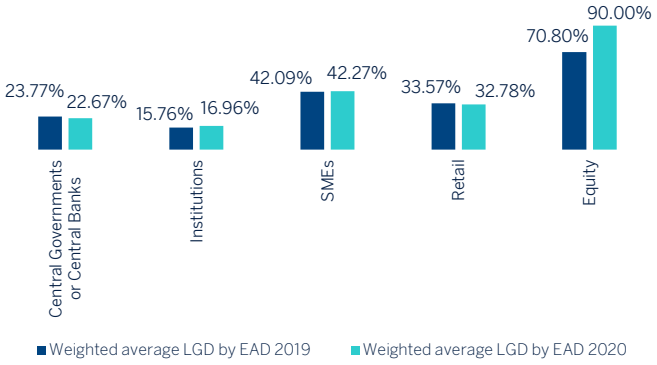


Chart 10. IRB Approach: RWAs by obligor category (Million Euros)

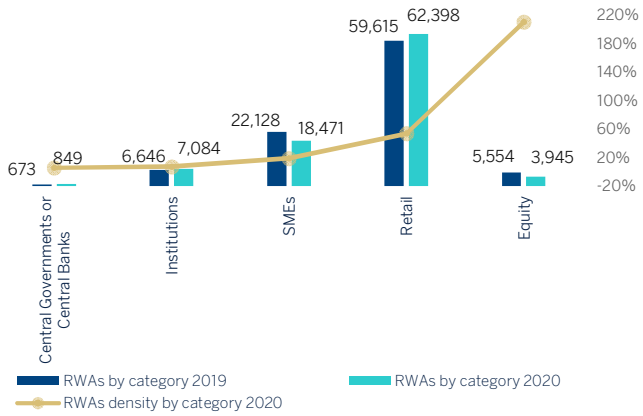


Table 33. Average PD and LGD by category and country (Spain.12-31-2020)

Exposure Class	Weighted average PD by EAD	Weighted average LGD by EAD
Central governments or central banks	0.26%	22.67%
Institutions	0.14%	16.96%
Corporates	3.84%	43.75%
Corporates - SMEs	14.07%	45.41%
Corporates -Other	2.16%	43.48%
Retail	5.11%	29.73%
Of which: mortgage exposures - SMEs	2.61%	17.60%
Of which: mortgage exposures - Non SMEs	4.17%	24.03%
Of which: qualifying revolving (QRRE)	3.22%	48.89%
Of which: other exposures SMEs	15.63%	51.76%
Of which: other exposures Non SMEs	8.58%	55.25%
IRB approach totals	**2.84%**	**29.63%**

PD and LGD by category and country (Mexico. 12-31-2020)

Exposure Class	Weighted average PD by EAD	Weighted average LGD by EAD
Central governments or central banks		
Institutions		
Corporates	3.08%	34.50%
Corporates - SMEs	5.67%	38.15%
Corporates -Other	2.58%	33.79%
Retail	9.82%	76.31%
Of which: mortgage exposures - SMEs		
Of which: mortgage exposures - Non SMEs		
Of which: qualifying revolving (QRRE)	9.82%	76.31%
Of which: other exposures SMEs		
Of which: other exposures Non SMEs		
IRB approach totals	**4.85%**	**45.49%**

To provide backtesting data to validate the reliability of PD calculations, the table compares the PD used in IRB capital calculations with the effective default rates for the Group's obligors (credit and counterparty credit risk) is included below.

The information is broken down by geographies using internal models. The criteria adopted to comply with the EBA uniform template are as follows:

- Portfolio: The portfolio breakdown corresponds to that recommended by the supervisor, excluding equity positions.
- PD Range: These are those included in the Group's internal master scale of ratings found in 3.2.5.1.2 (Table 31).
- External rating equivalence: Equivalence between PDs and external ratings described in 3.2.5.1.2 has been used.
- Weighted average PD and arithmetic average PD by obligor: The guarantor's probability of default (PD) is used in cases where the guarantor is eligible, and its PD is lower than the debtor's PD.
- Number of obligors: Obligors are presented at end of the financial year and at end of previous financial year.
- Defaulted obligors: In order to ensure the traceability of the table, columns "g" and "h" in the standard table have been unified to show information on operations/clients who defaulted at some point during the last 12 months, so that defaulted obligors over the year is broken down by PD range.
- Average historical annual default rate: It corresponds to the average annual default rate for the last five years.

Table 34. EU CR9 - IRB approach - Backtesting of PD per exposure class (BBVA, S.A. Million euros. 12-31-2020)

PD Range	External rating equivalent	Weighted average PD[1]	Arithmetic average PD by obligors	Number of Obligors		Defaulted obligors in the year	Average historical annual default rate
				12-31-2020	12-31-2019		
Central governments or central banks							
0.00<0.02	AAA	0.01%	0.01%	5	5	-	-
0.02<0.03	AA+	0.03%	0.03%	1	1	-	-
0.03<0.04	AA	0.03%	0.03%	1	3	-	-
0.04<0.05	AA-	0.04%	0.04%	4	3	-	-
0.05<0.06	A+	0.05%	0.05%	8	8	-	-
0.06<0.09	A	0.08%	0.07%	1	1	-	-
0.09<0.11	A-	0.10%	0.10%	3	2	-	-
0.11<0.17	BBB+	0.15%	0.13%	7	5	-	-
0.17<0.24	BBB	0.20%	0.19%	5	4	-	-
0.29<0.39	BBB-	0.29%	0.29%	3	4	-	-
0.39<0.67	BB+	0.48%	0.51%	1	1	-	-
0.67<1.16	BB	0.86%	0.83%	2	4	-	-
1.16<1.94	BB-	1.30%	1.43%	2	3	2	100.00%
1.94<3.35	B+	2.48%	2.52%	6	3	1	12.50%
3.35<5.81	B	4.41%	4.41%	4	2	-	-
5.81<11.61	B-	7.85%	7.85%	4	8	1	20.00%
11.61<100.00	C	19.24%	24.90%	6	5	-	-
100.00 (default)	D	100.00%	100.00%	6	3	-	-
Institutions							
0.00<0.02	AAA	0.03%	0.03%	10	10	-	-
0.02<0.03	AA+	0.03%	0.03%	11	9	-	-
0.03<0.04	AA	0.03%	0.03%	29	31	-	-
0.04<0.05	AA-	0.04%	0.04%	151	146	-	-
0.05<0.06	A+	0.05%	0.05%	387	324	-	-
0.06<0.09	A	0.08%	0.08%	143	162	-	-

PD Range	External rating equivalent	Weighted average PD[1]	Arithmetic average PD by obligors	Number of Obligors		Defaulted obligors in the year	Average historical annual default rate
				12-31-2020	12-31-2019		
0.09<0.11	A-	0.10%	0.09%	475	486	9	0.32%
0.11<0.17	BBB+	0.14%	0.15%	1,113	1,158	10	0.80%
0.17<0.24	BBB	0.20%	0.24%	521	536	4	0.85%
0.29<0.39	BBB-	0.31%	0.35%	337	325	-	0.54%
0.39<0.67	BB+	0.51%	0.69%	174	188	-	1.29%
0.67<1.16	BB	0.88%	0.89%	88	89	-	-
1.16<1.94	BB-	1.50%	1.13%	190	176	-	-
1.94<3.35	B+	2.55%	2.57%	62	73	-	0.60%
3.35<5.81	B	4.41%	4.41%	56	59	-	0.91%
5.81<11.61	B-	7.94%	7.86%	33	22	-	1.68%
11.61<100.00	C	17.05%	15.92%	23	21	-	-
100.00 (default)	D	100.00%	100.00%	72	92	-	-
Corporate - SMEs							
0.00<0.02	AAA	0.03%	0.03%	105	74	-	-
0.02<0.03	AA+	0.03%	0.03%	45	20	-	-
0.03<0.04	AA	0.03%	0.03%	24	45	-	-
0.04<0.05	AA-	0.05%	0.05%	2	15	-	-
0.05<0.06	A+	0.05%	0.05%	31	21	-	-
0.06<0.09	A	0.07%	0.07%	75	52	-	-
0.09<0.11	A-	0.11%	0.11%	3,984	5,124	5	0.11%
0.11<0.17	BBB+	0.15%	0.17%	1,896	1,878	6	0.22%
0.17<0.24	BBB	0.22%	0.35%	1,721	1,615	6	0.18%
0.29<0.39	BBB-	0.64%	0.88%	2,420	2,590	11	0.38%
0.39<0.67	BB+	0.56%	0.52%	2,896	2,953	23	0.70%
0.67<1.16	BB	0.94%	0.88%	3,139	2,855	30	1.21%
1.16<1.94	BB-	1.58%	1.94%	2,563	2,778	43	2.02%
1.94<3.35	B+	2.75%	3.05%	3,235	2,690	71	2.81%
3.35<5.81	B	4.51%	4.58%	4,283	2,243	72	3.34%
5.81<11.61	B-	8.02%	8.60%	1,299	2,396	79	7.00%
11.61<100.00	C	19.52%	23.15%	2,596	1,512	109	6.36%
100.00 (default)	D	100.00%	100.00%	2,618	2,635	-	-
Corporate - Non-SMEs							
0.00<0.02	AAA	-	-	-	-	-	-
0.02<0.03	AA+	0.03%	0.03%	34	31	-	-
0.03<0.04	AA	0.03%	0.03%	36	37	-	-
0.04<0.05	AA-	0.04%	0.04%	20	19	-	-
0.05<0.06	A+	0.05%	0.05%	51	50	1	2.27%
0.06<0.09	A	0.08%	0.08%	213	244	1	0.46%
0.09<0.11	A-	0.10%	0.09%	1,173	1,563	2	0.13%
0.11<0.17	BBB+	0.14%	0.14%	1,100	1,034	4	0.56%
0.17<0.24	BBB	0.20%	0.20%	1,114	1,063	9	0.49%
0.29<0.39	BBB-	0.31%	0.32%	1,533	1,444	5	0.36%
0.39<0.67	BB+	0.51%	0.52%	1,003	900	11	1.06%
0.67<1.16	BB	0.88%	0.93%	774	570	2	0.93%
1.16<1.94	BB-	1.60%	1.63%	506	389	18	2.51%
1.94<3.35	B+	3.00%	3.03%	496	412	17	2.69%
3.35<5.81	B	4.40%	4.46%	524	432	8	5.40%
5.81<11.61	B-	7.92%	9.81%	213	201	13	8.84%
11.61<100.00	C	46.30%	45.54%	221	154	15	10.29%
100.00 (default)	D	100.00%	100.00%	376	391	-	-
Retail - Mortgage exposures							
0.00<0.02	AAA	0.03%	0.03%	470,671	447,207	410	0.04%
0.02<0.03	AA+	0.03%	0.03%	75,026	77,011	143	0.11%
0.03<0.04	AA	0.03%	0.03%	16,045	82,575	201	0.08%
0.04<0.05	AA-	0.05%	0.05%	20,469	33,040	71	0.09%
0.05<0.06	A+	0.05%	0.05%	63,580	31,973	63	0.07%
0.06<0.09	A	0.07%	0.07%	90,446	70,598	273	0.19%
0.09<0.11	A-	0.10%	0.10%	59,002	53,643	125	0.15%
0.11<0.17	BBB+	0.14%	0.14%	29,295	42,190	133	0.25%
0.17<0.24	BBB	0.20%	0.20%	41,258	25,223	111	0.36%
0.29<0.39	BBB-	0.32%	0.31%	24,476	42,025	150	0.35%
0.39<0.67	BB+	0.49%	0.50%	30,465	26,409	141	0.50%
0.67<1.16	BB	0.78%	0.84%	37,922	39,287	409	1.00%
1.16<1.94	BB-	1.73%	1.57%	11,763	15,909	235	2.14%
1.94<3.35	B+	2.64%	2.64%	10,484	10,203	278	4.93%
3.35<5.81	B	3.96%	4.48%	7,766	9,971	621	10.64%
5.81<11.61	B-	8.09%	7.95%	9,361	8,660	767	14.10%
11.61<100.00	C	16.96%	17.40%	6,337	11,614	2,338	21.89%
100.00 (default)	D	100.00%	100.00%	26,649	27,310	-	-

PD Range	External rating equivalent	Weighted average PD[1]	Arithmetic average PD by obligors	Number of Obligors 12-31-2020	Number of Obligors 12-31-2019	Defaulted obligors in the year	Average historical annual default rate
Retail - Other exposures SMEs							
0.00<0.02	AAA	-	-	-	-	-	-
0.02<0.03	AA+	-	-	-	-	-	-
0.03<0.04	AA	-	-	-	-	-	-
0.04<0.05	AA-	-	-	-	-	-	-
0.05<0.06	A+	-	-	-	-	-	-
0.06<0.09	A	-	-	-	-	-	-
0.09<0.11	A-	0.10%	0.10%	16,924	16,439	8	0.03%
0.11<0.17	BBB+	0.14%	0.16%	8,213	7,383	9	0.06%
0.17<0.24	BBB	0.21%	0.26%	7,626	7,203	4	0.10%
0.29<0.39	BBB-	0.32%	0.44%	13,168	11,120	27	0.26%
0.39<0.67	BB+	0.56%	0.61%	15,490	15,151	60	0.39%
0.67<1.16	BB	0.98%	1.16%	16,992	17,239	160	0.72%
1.16<1.94	BB-	1.68%	1.69%	15,206	16,554	151	1.09%
1.94<3.35	B+	2.93%	2.98%	17,388	17,426	379	1.85%
3.35<5.81	B	4.65%	4.68%	18,918	15,527	404	2.61%
5.81<11.61	B-	8.44%	8.46%	8,000	9,388	354	5.31%
11.61<100.00	C	23.92%	29.89%	10,179	8,315	781	8.75%
100.00 (default)	D	100.00%	100.00%	15,349	13,980	-	-
Retail - Other exposures Non-SMEs							
0.00<0.02	AAA	0.03%	0.03%	45,523	3	-	0.03%
0.02<0.03	AA+	0.03%	0.03%	47,895	102,001	89	0.05%
0.03<0.04	AA	0.03%	0.04%	74,722	39,448	20	0.03%
0.04<0.05	AA-	-	-	-	72,835	-	-
0.05<0.06	A+	0.06%	0.06%	46,484	43,631	66	0.09%
0.06<0.09	A	0.08%	0.08%	76,354	30,849	51	0.10%
0.09<0.11	A-	0.10%	0.10%	146	7,355	22	0.19%
0.11<0.17	BBB+	0.12%	0.12%	71,459	89,860	341	0.29%
0.17<0.24	BBB	0.20%	0.20%	48,192	65,735	445	0.56%
0.29<0.39	BBB-	0.31%	0.31%	120,280	81,542	632	0.57%
0.39<0.67	BB+	0.60%	0.60%	97,449	107,899	1,248	0.90%
0.67<1.16	BB	0.92%	0.91%	92,219	68,209	1,179	1.33%
1.16<1.94	BB-	1.57%	1.57%	77,423	66,829	1,423	1.84%
1.94<3.35	B+	2.52%	2.50%	64,274	74,921	1,950	2.37%
3.35<5.81	B	4.18%	4.19%	39,595	78,771	3,163	3.63%
5.81<11.61	B-	8.71%	8.86%	18,229	17,481	1,750	6.75%
11.61<100.00	C	29.49%	28.61%	23,870	20,639	5,556	24.43%
100.00 (default)	D	100.00%	100.00%	68,954	55,640	-	-
Retail - qualifying revolving (QRRE)							
0.00<0.02	AAA	0.03%	0.03%	1,241,113	753,482	573	0.02%
0.02<0.03	AA+	0.03%	0.03%	514,424	1,401,597	696	0.03%
0.03<0.04	AA	0.03%	0.03%	518,378	210,330	291	0.06%
0.04<0.05	AA-	0.04%	0.04%	110,402	110,402	-	-
0.05<0.06	A+	0.05%	0.05%	2,186	3,972	3	0.24%
0.06<0.09	A	0.07%	0.07%	80,719	65,007	191	0.24%
0.09<0.11	A-	0.10%	0.10%	25,896	123,283	290	0.16%
0.11<0.17	BBB+	0.14%	0.14%	75,610	114,142	453	0.42%
0.17<0.24	BBB	0.21%	0.21%	248,466	37,963	290	0.14%
0.29<0.39	BBB-	0.31%	0.31%	97,891	140,687	887	0.62%
0.39<0.67	BB+	0.53%	0.53%	192,000	130,456	1,331	0.82%
0.67<1.16	BB	0.92%	0.91%	120,196	129,461	1,617	1.52%
1.16<1.94	BB-	1.52%	1.51%	68,890	100,825	2,499	1.90%
1.94<3.35	B+	2.47%	2.47%	137,465	78,872	2,258	2.89%
3.35<5.81	B	4.77%	4.73%	81,254	66,995	3,431	3.76%
5.81<11.61	B-	6.91%	6.91%	38,070	32,127	1,757	5.78%
11.61<100.00	C	27.27%	28.81%	24,574	27,493	3,131	11.79%
100.00 (default)	D	100.00%	100.00%	69,940	66,970	-	-
Corporate - Specialised lending				369	627		

[1] A floor of 0.03% PD is applied to exposures in the categories of Institutions, Corporates and Retail, according to Articles 160 and 163 of the CRR.

EU CR9 - IRB approach - Backtesting of PD per exposure class (BBVA Mexico. Million euros. 12-31-2020)

PD Range	External rating equivalent	Weighted average PD[1]	Arithmetic average PD by obligors	Number of Obligors		Defaulted obligors in the year	Average historical annual default rate
				12-31-2020	12-31-2019		
Corporate - SMEs							
0.00 a <0.02	AAA	-	-	-	-	-	-
0.02 a <0.03	AA+	-	-	-	-	-	-
0.03 a <0.04	AA	-	-	-	-	-	-
0.04 a <0.05	AA-	-	-	-	-	-	-
0.05 a <0.06	A+	-	-	-	-	-	-
0.06 a <0.09	A	-	-	-	-	-	-
0.09 a <0.11	A-	-	-	-	-	-	-
0.11 a <0.17	BBB+	0.14%	0.14%	2	-	-	-
0.17 a <0.24	BBB	0.19%	0.20%	16	19	-	-
0.29 a <0.39	BBB-	0.31%	0.27%	67	374	-	-
0.39 a <0.67	BB+	0.53%	0.50%	256	902	-	-
0.67 a <1.16	BB	0.90%	1.00%	332	211	-	-
1.16 a <1.94	BB-	1.55%	1.90%	183	155	-	-
1.94 a <3.35	B+	2.63%	2.28%	105	110	-	-
3.35 a <5.81	B	4.36%	4.77%	65	55	-	-
5.81 a <10.61	B-	6.92%	7.49%	307	50	-	-
10.61 a <100.00	C	15.62%	14.25%	22	21	-	-
100.00 (default)	D	100.00%	100.00%	79	149	-	-
Corporate - Non-SMEs	**0**	**0.00%**	**0.00%**	**-**	**-**	**-**	**0%**
0.00 a <0.02	AAA	-	-	-	-	-	-
0.02 a <0.03	AA+	-	-	-	-	-	-
0.03 a <0.04	AA	-	-	-	-	-	-
0.04 a <0.05	AA-	-	-	-	-	-	-
0.05 a <0.06	A+	-	-	-	-	-	-
0.06 a <0.09	A	-	-	-	5	-	-
0.09 a <0.11	A-	0.10%	0.10%	-	27	-	-
0.11 a <0.17	BBB+	0.14%	0.13%	6	28	-	-
0.17 a <0.24	BBB	0.19%	0.20%	40	100	-	-
0.29 a <0.39	BBB-	0.31%	0.27%	170	562	7	1.13%
0.39 a <0.67	BB+	0.53%	0.50%	654	899	11	1.91%
0.67 a <1.16	BB	0.90%	1.00%	844	305	22	4.97%
1.16 a <1.94	BB-	1.55%	1.90%	467	511	29	6.15%
1.94 a <3.35	B+	2.63%	2.28%	266	154	26	9.05%
3.35 a <5.81	B	4.36%	4.77%	166	177	33	12.12%
5.81 a <10.61	B-	6.92%	7.49%	781	763	37	2.46%
10.61 a <100.00	C	15.62%	14.25%	56	26	4	11.11%
100.00 (default)	D	100.00%	100.00%	200	254	31	47.97%
Retail - qualifying revolving (QRRE)							
0.00 a <0.02	AAA	-	-	-	-	-	-
0.02 a <0.03	AA+	-	-	-	-	-	-
0.03 a <0.04	AA	-	-	-	-	-	-
0.04 a <0.05	AA-	-	-	-	-	-	-
0.05 a <0.06	A+	-	-	-	-	-	-
0.06 a <0.09	A	-	-	-	-	-	-
0.09 a <0.11	A-	-	-	-	-	-	-
0.11 a <0.17	BBB+	0.15%	0.15%	7	1	-	-
0.17 a <0.24	BBB	0.19%	0.20%	38	13	-	87.50%
0.29 a <0.39	BBB-	0.33%	0.33%	234	40	-	94.00%
0.39 a <0.67	BB+	0.53%	0.54%	460,799	354,493	2,331	0.30%
0.67 a <1.16	BB	0.86%	0.87%	576,325	720,615	4,150	0.40%
1.16 a <1.94	BB-	1.46%	1.42%	751,179	544,057	8,184	0.87%
1.94 a <3.35	B+	2.57%	2.36%	723,529	671,605	14,323	1.40%
3.35 a <5.81	B	4.40%	4.31%	697,138	755,064	26,181	2.13%
5.81 a <10.61	B-	7.92%	5.90%	1,136,626	1,123,885	44,319	2.26%
10.61 a <100.00	C	22.48%	18.70%	741,925	934,398	11,404	3.99%
100.00 (default)	D	100.00%	100.00%	114,876	75,343	3,706	9.92%

(*) A floor of 0.03% PD is applied to exposures in the categories of Institutions, Corporates and Retail, according to Articles 160 and 163 of the CRR.

The following table shows the flow statements of credit and counterparty credit risk RWA under internal model (IRB) during the last quarter of 2020:

Table 35. EU CR8 - RWA flow statements of credit risk and counterparty exposures under the IRB approach (Million euros)

	Credit Risk		Counterparty Credit Risk		Total	
	RWA amounts	Capital Requirements	RWA amounts	Capital Requirements	RWA amounts	Capital requirements
RWAs as of September 30, 2020	82,207	6,577	4,495	360	86,702	6,936
Asset size	(102)	(8)	(144)	(12)	(246)	(20)
Asset quality	(40)	(3)	117	9	77	6
Model updates	-	-	-	-	-	-
Methodology and policy	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-
Foreign exchange movements	51	4	145	12	196	16
Other	-	-	-	-	-	-
RWAs as of December 31, 2020	82,115	6,569	4,613	369	86,729	6,938

During the last quarter of 2020, credit risk RWA (ex-fx effect) under internal models lodged a slight decreased, with an opposite behaviour amongst different regulatory categories. Likewise, while institutions portfolio registered a rise in RWA, it is worth noting the slow down in the corporates portfolio RWA (in both Spain and Mexico). The foreign exchange effect, in aggregate terms, has generated a slight increase in credit risk RWA in the portfolios under the IRB approach, as a combination of the appreciation of the Mexican peso (+ 7%) that has been partially offset by the depreciation of the US dollar (-5%).

The full annual series of RWA flow of credit risk under the IRB approach is available in the editable file "Pillar III 2020 – Tables & Annexes".

3.2.5.3. Comparative analysis of the estimates made

The charts compare the expected loss calculated according to the Group's internal estimates of parameters for the main portfolios approved by the European Central Bank, with the effective loss incurred between 2002[3] and the most recent date available. It is important to emphasise that a number of regulatory changes are currently underway that affect the default score, such as the implementation of the new PD and LGD guidelines issued by the European Banking Authority or the new definition of default. As such, the series available to the entity as of 31 December 2020 are shown, though said parametrics may be pending approval by supervisory authorities.

The series shown are as follows:

- **Observed loss:** effective loss calculated as the default rate ratio[4] observed, multiplied by the estimated point in time loss given default (LGD)[5].
- **Average:** average effective loss, which is the simple average of observed losses since 2002.
- **Expected loss:** this is calculated as the average annual default rate since 2002 multiplied by the average annual loss given de fault since 2002.

The observed loss is the annual loss incurred. It must be less than the expected loss adjusted to the cycle in the expansionary years of an economic cycle, and greater during years of crisis.

The comparison has been made for the portfolios of Mortgages, Consumer Finance, Credit Cards, Autos (retailers), and Commercial and Real Estate Developers, all of them in Spain and Portugal. In Mexico, Credit Card and Corporates have been compared for the period from 2004[6] to the most recent date available. Regarding the categories of Institutions (Public and Financial Institutions) and Corporates, historical experience shows that there is such a small number of defaulted exposure (Low Default Portfolios) that it is not statistically significant, hence the reason the comparison is not shown.

The charts show that during the years of biggest economic growth, in general the effective loss was significantly lower than the expected loss adjusted to the cycle calculated using internal models.

The contrary was the case after the start of the crisis. This is in line with the major economic slowdown and the financial difficulties experienced by households and companies, above all in the case of small businesses in development and construction.

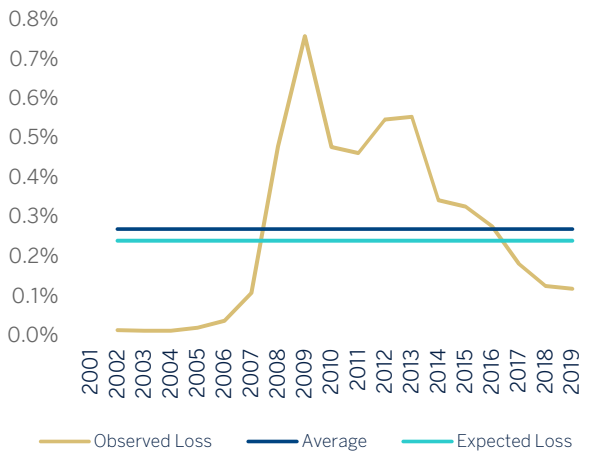
Regarding the last period of the series, it should be noted that global growth slowed down throughout 2019 to growth rates somewhat below 3% in annual terms in the second half of the year, below of 3.6% registered in 2018. The increase in trade protectionism and geopolitical risks had a negative impact on economic activity, mainly on exports and investment, which was added to the structural slowdown of the Chinese economy and the moderation cyclicality of the US economy and the euro zone. In this environment of economic slowdown, the losses experienced by the Group's portfolios during 2019 are framed. In addition, specifically, for the geographies of Spain and Mexico, the indicators reflected worsening macroeconomic expectations.

3. In line with the possible start date of the cycle identified by the regulator.
4. PD PiT Basel.
5. The methodology (LGD pit) allows for better approximation of observed losses. For more recent years, since recovery processes have not yet been completed, the best estimate of final loss given default is shown.
6. In some cases, the data for 2004 and 2005 had to be estimated.

Retail Mortgages

Starting in 2007, the effective losses are above the expected loss adjusted to the cycle, as they are losses incurred in years of crisis. Effective losses are in line with the expected loss adjusted to the cycle.

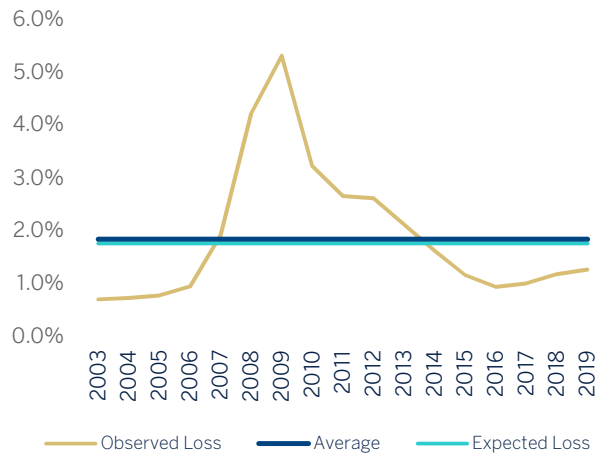
Chart 11. Comparative analysis of expected loss: retail mortgages



Consumer Finance

The chart shows that during the years of biggest economic growth the effective loss was lower than the Expected Loss. The contrary was the case starting in 2007. This is in line with the major economic slowdown and the financial difficulties experienced by households.

Chart 12. Comparative analysis of expected loss: consumer finance



Credit Cards

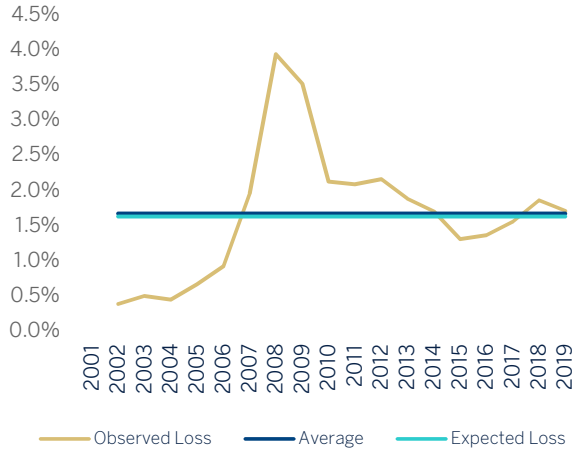
As in the case of Mortgages and Consumer Finance, the observed loss is lower than the Expected Loss calculated using average parameters at the best periods of the cycle, and higher during its worst periods.

Chart 13. Comparative analysis of expected loss: Credit Cards

Automobiles

I n the case of the Autos portfolio, the Expected Loss calculated using the average parameters remains similar to the average of the actual losses since 2001.

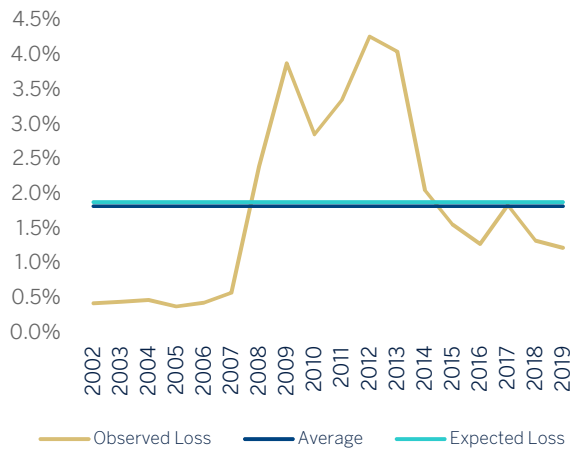
Chart 14. Comparative analysis of expected loss: Automobiles



Commercial and Real Estate Developers

In this case, LGD is only available from 2008 onwards and, as such, it has been decided to keep the LGD constant for previous years. As in the portfolios shown above, effective losses exceed average losses from 2007 onwards.

Chart 15. Comparative analysis of expected loss: SMEs and Real Estate



Mexico Credit Cards

In the case of BBVA Mexico's credit card portfolio, the Expected Loss is in line with the average observed losses since 2004.

Chart 16. Comparative analysis of expected loss: Mexico Credit Cards

Mexico Corporates

Similarly to the Credit Cards portfolio, Mexico's commercial portfolio shows expected loss levels similar to the average observed loss since 2004.

Chart 17. Comparative analysis of expected loss: Mexico corporates

3.2.5.4. Risk weights of specialised lending exposure

The solvency regulation stipulates that the classification of specialised lending companies should apply to legal entities with the following characteristics:

- The exposure is to an entity created specifically to finance and/or operate physical assets.
- The contractual arrangements give the lender a substantial degree of control over the assets and income they generate.
- The primary source of repayment of the obligation is the income generated by the assets being financed, rather than the independent capacity of the borrower.

The following table shows the exposure assigned to each of the risk weightings of the specialised lending exposure (including counterparty credit risk) as of December 31, 2020 and December 31, 2019:

Table 36. EU CR10 (1) - IRB: specialised lending (Million Euros. 12-31-2020)

		Specialised lending					
Regulatory categories	Remaining Maturity	On-balance sheet amount[1]	Off-balance sheet amount[2]	RW	Exposure Amount[3]	RWAs	Expected Losses
Category 1	Less than 2.5 years	320	38	50%	355	177	-
Category 1	Equal to or more than 2.5 years	2,549	866	70%	3,297	2,308	13
Category 2	Less than 2.5 years	224	122	70%	303	212	1
Category 2	Equal to or more than 2.5 years	1,213	349	90%	1,465	1,319	12
Category 3	Less than 2.5 years	148	1	115%	148	170	4
Category 3	Equal to or more than 2.5 years	341	79	115%	414	476	12
Category 4	Less than 2.5 years	20	1	250%	21	53	2
Category 4	Equal to or more than 2.5 years	75	4	250%	79	197	6
Category 5	Less than 2.5 years	3	2		4	-	2
Category 5	Equal to or more than 2.5 years	45	6		51	-	25
Total	Less than 2.5 years	715	165		830	612	9
Total	Equal to or more than 2.5 years	4,223	1,304		5,305	4,299	68

(1) Corresponds to the original exposure.

(2) Corresponds to the value of off-balance sheet exposure, regardless of credit conversion factors (CCF), or the effect of the Credit Risk Mitigation (CRM) techniques.

(3) Corresponds to exposure value after CRM and CCF.

EU CR10 (1) - IRB: specialised lending (Million Euros. 12-31-2019)

		Specialised lending					
Regulatory categories	Remaining Maturity	On-balance sheet amount[1]	Off-balance sheet amount[2]	RW	Exposure Amount[3]	RWAs	Expected Losses
Category 1	Less than 2.5 years	289	63	50%	333	166	-
Category 1	Equal to or more than 2.5 years	3,054	960	70%	3,833	2,683	15
Category 2	Less than 2.5 years	217	55	70%	253	177	1
Category 2	Equal to or more than 2.5 years	1,576	444	90%	1,923	1,731	15
Category 3	Less than 2.5 years	161	4	115%	163	187	5
Category 3	Equal to or more than 2.5 years	212	70	115%	276	318	8
Category 4	Less than 2.5 years	4	-	250%	4	10	0
Category 4	Equal to or more than 2.5 years	19	34	250%	53	133	4
Category 5	Less than 2.5 years	103	4		105	-	53
Category 5	Equal to or more than 2.5 years	40	1		41	-	21
Total	Less than 2.5 years	774	126		859	542	58
Total	Equal to or more than 2.5 years	4,901	1,508		6,127	4,865	63

(1) Corresponds to the original exposure.

(2) Corresponds to the value of off-balance sheet exposure, regardless of credit conversion factors (CCF), or the effect of the Credit Risk Mitigation (CRM) techniques.

(3) Corresponds to exposure value after CRM and CCF.

3.2.5.5. Equity exposure by method

The following table shows equity exposure by the following approaches: internal, PD/LGD and simple (in this case, broken down by risk weights), as of December 31, 2020 and December 31, 2019.

Table 37. EU CR10 (2) - IRB: equity (Million Euros. 12-31-2020)

	Equity under the IRB approach					
Categories	On-balance sheet amount[1]	Off-balance sheet amount[2]	RW	Exposure Amount[3]	RWAs	Capital Requirements
Simple method - Private Equity Exposures	586	-	190%	586	1,114	89
Simple method - Exchange-traded equity exposures	147	-	290%	147	425	34
Simple method - Other Equity Exposures	79	-	370%	79	291	23
Exposures subject to 250% risk weight	3,257	-	250%	3,257	8,144	651
Internal model	185	-		185	613	49
PD/LGD method	1,869	-		1,869	3,945	316
Total	6,123	-		6,123	14,532	1,163

(1) Corresponds to the original exposure.

(2) Corresponds to the value of off-balance sheet exposure, regardless of credit conversion factors (CCF), or the effect of the Credit Risk Mitigation (CRM) techniques.

(3) Corresponds to exposure value after CRM and CCF.

EU CR10 (2) - IRB: equity (Million Euros. 12-31-2019)

Categories	Equity under the IRB approach					
	On-balance sheet amount[1]	Off-balance sheet amount[2]	RW	Exposure Amount[3]	RWAs	Capital Requirements
Simple method - Private Equity Exposures	563	-	190%	563	1,070	86
Simple method - Exchange-traded equity exposures	290	-	290%	290	841	67
Simple method - Other Equity Exposures	108	-	370%	108	399	32
Exposures subject to 250% risk weight	3,142	-	250%	3,142	7,854	628
Internal model	138	-		138	449	36
PD/LGD method	2,883	-		2,883	5,554	444
Total	**7,124**	**-**		**7,124**	**16,167**	**1,293**

[1] Corresponds to the original exposure.

[2] Corresponds to the value of off-balance sheet exposure, regardless of credit conversion factors (CCF), or the effect of the Credit Risk Mitigation (CRM) techniques.

[3] Corresponds to exposure value after CRM and CCF.

In addition, section 3.4 shows detailed information on structural equity risk.

3.2.6. Information on counterparty credit risk

Counterparty credit risk exposure involves that part of the original exposure corresponding to derivative instruments, repurchase and reverse repurchase transactions, securities or commodities lending transactions and deferred settlement transactions.

3.2.6.1. Policies for managing counterparty risk

3.2.6.1.1. Methodology: allocation of internal capital and limits to exposure subject to counterparty risk

The Group has an economic model for calculating internal capital through exposure to counterparty risk in treasury operations. This model has been implemented in the Risk unit systems in Market areas. It is used to estimate the credit exposure for each of the counterparties for which the entity operates.

Exposure is generated in a manner consistent with those used for the monitoring and control of credit risk limits. The time horizon is divided up into intervals, and the market risk factors (interest rates, exchange rates, etc.) underlying the instruments that determine their valuation are simulated for each interval.

Exposure is obtained based on the 2000 different scenarios generated using the Monte Carlo method for risk factors (subject to counterparty risk) and applying the corresponding mitigating factors to each counterparty (i.e. applying collateral and/or compensation arrangements, or netting, as applicable).

The correlations, loss given defaults, internal ratings and associated probabilities of default are consistent with the Group's economic model for general credit risk.

The capital for each counterparty is then calculated using the exposure profile and taking into account the analytical formula adopted by Basel. This figure is modified by an adjustment factor for possible subsequent maturity after one year of the operations, in a similar vein to the general approach adopted by Basel for the treatment of credit risk.

Counterparty limits are specified within the financial programs authorised for each subsidiary within the line item of treasury limits. It stipulates both the limit and the maximum maturity for the transaction.

Transactions that generate counterparty risk are subject to risk limits that control both bilateral risk and risk with CCPs. When setting these limits for each business area and segment, and to ensure their correct application, the corresponding capital consumption and revenue generated by this operation are taken into account.

There is also a risk committee that individually analyzes the most significant transactions to assess (among other aspects) the relationship between profitability and risk.

The consumption of transactions within the limits is measured in terms of market capitalisation (mark to market) plus the potential risk with Monte Carlo Simulation methodology (95% confidence level or above if there are mitigating agreements or a risk of adverse links) and considering possible mitigating factors (such as netting, break clauses and collateral contracts).

Management of consumption by lines in the Markets area is carried out through a corporate platform that enables online monitoring of the limits and liquid assets established for the different counterparties and customers. This control is completed by independent units of the business area to guarantee proper segregation of functions.

3.2.6.1.2. Policies for ensuring the effectiveness of collateral and setting the value adjustments for impairment losses to cover this risk

The Group negotiates agreements with its customers to mitigate counterparty risk within the legal frameworks applicable in each of the countries where it operates. These

agreements regulate the exchange of guarantees as a mechanism to reduce exposure derived from transactions that generate counterparty risk.

The assets covered by these agreements include cash, as well as financial assets with a high credit quality. In addition, the agreements with customers include mechanisms that allow the immediate replacement of the collateral if its quality is impaired (for example, a reduction in the market capitalisation or adverse changes in the asset rating).

Mitigation by compensation or netting transactions and by collateral only reduces the consumption of limits and capital if there is a positive opinion on their immediate effectiveness in case of the counterparty's default or insolvency.

An internal tool has been specifically designed to store and process the collateral contracts concluded with counterparties. This application enables the existence of collateral to be taken into account at the transaction level (useful for controlling and monitoring the status of specific operations) as well as at the counterparty level. Furthermore, this tool feeds the applications responsible for estimating counterparty risk by providing all the necessary parameters for considering the impact of mitigation in the portfolio due to the agreements signed.

Likewise, there is also application process that reconciles and adjusts the positions serving the Collateral and Risk units.

In order to guarantee the effectiveness of collateral contracts, the Group carries out daily monitoring of the market values of operations governed by such contracts and of the deposits made by the counterparties. Once the amount of the collateral to be delivered or received is obtained, the collateral demand (margin call), or the demand received, is carried out at the intervals established in the contract, usually daily.

If significant variations arise from the process of reconciliation between the counterparties, after a reconciliation in economic terms, they are reported by the Collateral unit to the Risk unit for subsequent analysis and monitoring. Within the control process, the Collateral unit issues a daily report on the guarantees which includes a description by counterparty of the exposure and deposited collateral, making special reference to those guarantee deficits at or beyond the set warning levels.

Financial assets and liabilities may be the object of compensation, or netting, in other words presentation for a net amount in the consolidated balance sheet, only when the Group's entities comply with the provisions laid down in IAS 32 - Paragraph 42, and thus have the legally obliged right to offset the amounts recognised, and the intention to settle the net amount or to divest the asset and pay the liability at the same time.

In addition, the Group has assets and liabilities on the balance sheet that are not netted and for which there are master netting agreements, but for which there is neither the intention nor the right to settle. The most common types of events that trigger the compensation of reciprocal obligations include the bankruptcy of the credit institution in question, swiftly accumulating indebtedness, default, and the restructuring or dissolution of the entity.

In the current market context, derivatives are arranged under a variety of framework contracts, with the most general being those developed by the International Swaps and Derivatives Association (ISDA), and for the Spanish market the Framework Agreement for Financial Transactions (FAFT). Practically all portfolio derivative operations have been concluded under these master contracts, including in them the netting clauses referred to in the above point as Master Netting Agreements, considerably reducing the credit exposure in these instruments. Furthermore, in the contracts concluded with professional counterparties, annexes are included with collateral agreements called Credit Support Annexes (CSA), thus minimizing exposure to a possible counterparty insolvency.

At the same time, the Group has a high volume of assets sold under repurchase agreements traded through clearing houses that use mechanisms to reduce counterparty risk, as well as through various master contracts in bilateral operations, the most common being the Global Master Repurchase Agreement (GMRA), which is published by the International Capital Market Association (ICMA). This tends to have clauses added relating to the exchange of collateral within the main body of the master contract itself.

3.2.6.1.3. Policies on the risk of adverse effects due to correlations

Derivatives contracts may give rise to potential adverse correlation effects between the exposure to the counterparty and its credit quality (wrong-way-exposure).

The Group has specific policies for handling these type of exposures, which establish:

- How to identify transactions subject to adverse correlation risk.
- A specific transaction-by-transaction admission procedure.
- Measurements appropriate to the risk profile with adverse correlation and sanctioned in the corresponding decision-making areas.
- Control and monitoring of the transaction.

3.2.6.1.4. Impact of collateral in the event of a downgrade in credit quality

In derivatives transactions, as a general policy the Group does not subscribe collateral contracts that involve an increase in the amount to be deposited in the event of the Group being downgraded.

The general criteria applied to date with banking counterparties is to establish a zero threshold within collateral contracts, irrespective of the mutual rating; provision will be made as collateral of any difference that arises through market capitalisation (mark to market).

Since 2018, with the entry into force of the regulatory obligations for exchange of margins for derivatives that are not offset in the clearing houses, all the collateral annexes have been adapted to the characteristics required by the regulation, among which is that of establishing a zero threshold. Furthermore, the obligation to exchange initial margins with the main financial counterparties to overcollateralize exposure was added in 2019.

3.2.6.2. Amounts of counterparty risk

The original exposure for the counterparty risk of derivatives, according to Chapter 6 of the CRR, can be calculated using the following methods: original risk, mark-to-market valuation, standardised and internal models.

The Group calculates the value of exposure to risk through the mark-to-market method, obtained as the aggregated positive mark to market after contractual netting agreements plus the potential future risk of each transaction or instrument.

Below is a breakdown of the amount in terms of original exposure, EAD and RWAs:

Table 38. Positions subject to counterparty credit risk in terms of OE, EAD and RWAs (Million euros. 12-31-2020)

	Securities financing transactions			Derivatives and transactions with deferred settlement			Total		
Exposure Class and risk types	OE	EAD	RWAs	OE	EAD	RWAs	OE	EAD	RWAs
Central governments or central banks	13,260	1,007	7	245	410	108	13,506	1,418	115
Regional governments or local authorities	-	-	-	65	1	1	65	1	1
Public sector entities	-	-	-	431	153	78	431	153	78
Multilateral Development Banks	-	-	-	1	1	-	1	1	-
Institutions	6,563	675	137	2,530	2,013	676	9,093	2,688	813
Corporates	2,208	77	73	1,934	1,905	1,922	4,142	1,982	1,995
Retail	393	-	-	36	34	25	428	34	25
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-	-	-
Exposures associated with particularly high risk	-	-	-	47	47	70	47	47	70
Covered bonds	-	-	-	-	-	-	-	-	-
Short-term claims on institutions and corporate	-	-	-	-	-	-	-	-	-
Collective investments undertakings	3	-	-	-	-	-	3	-	-
Other exposures	-	-	-	-	-	-	-	-	-
Total counterparty risk by standardised approach	**22,426**	**1,760**	**217**	**5,290**	**4,565**	**2,880**	**27,716**	**6,325**	**3,097**
Central governments or central banks	365	365	1	33	33	5	398	398	6
Institutions	60,337	60,337	984	18,684	18,184	1,346	79,021	78,521	2,330
Corporates	204	204	-	4,779	4,779	2,275	4,983	4,983	2,275
Of which: SMEs	-	-	-	138	138	122	138	138	122
Of which: specialised lending	-	-	-	853	853	649	853	853	649
Of which: other	204	204	-	3,789	3,789	1,504	3,992	3,992	1,504
Retail	-	-	-	3	3	1	3	3	1
Of which: Secured by immovable property	-	-	-	-	-	-	-	-	-
Of which: Qualifying revolving	-	-	-	-	-	-	-	-	-
Of which: Other retail	-	-	-	3	3	1	3	3	1
Other retail: SMEs	-	-	-	-	-	-	-	-	-
Other retail: Non SMEs	-	-	-	3	3	1	3	3	1
Total counterparty risk by IRB approach	**60,907**	**60,907**	**986**	**23,499**	**22,999**	**3,627**	**84,406**	**83,906**	**4,613**
Total credit risk	**83,333**	**62,666**	**1,203**	**28,789**	**27,565**	**6,507**	**112,122**	**90,231**	**7,710**

Positions subject to counterparty credit risk in terms of OE, EAD and RWAs (Million euros. 12-31-2019)

	Securities financing transactions			Derivatives and transactions with deferred settlement			Total		
Exposure Class and risk types	OE	EAD	RWAs	OE	EAD	RWAs	OE	EAD	RWAs
Central governments or central banks	7,521	1,904	42	74	305	13	7,595	2,209	55
Regional governments or local authorities	-	-	-	74	3	1	74	3	1
Public sector entities	-	-	-	167	138	76	167	138	76
Multilateral Development Banks	-	-	-	-	-	-	-	-	-
Institutions	10,192	488	235	2,140	1,543	406	12,332	2,031	641
Corporates	1,773	257	255	1,184	1,157	1,173	2,957	1,414	1,428
Retail	465	-	-	58	57	41	523	57	41
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-
Exposures in default	-	-	-	1	1	1	1	1	1
Exposures associated with particularly high risk	-	-	-	32	32	48	32	32	48

Covered bonds	-	-	-	-	-	-	-	-	-
Short-term claims on institutions and corporate	-	-	-	-	-	-	-	-	-
Collective investments undertakings	10	0	0	1	1	1	12	2	2
Other exposures	-	4,136	-	-	-	-	-	4,136	-
Total counterparty risk by standardised approach	**19,961**	**6,785**	**533**	**3,733**	**3,237**	**1,761**	**23,693**	**10,022**	**2,294**
Central governments or central banks	1,558	1,558	3	41	41	6	1,599	1,599	9
Institutions	62,497	62,497	879	19,022	18,576	1,524	81,520	81,073	2,402
Corporates	116	116	0	3,806	3,806	2,010	3,922	3,922	2,010
Of which: SMEs	-	-	-	139	139	123	139	139	123
Of which: specialised lending	-	-	-	964	964	800	964	964	800
Of which: other	116	116	0	2,704	2,704	1,086	2,820	2,820	1,087
Retail	-	-	-	4	4	1	4	4	1
Of which: Secured by immovable property	-	-	-	-	-	-	-	-	-
Of which: Qualifying revolving	-	-	-	-	-	-	-	-	-
Of which: Other retail	-	-	-	4	4	1	4	4	1
Other retail: SMEs	-	-	-	-	-	-	-	-	-
Other retail: Non SMEs	-	-	-	4	4	1	4	4	1
Total counterparty risk by IRB approach	**64,171**	**64,171**	**882**	**22,874**	**22,428**	**3,540**	**87,045**	**86,599**	**4,423**
Total credit risk	**84,132**	**70,956**	**1,415**	**26,606**	**25,665**	**5,301**	**110,738**	**96,621**	**6,716**

From the amounts shown in the table above, those referring to the counterparty risk of trading book exposures are shown below:

Table 39. Amounts of counterparty risk in the trading book (Million euros)

	Capital requirements			
	2020		2019	
Counterparty Risk Trading Book Activities	**Mtm Method**	**Internal Models (IMM)**	**Mtm Method**	**Internal Models (IMM)**
Standardised Approach	239		169	
Advanced Approach	337		357	
Total	**576**		**526**	

The Group currently has a negligible amount of regulatory capital requirements for the settlement risk of trading book exposures.

The following table shows the amounts (in million euros) relating to the counterparty risk of derivatives and securities financing transactions as of December 31, 2020 and December 31, 2019:

Table 40. CCR5-A - Impact of netting and collateral held on exposure values[1] (Million euros. 12-31-2020)

	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held[4]	Net credit exposure
Derivatives[2]	44,436	(29,522)	14,914	(7,536)	7,377
SFTs[3]	34,157	-	34,157	(31,070)	3,087
Cross-product netting					
Total	**78,593**	**(29,522)**	**49,071**	**(38,607)**	**10,464**

[1] Securities financing transactions include both collateral recognised on the balance sheet and collateral that is not offset on the balance sheet by accounting standards, but does reduce credit risk.

Collateral for derivatives corresponds only to those that are eligible as mitigation techniques for capital purposes.

[2] Positive mark-to-market of derivatives is included.

[3] Only the amount of reverse repurchase agreements is included.

[4] The collateral held amount includes volatility adjustments outlined in Title II, Chapter 4, Section 4 of the CRR.

CCR5-A - Impact of netting and collateral held on exposure values[1] (Million euros. 12-31-2019)

	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held[4]	Net credit exposure
Derivatives[2]	36,583	(23,265)	13,319	(6,440)	6,879
SFTs[3]	35,629	-	35,629	(32,394)	3,236
Cross-product netting					
Total	**72,213**	**(23,265)**	**48,948**	**(38,833)**	**10,115**

[1] Securities financing transactions include both collateral recognised on the balance sheet and collateral that is not offset on the balance sheet by accounting standards, but does reduce credit risk.

Collateral for derivatives corresponds only to those that are eligible as mitigation techniques for capital purposes.

[2] Positive mark-to-market of derivatives is included.

[3] Only the amount of reverse repurchase agreements is included.

[4] The collateral held amount includes volatility adjustments outlined in Title II, Chapter 4, Section 4 of the CRR.

Below is an overview of the methods used to calculate the regulatory requirements for counterparty credit risk and the main parameters of each method (excluding requirements for CVA and exposure cleared through a CCP, which are shown in tables CCR2 and CCR8, respectively).

Table 41. : EU CCR1 - Analysis of CCR exposure by approach (Million Euros)

	12-31-2020				12-31-2019			
	Replacement Cost / Current market value	Potential future credit exposure	EAD post-CRM	RWAs	Replacement Cost / Current market value	Potential future credit exposure	EAD post-CRM	RWAs
Mark to market	14,299	10,370	21,082	6,146	13,174	10,153	20,157	5,119
Internal Model Method (for derivatives and SFTs)	-	-	-	-	-	-	-	-
Simple Approach for credit risk mitigation (for SFTs)	-	-	-	-	-	-	-	-
Comprehensive Approach for credit risk mitigation (for SFTs)	-	-	62,320	1,195	-	-	70,367	1,186
VaR for SFTs	-	-	-	-	-	-	-	-
Total	**14,299**	**10,370**	**83,402**	**7,341**	**13,174**	**10,153**	**90,524**	**6,305**

3.2.6.2.1. Counterparty credit risk by standardised approach

The following table shows a breakdown of exposure to counterparty credit risk (following credit risk mitigation and CCF techniques) calculated using the standardised approach, by exposure category and risk weights:

Table 42. EU CCR3 - Standardised approach - CCR exposures by regulatory portfolio and risk (Million Euros. 12-31-2020)

	Risk weight												
Exposure Class	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	Total	Of which: unrated[1]
Central governments or central banks	1,270	-	-	-	10	48	-	-	89	-	-	1,418	856
Regional government or local authorities	-	-	-	-	-	-	-	-	1	-	-	1	1
Public sector entities	-	-	-	-	-	151	-	-	2	-	-	153	2
Multilateral development banks	1	-	-	-	-	-	-	-	-	-	-	1	1
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	101	591	-	1,186	520	-	-	290	-	-	2,688	2,162
Corporates	-	-	-	-	2	9	-	-	1,889	82	-	1,982	1,940
Retail	-	-	-	-	-	-	-	34	-	-	-	34	34
Institutions and corporates with a short term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	47	-	47	47
Total	**1,272**	**101**	**591**	**-**	**1,198**	**729**	**-**	**34**	**2,271**	**129**	**-**	**6,325**	**5,043**

[1] Of which: Unrated refers to exposure for which no credit rating from designated ECAIs is available.

EU CCR3 - Standardised approach - CCR exposures by regulatory portfolio and risk (Million Euros. 12-31-2019)

	Risk weight												
Exposure Class	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	Total	Of which: unrated[1]
Central governments or central banks	2,066	-	-	-	62	76	-	-	5	-	-	2,209	1,660
Regional government or local authorities	-	-	-	-	3	1	-	-	-	-	-	3	3
Public sector entities	-	-	-	-	3	120	-	-	16	-	-	138	105
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	-	-
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	471	15	-	789	566	-	-	190	-	-	2,031	1,639
Corporates	-	-	-	-	2	5	-	-	1,369	37	-	1,414	1,353
Retail	-	-	-	-	-	-	-	57	-	-	-	57	57
Institutions and corporates with a short term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-
Other items	4,136	-	-	-	-	-	-	-	2	33	-	4,170	3,853
Total	**6,202**	**471**	**15**	**-**	**858**	**768**	**-**	**57**	**1,582**	**70**	**-**	**10,022**	**8,668**

[1] Of which: Unrated refers to exposure for which no credit rating from designated ECAIs is available.

3.2.6.2.2. Counterparty risk by advanced approach

The following table presents the relevant parameters used to calculate the capital requirements for counterparty credit risk in the IRB models as of December 31, 2020 and December 31, 2019:

Table 43. EU CCR4 - IRB approach - CCR exposures by portfolio and PD scale (Million Euros. 12-31-2020)

PD scale as of 31-12-2020[1]	EAD post-CRM	Average PD[2]	Number of Obligors	Average LGD[3]	Average Maturity (days)[4]	RWAs	RWA Density
Prudential Portfolio- FIRB method[5]	853	-	260	-		649	76%
Corporate - Specialised lending	853	-	260	-	-	649	76%
Prudential Portfolio- AIRB method	83,053	0.10%	3,416	13.00%		3,964	5%
Central governments or central banks	398	0.07%	5	4.51%	102	6	2%
0,00 to <0,15	382	0.06%	4	3.00%	88	2	0%
0,15 to <0,25	16	0.20%	1	40.00%	417	5	29%
0,25 to <0,50	-	-	-	-	-	-	-
0,50 to <0,75	-	-	-	-	-	-	-
0,75 to <2,50	-	-	-	-	-	-	-
2,50 to <10,00	-	-	-	-	-	-	-
10,00 to <100,00	-	-	-	-	-	-	-
100,00 (Default)	-	-	-	-	-	-	-
Institutions	78,521	0.10%	978	11.72%	229	2,330	3%
0,00 to <0,15	66,024	0.06%	717	13.13%	215	1,794	3%
0,15 to <0,25	6,601	0.20%	54	3.79%	412	243	4%
0,25 to <0,50	4,464	0.31%	46	4.46%	207	154	3%
0,50 to <0,75	817	0.51%	13	4.82%	129	51	6%
0,75 to <2,50	519	1.06%	135	8.40%	93	77	15%
2,50 to <10,00	97	4.08%	11	3.28%	-	10	10%
10,00 to <100,00	0	37.80%	2	45.00%	1,825	0	305%
100,00 (Default)	-	-	-	-	-	-	-
Corporate - SMEs	138	11.12%	932	40.05%	474	122	89%
0,00 to <0,15	6	0.11%	173	40.42%	406	1	13%
0,15 to <0,25	7	0.20%	59	40.30%	357	1	20%
0,25 to <0,50	11	0.31%	124	40.59%	338	4	33%
0,50 to <0,75	25	0.54%	152	39.21%	270	15	58%
0,75 to <2,50	42	1.18%	215	40.19%	558	34	80%
2,50 to <10,00	30	5.63%	158	39.23%	511	38	129%
10,00 to <100,00	5	20.22%	21	42.05%	1,234	10	192%
100,00 (Default)	12	100.00%	30	41.60%	415	20	167%
Corporate - Non-SMEs	3,992	0.44%	1,027	37.78%	560	1,504	38%
0,00 to <0,15	2,221	0.12%	267	34.60%	425	433	20%
0,15 to <0,25	479	0.20%	116	38.59%	563	169	35%
0,25 to <0,50	789	0.31%	223	43.84%	712	412	52%
0,50 to <0,75	138	0.51%	148	43.06%	816	99	71%
0,75 to <2,50	284	1.36%	164	40.57%	1,057	292	103%
2,50 to <10,00	71	4.19%	85	42.44%	492	88	123%
10,00 to <100,00	5	15.03%	13	43.90%	1,259	11	222%
100,00 (Default)	3	100.00%	11	43.72%	978	1	16%
Retail - Other SMEs	3	13.08%	464	40.02%	-	1	38%
0,00 to <0,15	0	0.12%	73	40.00%	-	0	8%
0,15 to <0,25	0	0.20%	11	40.00%	-	-	0%
0,25 to <0,50	1	0.31%	58	40.00%	-	0	17%
0,50 to <0,75	0	0.51%	45	40.00%	-	0	22%
0,75 to <2,50	1	1.12%	95	40.13%	-	0	34%
2,50 to <10,00	1	5.02%	127	40.00%	-	1	46%
10,00 to <100,00	1	22.30%	40	40.00%	-	0	63%
100,00 (Default)	0	100.00%	15	40.05%	-	0	14%
Retail - Other Non-SMEs	0	3.07%	10	40.00%	-	0	39%
0,00 to <0,15	0	0.10%	6	40.00%	-	0	10%
0,15 to <0,25	-	-	-	-	-	-	-
0,25 to <0,50	-	-	-	-	-	-	-
0,50 to <0,75	0	0.51%	3	40.00%	-	0	33%
0,75 to <2,50	-	-	-	-	-	-	-
2,50 to <10,00	0	3.84%	1	40.00%	-	0	45%
10,00 to <100,00	-	-	-	-	-	-	-
100,00 (Default)	-	-	-	-	-	-	-
Total Advanced Approach	83,906	0.13%	3,676	12.99%		4,613	5%

[1] PD Intervals recommended by the EBA Guidelines on Disclosure Requirements under Part Eight of the CRR.

[2] Corresponds to obligor grade PD weighted by EAD post CRM.

[3] Corresponds to obligor grade LGD weighted by EAD post CRM.

[4] Corresponds to the obligor maturity in days weighted by EAD post CRM. According to Regulation (EU) No 680/2014, it is reported only for categories in which the average maturities are relevant for the calculation of RWAs.

[5] Exposure classified in the FIRB approach corresponds to specialised lending exposure. The Group has chosen to use the slotting criteria, in line with Article 153.5 of the CRR.

EU CCR4 - IRB approach - CCR exposures by portfolio and PD scale (Million Euros. 12-31-2019)

PD scale as of 31-12-2019[1]	EAD post-CRM	Average PD[2]	Number of Obligors	Average LGD[3]	Average Maturity (days)[4]	RWAs	RWA Density
Prudential Portfolio- FIRB method[5]	964	-	275	-		800	83%
Corporate - Specialised lending	964	-	275	-	-	800	83%
Prudential Portfolio- AIRB method	85,635	0.21%	3,368	11.66%		3,622	4%
Central governments or central banks	1,599	0.05%	5	2.10%	8	9	1%
0,00 to <0,15	1,586	0.05%	4	1.79%	2	4	0%
0,15 to <0,25	13	0.20%	1	40.00%	782	5	38%
0,25 to <0,50	-	-	-	-	-	-	-
0,50 to <0,75	-	-	-	-	-	-	-
0,75 to <2,50	-	-	-	-	-	-	-
2,50 to <10,00	-	-	-	-	-	-	-
10,00 to <100,00	-	-	-	-	-	-	-
100,00 (Default)	-	-	-	-	-	-	-
Institutions	81,073	0.14%	1,062	10.81%	115	2,402	3%
0,00 to <0,15	62,300	0.06%	771	13.37%	144	1,984	3%
0,15 to <0,25	7,927	0.20%	71	2.51%	8	132	2%
0,25 to <0,50	7,164	0.31%	44	1.76%	31	124	2%
0,50 to <0,75	1,590	0.51%	21	4.08%	49	75	5%
0,75 to <2,50	1,854	1.34%	136	2.00%	9	66	4%
2,50 to <10,00	238	3.60%	15	3.20%	50	20	9%
10,00 to <100,00	0	36.30%	4	44.65%	1,726	1	296%
100,00 (Default)	-	-	-	-	-	-	-
Corporate - SMEs	139	32.80%	787	49.92%	462	123	89%
0,00 to <0,15	4	0.10%	228	40.40%	470	1	14%
0,15 to <0,25	1	0.21%	50	40.98%	876	0	38%
0,25 to <0,50	5	0.30%	81	41.06%	777	2	44%
0,50 to <0,75	24	0.53%	79	40.54%	508	16	65%
0,75 to <2,50	32	1.17%	159	40.06%	722	27	84%
2,50 to <10,00	26	3.99%	128	39.55%	595	29	113%
10,00 to <100,00	4	20.47%	22	38.20%	314	9	235%
100,00 (Default)	43	100.00%	40	71.79%	134	40	92%
Corporate - Non-SMEs	2,820	0.47%	847	39.67%	686	1,087	39%
0,00 to <0,15	1,684	0.11%	283	37.75%	661	429	26%
0,15 to <0,25	284	0.20%	117	41.95%	661	107	38%
0,25 to <0,50	588	0.31%	209	43.83%	710	308	52%
0,50 to <0,75	93	0.50%	88	43.16%	631	64	69%
0,75 to <2,50	119	1.10%	74	36.68%	836	93	78%
2,50 to <10,00	48	5.15%	57	42.84%	1,144	77	159%
10,00 to <100,00	4	14.99%	11	43.58%	894	8	215%
100,00 (Default)	0	100.00%	8	41.40%	1,301	0	14%
Retail - Other SMEs	4	23.01%	656	40.02%	-	1	27%
0,00 to <0,15	0	0.12%	110	40.10%	-	0	10%
0,15 to <0,25	0	0.19%	30	40.00%	-	0	13%
0,25 to <0,50	1	0.27%	99	40.00%	-	0	16%
0,50 to <0,75	0	0.48%	57	40.00%	-	0	21%
0,75 to <2,50	1	1.13%	129	40.01%	-	0	33%
2,50 to <10,00	1	5.20%	164	40.00%	-	0	45%
10,00 to <100,00	0	17.01%	36	40.12%	-	0	61%
100,00 (Default)	1	100.00%	31	40.02%	-	0	14%
Retail - Other Non-SMEs	0	0.10%	11	40.00%	-	0	7%
0,00 to <0,15	0	0.10%	11	40.00%	-	0	7%
0,15 to <0,25	-	-	-	-	-	-	-
0,25 to <0,50	-	-	-	-	-	-	-
0,50 to <0,75	-	-	-	-	-	-	-
0,75 to <2,50	-	-	-	-	-	-	-
2,50 to <10,00	-	-	-	-	-	-	-
10,00 to <100,00	-	-	-	-	-	-	-
100,00 (Default)	-	-	-	-	-	-	-
Total Advanced Approach	86,599	0.21%	3,643	11.66%		4,423	5%

[1] PD Intervals recommended by the EBA Guidelines on Disclosure Requirements under Part Eight of the CRR.

[2] Corresponds to obligor grade PD weighted by EAD post CRM.

[3] Corresponds to obligor grade LGD weighted by EAD post CRM.

[4] Corresponds to the obligor maturity in days weighted by EAD post CRM. According to Regulation (EU) No 680/2014, it is reported only for categories in which the average maturities are relevant for the calculation of RWAs.

[5] Exposure classified in the FIRB approach corresponds to specialised lending exposure. The Group has chosen to use the slotting criteria, in line with Article 153.5 of the CRR.

3.2.6.2.3. Composition of collateral for counterparty risk exposure

A table with a breakdown of collaterals contributed or received by the Group to strengthen or reduce exposure to counterparty credit risk related to derivatives transactions and securities financing transactions as of December 31, 2020 and December 31, 2019 is presented below:

Table 44. EU CCR5-B - Composition of collateral for exposure to Counterparty Credit Risk[1] (Million Euros. 12-31-2020)

	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair Value of Collateral received		Fair Value of posted Collateral[1]		Fair Value of Collateral received	Fair Value of posted Collateral
	Segregated[2]	Unsegregated[3]	Segregated[2]	Unsegregated[3]		
Cash- domestic currency	-	2,688	4	7,159	23,290	26,939
Cash- other currencies	-	2,162	1	1,503	19,141	7,218
Domestic sovereign debt	-	-	-	-	8,081	15,650
Other sovereign debt	-	-	-	20	14,377	13,179
Government agency debt	-	-	-	-	144	209
Corporate bonds	-	998	-	-	5,658	11,274
Equity securities	-	-	-	-	-	2,435
Other collateral	-	1,853	-	110	2,810	-
Total	**-**	**7,701**	**4**	**8,792**		

[1] In accordance with Articles 279 and 298 of Regulation (EU) 2015/13 regarding the treatment of collateral for the purpose of calculating counterparty risk, the amount of collateral provided as collateral for the netting of derivative liability arrangements has been taken into account in the EAD calculation.

[2] Refers to collateral that is held in a bankruptcy-remote manner.

[3] Refers to collateral that is not held in a bankruptcy-remote manner.

EU CCR5-B - Composition of collateral for exposure to Counterparty Credit Risk[1] (Million Euros. 12-31-2019)

	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair Value of Collateral received		Fair Value of posted Collateral[1]		Fair Value of Collateral received	Fair Value of posted Collateral
	Segregated[2]	Unsegregated[3]	Segregated[2]	Unsegregated[3]		
Cash- domestic currency	-	2,549	-	6,242	29,306	29,259
Cash- other currencies	-	1,113	-	1,154	16,601	6,371
Domestic sovereign debt	-	-	-	-	5,163	19,708
Other sovereign debt	-	5	-	-	7,947	14,411
Government agency debt	-	2	-	-	162	215
Corporate bonds	-	960	-	-	5,029	7,833
Equity securities	-	-	-	-	-	3,526
Other collateral	-	1,811	-	-	14,093	29
Total	**-**	**6,440**	**-**	**7,397**		

[1] In accordance with Articles 279 and 298 of Regulation (EU) 2015/13 regarding the treatment of collateral for the purpose of calculating counterparty risk, the amount of collateral provided as collateral for the netting of derivative liability arrangements has been taken into account in the EAD calculation.

[2] Refers to collateral that is held in a bankruptcy-remote manner.

[3] Refers to collateral that is not held in a bankruptcy-remote manner.

3.2.6.2.4. Credit Derivatives transactions

The table below shows the amounts of credit derivative transactions, broken down into purchased and sold derivatives:

Table 45. EU CCR6 - Credit derivatives exposures (Million Euros. 12-31-2020)

	Credit derivative hedges		Other credit derivatives
	Protection Bought	Protection Sold	
Notionals	**10,148**	**14,110**	**-**
Single-name credit default swaps	5,166	6,243	-
Index credit default swaps	4,982	5,985	-
Total return swaps	-	1,882	-
Credit options	-	-	-
Other credit derivatives	-	-	-
Fair Values	**(122)**	**(30)**	**-**
Positive fair value (asset)	21	132	-
Negative fair value (liability)	(142)	(163)	-

EU CCR6 - EU CCR6 - Credit derivatives exposures (Million Euros. 12-31-2019)

	Credit derivative hedges		Other credit derivatives
	Protection Bought	Protection Sold	
Notionals	**12,431**	**16,646**	**-**
Single-name credit default swaps	5,718	6,934	-
Index credit default swaps	6,713	7,338	-
Total return swaps	-	2,225	-
Credit options	-	150	-
Other credit derivatives	-	-	-
Fair Values	**(218)**	**174**	**-**
Positive fair value (asset)	36	316	-
Negative fair value (liability)	(255)	(143)	-

As of year-end 2020 and 2019, the Group did not use credit derivative as collateral in brokerage activities.

3.2.6.3. CVA charge requirements

The CVA surcharge in Capital refers to the additional capital requirements to cover unexpected losses due to credit valuation adjustments, for which there are two approaches:

- Standardised Approach (Art. 384 CRR): application of a standard regulatory formula. The formula applied is an analytical approximation to the calculation of the CVA VaR by supposing that the counterparty spreads depend on a single systematic risk factor and on its own idiosyncratic factor, both variables distributed by independent normal distributions, assuming a 99% confidence level.
- Advanced Approach (Art 383 CRR): based on the market risk VaR methodology, which requires a calculation of the "CVA VaR", assuming the same confidence level (99%) and time horizon (10 days), as well as a stressed scenario. As of December 31, 2020 and December 31, 2019, the Group has no surcharge for CVA calculated under the advanced approach.

Procedures for calculating the valuation adjustments and reserves

Credit valuation adjustments (CVA) and debit valuations adjustments (DVA) are incorporated into derivative valuations of both assets and liabilities, to reflect the impact on fair value of the counterparty credit risk and own credit risk, respectively. (See Note 8.1.1 of the Consolidated Financial Statements of BBVA Group for more information).

The credit valuation adjustments in millions of euros as of December 31, 2020 and December 31, 2019 are shown below:

Table 46. EU CCR2 - CVA Capital Charge (Million Euros. 12-31-2020)

	Exposure value	RWA
Total portfolios subject to the advanced method	**-**	**-**
(i) VaR component (included 3x multiplier)	-	-
(ii) SVaR component (included 3x multiplier)	-	-
All portfolios subject to the standardised method	7,369	1,485
Total subject to the CVA capital charge	**7,369**	**1,485**

EU CCR2 - CVA Capital Charge (Million Euros. 12-31-2019)

	Exposure value	RWA
Total portfolios subject to the advanced method	**-**	**-**
(i) VaR component (included 3x multiplier)	-	-
(ii) SVaR component (included 3x multiplier)	-	-
All portfolios subject to the standardised method	7.283	1.529
Total subject to the CVA capital charge	**7.283**	**1.529**

The flow statements of CVA RWAs during 2020 are shown below:

Table 47. Variaciones en términos de APRs por CVA (Millones de euros)

CVA		
RWAs as of December 31, 2019		**1,529**
Effects	Asset size	(44)
RWAs as of December 31, 2020		**1,485**

As of December 31, 2020, the CVA risk-weighted assets remain at a similar level compared to December 2019.

3.2.6.4. Exposure to central counterparty clearing houses

The following table presents a complete overview of the exposure to central counterparty clearing houses by type of exposure (arising from transactions, margins, or contributions to the default fund) and their corresponding capital requirements:

Table 48. EU CCR8- Exposures to CCPs (Million Euros)

	12-31-2020		12-31-2019	
	EAD post CRM	RWA	EAD post CRM	RWA
Exposures to QCCPs (total)		458		198
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	6,812	349	5,823	139
(i) OTC Derivatives	4,738	114	4,939	121
(ii) Exchange-traded derivatives	1,729	228	520	10
(iii) Securities financing transactions (SFTs)	346	7	364	7
(iv) Netting sets where cross-product netting has been approved	-	-	-	-
Segregated initial margin	1,372		1,239	
Non-segregated initial margin	576	20	340	16
Pre-funded default fund contributions	132	89	111	44
Alternative calculation of own funds requirements for exposures		-		-
Exposures to non-QCCPs (total)		667		690
Exposures for trades at non-QCCPs (excluding initial margin and default to contributions); of which	17	20	273	273
(i) OTC Derivatives	10	10	42	42
(ii) Exchange-traded derivatives	6	9	6	9
(iii) Securities financing transactions (SFTs)	1	1	225	222
(iv) Netting sets where cross-product netting has been approved	-	-	-	-
Segregated initial margin	171		-	
Non-segregated initial margin	710	647	496	417
Pre-funded default fund contributions	-	-	1	0
Unfunded default fund contributions	-	-	-	-

3.2.7. Information on securitisation

3.2.7.1. General characteristics of securitisation

3.2.7.1.1. Purposes of securitisation

The Group's current securitisation policy considers a recurrent issuance program with a deliberate diversification of securitised assets that adjusts their volume to the Bank's capital requirements and to market conditions.

This program is complemented by all the other finance and capital instruments, thereby diversifying the need to resort to wholesale markets.

The definition of the strategy and the execution of the operations, as with all other wholesale finance and capital management, is supervised by the Assets & Liabilities Committee, with the pertinent internal authorisations obtained directly from the Board of Directors or from the Executive Committee.

The main objective of securitisation is to serve as an instrument for the efficient management of the balance sheet, above all as a source of liquidity at an efficient cost, obtaining liquid assets through eligible collateral, as a complement to other financial instruments. In addition, there are other secondary objectives associated with the use of securitisation instruments, such as the freeing up of regulatory capital by transferring risk and the freeing of potential excess over the expected loss, provided it is allowed by the volume of the first-loss tranche and risk transfer.

Main risk exposed in securitisation operations.

1. Default risk

Default risk is the risk that the debtor does not pay the assumed contractual obligations by the due date and in the correct manner (for example, potential non-payment of installments).

In the particular case of securitisation, the entities provide information to investors on the situation of the securitised loan portfolio. In this respect, it is worth noting that transactions transferred to the Securitisation Fund do not include defaults, or at most, if there is one, in no case do they exceed 30 days of non-payment, demonstrating the high quality of securitised transactions. The rating agencies take this element closely into account when analyzing the credit risk of transactions.

BBVA monitors the changes in these indicators with the aim of establishing specific action plans in the different products, in order to correct any deviations that are leading to a deterioration in credit quality.

In order to monitor these indicators, monthly, and in some cases, daily information is available. It includes flows of additions, recoveries, irregular investments and non-performing loans. The information is obtained through different applications and reports prepared in the Risk area.

BBVA's policy of recovery for impaired loans consists of defining an operating system that allows a speedy and efficient correction of the irregular situation. It is based on a highly personalised management, with a key role being played by the Recovery Manager and his close and ongoing relationship with the debtor.

The main guarantee is always mortgage on the asset subject of the transaction, or on the main residence. In addition, there are frequent personal guarantees issued by the holders of the loan or the guarantors, which reinforce the repayment of the debt and quality of the risk. The rights to collection before insurance companies are also subrogated in favor of the Bank in cases where there is damage to the mortgaged building due to fire or other duly stipulated causes.

BBVA's policy regarding the use of guarantees on retained securitised exposures, at this stage, is limited to the signature of a financial guarantee with the European Investment Bank on specific tranches of synthetic securitisations, including pools of corporates and SMEs loans granted by BBVA

2. Early repayment risk

This derives from the potential total or partial prepayment by the debtor of the amounts corresponding to the (fully or partially) securitised loans, which could imply that the maturity of the securitisation bonds calculated at the time of the issue is shorter than the maturity of the loans transferred to the Fund.

This risk is mainly due to the variations of market interest rates, but despite its importance it is not the only determining factor; to this have to be added other more personal elements, such as inheritance, divorce, change of residence, etc.

In the specific case of the Group's securitisations, this risk is very limited, as the maturity date of the securitisation Bonds is set according to the maturity of the last loan of the securitised portfolio.

3. Liquidity risk

At times it is noted that a possible limited liquidity of the markets in which the Bonds are traded could constitute a risk derived from the securitisation processes.

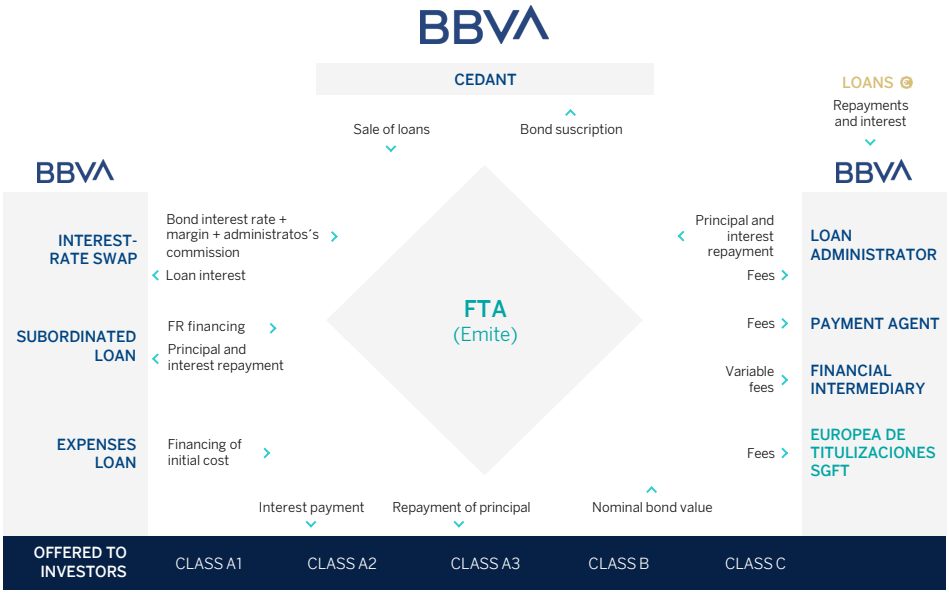
Although an entity may not undertake contracts in the secondary market of Bonds issued by the Securitisation Fund, and thus provide liquidity to the funds, the securitisation process itself consists of converting illiquid assets that form part of the Bank's balance sheet into liquid assets in the form of securitisation Bonds, which give the possibility for trading and transferring them in a regulated market. This would not be the case if they were not subject to the securitisation process.

In addition, understanding liquidity risk as the possible time mismatch between the maturities of the collections generated by the loans and the payments the Bonds originate, BBVA has not so far made any securitisation issues in which there is a divergence between collections and payments. The entities that have programs for debt security issues, in which this risk is typically present, mitigate it with the use of liquidity lines that are included in the structure of the Fund.

3.2.7.1.2. Functions performed by the securitisation process and degree of involvement

The Group's degree of involvement in its securitisation funds is not usually restricted to the mere role of assignor and administrator of the securitised portfolio.

Chart 18. Functions performed in the securitisation process and Group's level of involvement



As can be seen in the above chart, the Group has usually taken additional roles such as:

- Payment Agent.
- Provider of treasury account.
- Provider of the subordinated loan and of the financing of initial costs, with the former being the one that finances the first-loss tranche, and the latter financing the fund's fixed expenditure.
- Administrative agent of the securitised portfolio.

The Group has not assumed the role of sponsor of securitisation originated by third-party institutions.

The Group's balance sheet maintains the first-loss tranches of all securitisation that has been carried out.

It is worth noting that the Group has maintained a consistent line on generating securitisation operations since the credit crunch, which began in July 2007.

In addition, the Group has performed various Synthetic Securitisation operations to date, introducing this new operation as an additional source of regulatory capital release.

3.2.7.1.3. Methods used for the calculation of risk-weighted exposure in securitisation transactions.

When securitisation positions meet the criteria for significant and effective risk transfer as defined by Articles 244 and 245 of Regulation 2017/2401, the Group calculates the capital requirements of these securitisations by applying the following methods, which apply to both originated securitisations and investment positions in securitisation funds originated by third parties:

- IRBA method (Article 259): When according to the securitisation features, all information on the underlying loans of the securitised portfolio is accesible, and at least for 95% of the loans the risk weights are calculated under IRB approach.
- SA method (Article 261): When information is available on the underlying loans of the securitised portfolio, but the threshold of 95% of the loans under the IRB approach is not reached.
- ERBA method (Article 263): When information on the underlying securitisation loans is not accesible, and it is necessary to use external rating data.

3.2.7.1.4. Transfer of risk in securitisation activities and criteria for recognition of gains on sales

The Group considers that the risks and benefits of the securitisations are substantially retained if the subordinated bonds are held and/or if subordination funding has been granted to those securitisation funds, which means that the credit loss risk of the securitised assets will be assumed. Consequently, the Group is not derecognizing those transferred loan portfolios.

In addition, the Group recognizes the gains on sales of securitised assets when they are derecognised from the balance sheet, which implies to comply with the substantial transfer of risks and benefits requirements described above.

The result will be recognised in the income statement and calculated as the difference between the carrying amount and the sum of the amount received, including any new asset received minus liabilities assumed.

When the amount of the transferred financial asset matches the total amount of the original financial asset, the new financial assets, financial liabilities and service-delivery liabilities, which, if any, arise as a result of the transfer, shall be recorded at fair value.

For more information on securities accounting see Note 2.2.2 of the Consolidated Financial Statements of BBVA Group.

3.2.7.2. Securitisation exposure in the banking and trading book

The Group has carried out three securitisations in 2020, two of them in cash or traditional format and the third in synthetic securitisation format. One of the traditional operations and the synthetic operation, both with risk transfer.

The first of them in June, from a portfolio of Auto loans (BBVA Consumer Auto 2020-1) amounting to €1,100 million, the second in July, for an amount of €2,100 million (BBVA Leasing 2 FT), from a portfolio of leases and, the third, the synthetic operation (VELA SME 2020-1) also in June, for an amount of €1,244 million from a portfolio of loans to SMEs and companies. Given that there is no risk transfer for the BBVA Leasing 2 FT securitisation, this operation is not included in the securitisation framework defined by the CRR, the calculation of its risk-weighted assets based on the underlying loans.

Additionally, in February, the Synthetic Securitisations VELA SME 2018 and VELA Corporate 2018-1, consisting of loans to SMEs and Corporates, were early canceled by executing the Regulatory Call - clause provided for in the contract.

The table below shows the amounts in terms of EAD of securitisation positions for the banking book:

Table 49. SEC1 - Securitisation exposures in the banking book (Million Euros. 12-31-2020)

	Bank acts as originator				Bank acts as sponsor				Bank acts as investor			
	Traditional	Of wich: STS	Synthetic	Subtotal	Traditional	Of wich: STS	Synthetic	Subtotal	Traditional	Of wich: STS	Synthetic	Subtotal
Retail (total)- of which	**269**	**269**	**932**	**1,200**	**-**	**-**	**-**	**-**	**411**	**73**	**-**	**411**
Residential mortgage	-	-	-	-	-	-	-	-	337	-	-	337
Credit card	-	-	-	-	-	-	-	-	-	-	-	-
Other retail exposures	269	269	932	1,200	-	-	-	-	73	73	-	73
Re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale (total)- of which	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**54**	**-**	**-**	**54**
Loans to corporates	-	-	-	-	-	-	-	-	-	-	-	-
Commercial mortgage	-	-	-	-	-	-	-	-	-	-	-	-
Lease and receivables	-	-	-	-	-	-	-	-	-	-	-	-
Other wholesale	-	-	-	-	-	-	-	-	54	-	-	54
Re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-

SEC1- Securitisation exposures in the banking book (Million Euros. 12-31-2019)

	Bank acts as originator			Bank acts as sponsor			Bank acts as investor		
	Traditional	Synthetic	Subtotal	Traditional	Synthetic	Subtotal	Traditional	Synthetic	Subtotal
Retail (total)- of which	**788**	**-**	**788**	**-**	**-**	**-**	**474**	**-**	**474**
Residential mortgage	-	-	-	-	-	-	474	-	474
Credit card	-	-	-	-	-	-	-	-	-
Other retail exposures	788	-	788	-	-	-	-	-	-
Re-Securitisation	-	-	-	-	-	-	-	-	-
Wholesale (total)- of which	**65**	**1,447**	**1,511**	**-**	**-**	**-**	**75**	**-**	**75**
Loans to corporates	23	1,447	1,470	-	-	-	44	-	44
Commercial mortgage	-	-	-	-	-	-	1	-	1
Lease and receivables	42	-	42	-	-	-	-	-	-
Other wholesale	-	-	-	-	-	-	30	-	30
Re-Securitisation	-	-	-	-	-	-	-	-	-

The table below shows the amounts in terms of EAD of securitisation positions for the trading book:

Table 50. SEC2 - Securitisation exposures in the trading book (Million euros. 12-31-2020)

	Bank acts as originator				Bank acts as sponsor				Bank acts as investor			
	Traditional	Of Which: STS	Synthetic	Subtotal	Traditional	Of Which: STS	Synthetic	Subtotal	Traditional	Of Which: STS	Synthetic	Subtotal
Retail (total)- of which		**-**	**-**		**-**	**-**	**-**	**-**	**16**	**-**	**-**	**16**
Residential mortgage		-	-		-	-	-	-	16	-	-	16
Credit card	-	-	-	-	-	-	-	-	-	-	-	-
Other retail exposures	-	-	-	-	-	-	-	-	-	-	-	-
Re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale (total)- of which	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Loans to corporates	-	-	-	-	-	-	-	-	-	-	-	-
Commercial mortgage	-	-	-	-	-	-	-	-	-	-	-	-
Lease and receivables	-	-	-	-	-	-	-	-	-	-	-	-
Other wholesale	-	-	-	-	-	-	-	-	-	-	-	-
Re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-

(*) Positions in securitisations posted in the trading portfolio are included.

As of December 31, 2019, the Group had no securitisation exposures in the trading book.

3.2.7.3. Securitisation – Group acting as investor

The table below shows the EAD and RWAs of securitisation positions where the Group acts as investor by type of exposure, tranches and weighting ranges and their corresponding capital requirements as of December 31, 2020 and December 31, 2019.

Table 51. SEC4 - Securitisation exposures in the banking book and associated regulatory capital requirements – bank acting as investor (Million Euros. 12-31-2020)

	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital requirement after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%
Total Exposures	**75**	**308**	**50**	**9**	**7**	**-**	**442**	**-**	**7**	**-**	**204**	**-**	**-**	**-**	**16**	**-**	**-**
Traditional Securitisation	**75**	**308**	**50**	**9**	**7**	**-**	**442**	**-**	**7**	**-**	**204**	**-**	**-**	**-**	**16**	**-**	**-**
Of which Securitisation	75	308	50	9	7	-	442	-	7	-	204	-	-	-	16	-	-
Of which retail underlying	74	269	38	8	6	-	388	-	6	-	175	-	-	-	14	-	-
Of which STS	73	-	-	-	-	-	73	-	-	-	7	-	-	-	1	-	-
Of which wholesale	1	39	12	2		-	54	-		-	29	-	-	-	2	-	-
Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Synthetic Securitisation	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Of which Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
De la cual, preferente																	
De la cual, no preferente																	

* Securitisations with a risk weighting of 1250% are deducted from own funds, as explained in section m) of chapter 2.1 of this report.

SEC4 - Securitisation exposures in the banking book and associated regulatory capital requirements – bank acting as investor (Million Euros. 12-31-2019)

	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital requirement after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%
Total Exposures	**395**	**120**	**5**	**5**	**25**	**411**	**-**	**113**	**25**	**38**	**-**	**60**	**1**	**3**	**-**	**5**	**-**
Traditional Securitisation	**395**	**120**	**5**	**5**	**25**	**411**	**-**	**113**	**25**	**38**	**-**	**60**	**1**	**3**	**-**	**5**	**-**
Of which Securitisation	395	120	5	5	25	411	-	113	25	38	-	60	1	3	-	5	-
Of which retail underlying	388	52	5	5	25	380	-	69	25	30	-	39	1	2	-	3	-
Of which wholesale	6	68	-	-	-	31	-	44	-	8	-	21	-	1	-	2	-
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Synthetic Securitisation	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Of which Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Securitisations with a risk weighting of 1250% are deducted from own funds, as explained in section m) of chapter 2.1 of this report.

3.2.7.4. Securitisation – Group acting as originator

3.2.7.4.1. Rating agencies used

The external credit assessment institutions (ECAI) involved in the rating of those securitisations originated by the Group which fulfill the criteria of risk transfer and falling within the securitisation solvency framework are, generally, Fitch, Moody's, S&P, DBRS and ARC Rating, S.A. The types of securitisation exposure for which each agency is used are, with no differentiation between the different agencies, all the asset types that tend to be used as residential mortgage loans to Corporates and SMEs, consumer finance and autos and leasing.

In all the securitisation funds, the agencies have assessed the risk of the entire issuance structure:

- Awarding ratings to all bond tranches.
- Establishing the volume of the credit enhancement.
- Establishing the necessary triggers (early termination of the restitution period, pro-rata depreciation of AAA classes, pro-rata depreciation of series subordinated to AAA and depreciation of the reserve fund, amongst others).

For each issue, in addition to the initial rating, the agencies carry out regular quarterly monitoring.

3.2.7.4.2. Positions in securitisation originated by the Group

The table below shows the EAD and RWAs of securitisation positions originated by the Group broken down by type of exposure, tranches and weighting ranges and their corresponding capital requirements as of December 31, 2020 and December 31, 2019.

Table 52. SEC3 - Securitisation exposures in the banking book and associated regulatory capital requirements – bank acting as originator or as sponsor (Million Euros. 12-31-2020)

	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital requirement after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%
Total Exposures	1,175	-	-	3	22	1,178	-	-	22	143	-	-	-	11	-	-	-
Traditional Securitisation	264	-	-	3	2	267	-	-	2	52	-	-	-	4	-	-	-
Of which Securitisation	264	-	-	3	2	267	-	-	2	52	-	-	-	4	-	-	-
Of which retail underlying	264	-	-	3	2	267	-	-	2	52	-	-	-	4	-	-	-
Of which STS	264	-	-	3	2	267	-	-	2	52	-	-	-	4	-	-	-
Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Synthetic Securitisation	911	-	-	-	21	911	-	-	21	91	-	-	-	7	-	-	-
Of which Securitisation	911	-	-	-	21	911	-	-	21	91	-	-	-	7	-	-	-
Of which retail underlying	911	-	-	-	21	911	-	-	21	91	-	-	-	7	-	-	-
Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(*) Securitisations with a risk weighting of 1250% are deducted from own funds, as explained in section m) of chapter 2.1 of this report.

SEC3 - Securitisation exposures in the banking book and associated regulatory capital requirements – bank acting as originator or as sponsor (Million Euros. 12-31-2019)

	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital requirement after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA & SEC-IAA	SEC-SA	1250%
Total Exposures	2,150	33	-	1	116	785	1,398	-	116	86	98	-	634	7	-	-	51
Traditional Securitisation	752	33	-	1	67	785	-	-	67	86	-	-	24	7	-	-	2
Of which Securitisation	752	33	-	1	67	785	-	-	67	86	-	-	24	7	-	-	2
Of which retail underlying	752	33	-	1	3	785	-	-	3	86	-	-	-	7	-	-	-
Of which wholesale	-	-	-	-	65	-	-	-	65	-	-	-	24	-	-	-	2
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Synthetic Securitisation	1,398	-	-	-	49	-	1,398	-	49	-	98	-	610	-	-	-	49
Of which Securitisation	1,398	-	-	-	49	-	1,398	-	49	-	-	-	610	-	-	-	49
Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which wholesale	1,398	-	-	-	49	-	1,398	-	49	-	98	-	610	-	-	-	49
Of which re-Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(*) Securitisations with a risk weighting of 1250% are deducted from own funds, as explained in section m) of chapter 2.1 of this report.

3.2.7.4.3. Breakdown of securitised positions by type of asset

The table below shows the outstanding amount, non-performing exposures and impairment losses recognised in the period by underlying assets of originated securitisation operations which meet the risk transfer criteria, broken down by asset type as of December 31, 2020 and December 31, 2019.

Table 53. Breakdown of securitised balances by type of asset (Million Euros. 12-31-2020)

Type of asset	Outstanding amount	Of which: Non-performing Exposures	Total impairment losses for the period
Commercial and residential mortgages	-	-	-
Credit cards	-	-	-
Financial leasing	-	-	-
Lending to corporates and SMEs	1,001	-	(13)
Consumer finance	557	0	(20)
Receivables	-	-	-
Securitisation balances	-	-	-
Others	-	-	-
Total	1,558	0	(33)

Breakdown of securitised balances by type of asset (Million Euros. 12-31-2019)

Type of asset	Outstanding amount	Of which: Non-performing Exposures	Total impairment losses for the period
Commercial and residential mortgages	-	-	-
Credit cards	-	-	-
Financial leasing	25	2	(2)
Lending to corporates and SMEs	1,350	13	(0)
Consumer finance	736	12	(12)
Receivables	-	-	-
Securitisation balances	-	-	-
Others	-	-	-
Total	2,110	27	(14)

The table below shows the outstanding balance corresponding to the underlying assets of securitisation originated by the Group, which do not meet the risk transfer criteria, and which, therefore, are not included in the securitisation framework, but rather for which the capital calculation of the exposure is carried out as if it had not been securitised:

Table 54. Outstanding balance corresponding to the underlying assets of the Group's originated securitisations, in which risk transfer criteria are not fulfilled (Million Euros)

	Outstanding amount	
Type of asset	2020	2019
Commercial and residential mortgages	23,988	26,058
Credit cards	-	-
Financial leasing	1,955	-
Lending to corporates and SMEs	20	25
Consumer finance	2,749	3,483
Receivables	-	-
Securitisation balances	-	-
Mortgage-covered bonds	-	-
Others	-	-
Total	28,711	29,567

3.2.8. Hedging and risk reduction policies. Supervision strategies and processes

Maximum exposure to credit risk may be reduced by the existence of real guarantees, credit improvements and other actions that mitigate the Group's exposure. The Group applies a credit risk hedging and mitigation policy derived from its understanfing of the banking business focused on relationship banking.

The existence of guarantees could be a necessary but not sufficient instrument for accepting risk, as the assumption of risk by the Group requires the verification of the debtor's capacity for repayment, or that the debtor can generate sufficient resources to reduce the risk incurred under the agreed terms.

For further details on the hedging in the Group's credit risk policy and its typology, see Note 7.2.3 of the Consolidated Financial Statements of BBVA Group.

3.2.9. Information on credit risk mitigation techniques

3.2.9.1. Hedging based on on-balance sheet and off-balance sheet netting

Within the limits established by the netting rules in each operating country, the Group negotiates with its customers the assignment of the derivatives business to master agreements (e.g., ISDA or CMOF) by including the netting of off-balance sheet transactions.

The specific clauses of each agreement determine the transactions subject to netting.

The mitigation of counterparty risk exposure stemming from the use of mitigation techniques (netting plus the use of collateral agreements) leads to a reduction in overall exposure (mark to market plus add-on).

As pointed out above, financial assets and liabilities may be netted in certain cases. In particular, they are presented for a net amount on the consolidated balance sheet only when the Group's entities satisfy the provisions of IAS 32-Paragraph 42, so they have both the legal right to net recognised amounts, and the intention of settling the net amount or of realizing the asset and simultaneously paying the liability.

3.2.9.2. Hedging based on collateral

3.2.9.2.1. Management and valuation policies and procedures

The procedures for management and valuation of collateral are included in the Specific Collateral Rules, or in the Policies and Procedures for Retail and Wholesale Credit Risk.

These Policies and Procedures lay down the basic principles of credit risk management, which includes the management of the collateral assigned in transactions with customers.

Accordingly, the risk management model jointly values the existence of a suitable cash flow generation by the debtor that enables them to service the debt, together with the existence of suitable and sufficient guarantees that ensure the recovery of the credit when the debtor's circumstances render them unable to meet their obligations.

The valuation of collaterals is carried out in a rigorous and prudent manner, with the necessary information to determine it and with extreme caution in the use of appraisal values and any other type of valuation by independent experts. At the time of granting credit, unless local regulations provide for a shorter term, individual appraisals / independent expert appraisals must be available for a maximum age of one year in new origination proposals or that imply an increase in the amount over the existing risk; and three years in proposals on existing risk such as subrogations, forbearance, financing of assets on the group's balance sheet, etc.

The milestones under which the valuations of the collaterals must be updated in accordance with local regulation are established under these prudential principles.

Random or rotating case assignment processes must be established to ensure the independence in the activity of the professionals or companies in charge of the appraisal with respect to the credit originating units. The valuation of non-real estate guarantees will also be carried out considering the general principles of prudence and rigor. Similarly, the independence and objectivity of the valuations is a critical factor that must be guaranteed through the use of external sources or the value contrast with them. Given the heterogeneity of this type of guarantees, in general the validity of the valuations must be ensured through documentation (for example, pro-forma invoices for movable property, certificates of deposits) or through consultation processes of market values (eg in securities accounts, investment funds).

With respect to the entities that carry out the valuation of the collateral, principles are in place in accordance with local regulations that govern the level of customer loyalty and dependence on the Group, along with related processes. These valuations will be updated by statistical methods, indices or appraisals of goods, consultation of internal and external sources, etc. which shall be carried out under the generally accepted standards in each market and in accordance with local regulations.

For the validation of the collaterals, the Legal Services, support in the formalisation process ensuring that the requirements are met so that the guarantees are duly established in the corresponding jurisdiction. The guarantees are required to be included in the corresponding policies, duly guarded and registered in the official formats and bodies established, in order to fully preserve their recovery effectiveness. In general, these policies must include the general circumstances of the guarantees, the description of the assets that act as collateral, the obligations and rights of the parties involved and the related insurance. In the wholesale sphere, the possibility of carrying out a due diligence will be considered when the risk or complexity of the operation so requires.

3.2.9.2.2. Types of collateral

As collateral for the purpose of calculating bank capital, the Group uses the hedging established in the solvency regulations. The following are the main types of collateral available in the Group:

- *Mortgage Guarantees*: The collateral is the property upon which the loan is arranged.
- *Financial guarantees:* Their object is any one of the following financial assets, as per articles 197 and 198 of the solvency regulation.
  - Cash deposits, deposit certificates or similar instruments.
  - Debt securities issued for the different categories.
  - Shares or convertible bonds.
- *Other goods and rights used as a real collateral:* The following property and rights are considered acceptable as collateral as per Article 200 of the solvency regulation.
  - Cash deposits, deposit certificates or similar instruments held in third-party institutions other than the lending credit institution, when these are pledged in favor of the latter.
  - Life insurance policies pledged in favor of the lending credit institution.
  - Debt securities issued by other institutions, provided that these securities are to be repurchased at a pre-set price by the issuing institutions at the request of the holder of the securities.

3.2.9.3. Hedging based on personal guarantees

According to the solvency regulations, unfunded credit protection consists of personal guarantees, including those arising from credit insurance, that have been granted by the providers of protection defined in Articles 201 and 202 of the solvency regulation.

In the category of Retail exposure under the advanced measurement approach, unfunded credit protection impacts the PD and does not reduce the amount of the credit risk in EAD.

In line with the EBA standards published in June 2020 (EBA/ITS/2020/04), the following table shows the book value of secured and unsecured exposures, including all guarantees recognised for accounting purposes, regardless of their use for capital purposes. The data for December 2019 is also shown for comparative purposes:

Table 55. EU CR3 - CRM techniques – overview (Million Euros. 12-31-2020)

	Exposures unsecured - carrying amount	Exposures secured - Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees[1]	Exposures secured by credit derivatives
Total Loans	239,644	163,879	116,867	47,012	-
Total debt securities	84,786	-	-	-	-
Total exposures	**324,430**	**163,879**	**116,867**	**47,012**	**-**
Of which: defaulted	**10,552**	**4,152**	**3,577**	**575**	**-**

[1] Excluding personal guarantees (unfunded credit protection which impacts on the PD but not in EAD.

EU CR3 - CRM techniques – overview (Million Euros. 12-31-2019)

	Exposures unsecured - carrying amount	Exposures secured - Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees[1]	Exposures secured by credit derivatives
Total Loans	238,603	211,736	152,341	59,395	-
Total debt securities	77,568	-	-	-	-
Total exposures	**316,171**	**211,736**	**152,341**	**59,395**	**-**
Of which: defaulted	**10,858**	**5,132**	**4,590**	**542**	**-**

[1] Excluding personal guarantees (unfunded credit protection which impacts on the PD but not in EAD.

3.2.9.4. Risk concentration

BBVA has established the measurement, monitoring and reporting criteria for the analysis of large credit exposures that could represent a concentration risk, with the aim of ensuring their alignment with the risk appetite framework defined in the Group.

In particular, measurement and monitoring criteria are established for large exposures at the level of individual concentrations, concentrations of retail portfolios, wholesale sectors and geographies.

A quarterly measurement and monitoring process has been established for reviewing concentration risk.

The main measures to prevent risk concentration in BBVA are:

- At both the Group level and the subsidiaries belonging to the banking group, the information of customers (groups) that hold the largest exposures (greater than 10% of fully loaded CET1; in the subsidiaries their level of own funds are used) is available. If a customer presents a concentration that exceeds the thresholds, the reasonableness of maintaining this exposure must be justified, or the measures to reduce the exposure be explained (for example, cancellation of risk) in writing every year.

- As an additional support to management, the portfolio concentration is calculated using the Herfindahl index. To date, the concentration at Group level is "very low".

- The credit risk mitigation does not have a significant impact on the Group's large exposures, being used solely as a mechanism for mitigating intra-group risk ("standby letters of credit" issued by BBVA in favor of the banking Group's subsidiaries).

- The concentration to different industries is calculated based on the risk aggregation by economic activity. BBVA uses a classification that groups activities into 15 sectors. All of them are under the acceptable thresholds at the Group level.

- In retail portfolios, the analysis is carried out at subportfolio level (mortgages and non-mortgage retail). Both are below the acceptable thresholds at the Group level.

3.2.10. RWA density by geographic areas

A summary of the average weights by exposure category in the main geographic areas where the Group operates is shown below for credit risk and counterparty credit risk. The purpose is getting an overview of the entity's risk profile in terms of RWAs.

Table 56. Breakdown of RWA density by geographical area and approach (12-31-2020)

Category of exposure	RWA density[1][2]						
	Total	Spain[3]	Turkey	Mexico	USA	South America	Other areas[4]
Central governments or central banks	14%	12%	58%	11%	1%	39%	1%
Regional governments or local authorities	32%	16%	100%	63%	20%	83%	20%
Public sector entities	42%	-	98%	52%	20%	63%	19%
Multilateral Development Banks	2%	-	-	-	-	9%	-
International organisations	-	-	-	-	-	-	-
Institutions	46%	23%	70%	81%	22%	56%	31%
Corporates	97%	94%	95%	99%	99%	98%	95%
Retail	70%	63%	68%	71%	74%	73%	72%
Secured by mortgages on immovable property	37%	33%	35%	37%	36%	40%	37%
Exposures in default	113%	111%	112%	101%	126%	109%	108%
Exposures associated with particularly high risk	150%	150%	150%	150%	150%	150%	150%
Covered bonds	-	-	-	-	-	-	-
Short-term claims on institutions and corporate	87%	-	-	-	-	87%	-
Collective investments undertakings	100%	100%	0%	0%	100%	-	100%
Other exposures	59%	80%	46%	50%	75%	34%	18%
Total credit risk by standardised approach	**44%**	**23%**	**77%**	**38%**	**50%**	**65%**	**37%**
Central governments or central banks	6%	71%	96%	49%	1%	18%	9%
Institutions	8%	13%	132%	59%	14%	15%	6%
Corporates	52%	56%	90%	72%	37%	53%	42%
Retail	19%	14%	6%	92%	16%	21%	22%
Total credit risk by IRB approach	**27%**	**27%**	**92%**	**77%**	**22%**	**35%**	**16%**
Securitisation exposures	**21%**	**19%**	**0%**	**0%**	**74%**	**0%**	**0%**
Total credit risk dilution and delivery	**37%**	**25%**	**77%**	**49%**	**45%**	**63%**	**20%**

[1] Does not include equity exposures.

[2] Calculated as RWAs/EAD.

[3] In Spain, the category of Central Governments or Central Banks includes deferred tax assets net of deferred tax liabilities.

[4] Includes all other countries not included on the previous columns. The countries with the greatest exposure in this area are: United Kingdom, France, Italy, Germany and Portugal.

Breakdown of RWA density by geographical area and approach (12-31-2019)

Category of exposure	RWA density[1][2]						
	Total	Spain[3]	Turkey	Mexico	USA	South America	Other areas[4]
Central governments or central banks	20%	19%	48%	11%	2%	53%	4%
Regional governments or local authorities	23%	20%	100%	50%	20%	73%	20%
Public sector entities	44%	-	79%	64%	20%	61%	-
Multilateral Development Banks	5%	-	-	-	-	10%	-
International organisations	-	-	-	-	-	-	-
Institutions	40%	39%	69%	52%	21%	75%	29%
Corporates	97%	78%	98%	91%	100%	100%	97%
Retail	70%	62%	68%	72%	74%	73%	71%
Secured by mortgages on immovable property	38%	32%	43%	36%	36%	42%	36%
Exposures in default	111%	118%	112%	100%	121%	103%	117%
Exposures associated with particularly high risk	150%	150%	150%	150%	150%	150%	150%
Covered bonds	-	-	-	-	-	-	-
Short-term claims on institutions and corporate	96%	-	-	-	-	96%	-
Collective investments undertakings	100%	100%	0%	100%	100%	-	100%
Other exposures	49%	79%	45%	52%	71%	33%	2%
Securitisation exposures	45%	-	-	50%	44%	-	-
Total credit risk by standardised approach	**52%**	**31%**	**74%**	**38%**	**62%**	**71%**	**36%**
Central governments or central banks	5%	5%	1%	10%	2%	9%	7%
Institutions	7%	10%	115%	27%	11%	30%	5%
Corporates	50%	52%	77%	66%	33%	61%	41%
Retail	22%	16%	11%	95%	18%	25%	25%
Securitisation exposures	27%	27%	-	-	-	-	-
Total credit risk by IRB approach	**27%**	**27%**	**60%**	**72%**	**22%**	**38%**	**16%**
Total credit risk dilution and delivery	**40%**	**28%**	**74%**	**48%**	**54%**	**69%**	**20%**

[1] Does not include equity exposures.

[2] Calculated as RWAs/EAD.

[3] In Spain, the category of Central Governments or Central Banks includes deferred tax assets net of deferred tax liabilities.

[4] Includes all other countries not included on the previous columns. The countries with the greatest exposure in this area are: United Kingdom, France, Italy, Germany and Portugal.

3.3. Market Risk

3.3.1. Scope and nature of the market risk measurement and reporting systems

Market risk is the possibility that there may be losses in the value of positions held due to movements in the market variables that affect the valuation of financial products and assets in trading activity.

The main market risks can be classified into the following groups: interest rate risk, equity risk, exchange rate risk, credit spread risk, and volatility risk.

The metrics developed to control and monitor market risk in the Group are aligned with best practices in the market and are implemented consistently across all the local market risk units.

Measurement procedures are established in terms of the possible impact of negative market conditions on the trading book of the Group's Global Markets units, both under ordinary circumstances and in stress situations.

For more information on market risk governance, see Note 7.3.1 of the Consolidated Financial Statements of BBVA Group.

In addition, in Chapter 3.3.4 more information about the risk measurement models used in the Group, focused on internal models approved by the supervisor for BBVA S.A. and BBVA Mexico to calculate regulatory capital requirements on trading portfolios is detailed. For the other geographic areas (South America, BBVA Garanti and BBVA USA), the calculation of own funds requirements for trading portfolios is carried out using the standardised approach.

Analysis of the Group's RWA structure showns that 4% corresponds to Market Risk (including structural exchange risk).

3.3.2. Differences in the trading book under accounting and prudential regulation

According to the solvency regulations, trading book shall be made up of all the positions on financial instruments and commodities that the credit institution holds for the purpose of trading or that act as hedging for other elements in this portfolio.

With respect to this portfolio, the rule also refers to the need to establish clearly defined policies and procedures.

For this purpose, regulatory trading book defined by the Group includes the positions managed by the Group's Trading units, for which market risk limits are set and then monitored daily. Moreover, they comply with the other requirements defined in the solvency regulations.

The definition of the financial assets held for trading is included in Note 2.2.1. of the Consolidated Financial Statements of BBVA Group.

3.3.3. Standardised approach

Market risk-weighted assets under the standardised approach (excluding structural exchange rate risk) account for 21% of total market risk-weighted assets.

The amounts in terms of RWAs and market risk capital requirements calculated by standardised approach as of December 31, 2020 and December 31, 2019 are below.

Table 57. EU MR1 - Market risk under the standardised approach (Million Euros. 12-31-2020)

	RWAs	Capital Requirements
Outright Products	**5,183**	**415**
Interest Rate Risk	1,943	155
Equity Risk	264	21
Foreign Exchange Risk	2,966	237
Commodity Risk	10	1
Options	**-**	**-**
Simplified approach	-	-
Delta-plus method	-	-
Scenario approach	-	-
Securitisation	**4**	**0**
Correlation trading portfolio	**1,210**	**97**
Total	**6,397**	**512**

EU MR1 - Market risk under the standardised approach (Million Euros. 12-31-2019)

	APR	Requerimientos de Capital
Outright Products	**6.329**	**506**
Interest Rate Risk	2.461	197
Equity Risk	248	20
Foreign Exchange Risk	3.596	288
Commodity Risk	24	2
Options	**-**	**-**
Simplified approach	-	-
Delta-plus method	-	-
Scenario approach	-	-
Securitisation	**21**	**2**
Correlation trading portfolio	**641**	**51**
Total	**6.991**	**559**

Market risk RWAs under the standardised approach have been reduced over 600 million euros, of which 630 million related to the structural exchange rate risk. The latter is motivated, among others, mainly by the structural position in Turkish lira which has had a strong depreciation (26.7%).

3.3.4. Internal models

3.3.4.1. Scope of application

For the purposes of calculating own funds requirements as approved by the supervisor, the scope of application of the internal market risk model extends to BBVA S.A. and BBVA Mexico trading activity.

As explained in Note 7.3.1 of the Consolidated Financial Statements of BBVA Group, most of the items on the Group's consolidated balance sheet that are subject to market risk are positions whose principal metric used to measure their market risk is VaR.

3.3.4.2. Characteristics of the models used

Measurement procedures are established in terms of the possible impact of negative market conditions on the trading portfolio of the Group's Global Markets units, both under ordinary circumstances and in situations of heightened risk factors.

The standard metric used to measure market risk is Value at Risk ("VaR"), which indicates the maximum loss that may occur in the portfolios at a given confidence level (99%) and time horizon (one day).

This statistic value is widely used in the market and has the advantage of summing up in a single metric the risks inherent to trading activity, taking into account how they are related and providing a prediction of the loss that the trading book could sustain as a result of fluctuations in equity prices, interest rates, foreign exchange rates and credit spreads. The market risk analysis considers various risks, such as credit spread risk, basis risk, as well as volatility and correlation risk.

With respect to the risk measurement models used in the Group, the supervisor has authorised the use of the internal model to determine the regulatory capital requirements deriving from risk positions on the BBVA, S.A. and BBVA Mexico trading book, which together, account for around 72% of the market risk of the Group's trading book market risk.

BBVA uses a single model to calculate the regulatory requirements by risk, taking into account the correlation between the assets and thus recognizing the diversification effect of the portfolios. The model used estimates the VaR in accordance with the "historical simulation" methodology, which involves estimating the profit and loss that would have been incurred in the current portfolio if the changing market conditions that occurred over a given period of time were repeated. Based on this information, it infers the maximum foreseeable loss in the current portfolio with a given level of confidence.

Absolute and relative returns are used in simulating the potential variation of the risk factors, depending on the type of risk factor. Relative returns are used in the case of equity and foreign currency; while absolute returns are used in the case of spreads and interest rates.

The decision on the type of return to apply is made according to the risk factor metric subject to variation. The relative return is used in the case of price risk factors, while for interest-rate risk factors it is absolute returns.

The model has the advantage of accurately reflecting the historical distribution of the market variables and of not requiring any specific distribution assumption. The historical period used in this model is two years.

VaR figures are estimated following two methodologies:

- VaR without smoothing, which awards equal weight to the daily information for the previous two years. This is currently the official methodology for measuring market risk for the purpose of monitoring compliance with risk limits.

- VaR with smoothing, which weighs more recent market information more heavily. This model adjusts the historical information of each market variable to reflect the differences between historical volatility and current volatility. This metric is complementary to the one above.

VaR with smoothing adapts more swiftly to the changes in financial market conditions, whereas VaR without smoothing is, in general, a more stable metric that will tend to exceed VaR with smoothing when the markets show less volatile trends, but be lower when they present upturns in uncertainty.

Furthermore, and following the guidelines established by Spanish and European regulators, BBVA incorporates additional VaR metrics to fulfill the regulatory requirements issued by the supervisor for the purpose of calculating bank capital for the trading book. Specifically, the new measures incorporated in the Group since December 2011 (which follow the guidelines set out by Basel 2.5) are as follows:

- VaR: In regulatory terms, the charge for VaR Stress is added to the charge for VaR and the sum of both (VaR and VaR Stress) is calculated. This quantifies the losses associated with movements in the risk factors inherent in market operations (interest rate, FX, RV, credit, etc.).

  Both VaR and VaR Stress are rescaled by a regulatory multiplier set at three and by the square root of ten to calculate the capital charge.

- Specific Risk: Incremental Risk Capital (IRC). Quantification of the risk of default and the risk of a downgrade in

the credit rating of the positions on bonds and credit derivatives held in the portfolio. The specific risk capital for IRC is a charge exclusively for those geographical areas with an approved internal model (BBVA S.A. and BBVA Mexico).

The capital charge is determined based on the associated losses (at 99.9% over a time horizon of 1 year under the assumption of constant risk) resulting from the rating migration and/or default of the asset's issuer. Also included is the price risk in sovereign positions for the indicated items.

The calculation methodology is based on the Monte Carlo simulation of the impact of defaults and rating transitions on the portfolio subject to incremental risk capital. The model defining the transition and default process of a counterparty is based on the changes in a counterparty's credit quality. Under a one-factor Merton model, which underlies the Basel or Creditmetrics model, this credit quality will correspond to the value of the issuer's assets, depending on a systemic factor that is common to all the issuers, and an idiosyncratic factor specific to each.

All that is needed to simulate the rating and default transition process for the issuers is to simulate the systemic factor and the idiosyncratic component. Once the underlying variable is available, the final rating can be obtained. The individual credit quality simulation of the issuers allows losses due to systemic risk and idiosyncratic risk to be obtained.

Transition matrices

The transition matrix used for calculation is estimated based on the external information about the rating transitions provided by the rating agencies. Specifically, the information provided by the Standard & Poors agency is used.

The appropriateness of using information on external transitions is justified by:

- The internal ratings for the Sovereign, Emerging Sovereign Country, Financial Institution and Corporate segments (which constitute the core positions subject to incremental risk capital) are aligned with the external ratings. By way of example, the internal rating system for financial institutions is based on an algorithm that uses external ratings.
- The rating agencies provide sufficient historical information to cover a complete economic cycle (rating transition information is available dating back to the 1981 financial year) and obtain a long-term transition matrix in the same way that long-term probabilities of default are required for the calculation of the regulatory capital for credit risk in the banking book.

This depth level of historical information is not available for the internal rating systems.

Although external data are used for determining the transitions between ratings, to establish the default, the probabilities used are assigned by the BBVA master scale, which ensures consistency with the probabilities used for the calculations of capital in the Banking Book.

The transition matrix is recalibrated every year, based on information on transitions provided by Standard & Poor's. A procedure has been defined to readjust the transitions in accordance with the probability of default assigned by the master scale.

Liquidity horizons

The calculation of incremental risk capital used by BBVA explicitly includes the use of positions with a hypothesis of a constant level of risk and quarterly liquidity horizons of less than one year. The average liquidity horizon is in the range of 3-6 months.

The establishment of liquidity horizons follows the guidelines/criteria established by Basel in its guidelines for computing capital for incremental risk.

First, a criterion has been used of capacity for managing positions through liquid instruments that allow their inherent risk to be hedged. The main instrument for hedging the price risk for rating transitions and defaults is the Credit Default Swap (CDS). The existence of this hedging instrument serves as a justification for considering a short term liquidity horizon.

However, in addition to considering the existence of a liquid CDS, a distinction has to be made according to the issuer's rating (this factor is also mentioned in the aforementioned guidelines). Specifically, between investment grade issuers or those with a rating of BBB- or above, and issuers below this limit.

According to these criteria, the issuers are mapped to standard liquidity horizons of 3, 6 or 12 months.

Correlation

The calculation methodology is based on a single-factor model, in which there is one factor common to all the counterparties. The coefficient of the model is determined by the correlation curves established by Basel for corporates, financial institutions and sovereigns based on the probability of default.

The use of the Basel correlation curve ensures consistency with the calculation of regulatory capital under the IRB approach for the positions on the banking book.

- Specific Risk: securitisation and correlation portfolios. Capital charge for securitisation and for the correlation portfolio for potential losses associated with the rating level of a given credit structure (rating). Both are calculated using the standardised approach. The perimeter of the correlation portfolios is referred to First-to-default (FTD) type market operations and/or market CDO tranches, and only for positions with an active market and hedging capacity.

Validity tests are performed periodically on the risk measurement models used by the Group. They estimate the maximum loss that could have been incurred in the positions assessed with a given level of probability (backtesting), as well as measurements of the impact of extreme market events on the risk positions held (stress testing).

Backtesting is performed at the trading floor level as an additional control measure in order to carry out a more specific monitoring of the validity of the measurement models.

The current structure for market risk management includes monitoring market risk limits, which consists of a system of limits based on Value at Risk (VaR), economic capital (based on VaR measurements) and VaR sub-limits, as well as stop-loss limits for each of the Group's business units. The global limits are approved by the Executive Committee on an annual basis, once they have been analysed by the Global Risk Management Committee (GRMC). This limits structure is developed by identifying specific risks by type, trading activity and trading floor. The market risk unit also maintains consistency between limits. The control structure in place is supplemented by limits on loss and a system of alert signals to anticipate the effects of adverse situations in terms of risk and/or result.

The review of the quality of the inputs used by the evaluation processes is based on checking the data against other sources of information accepted as standard. These checks detect errors in the historical series such as repetitions, data outside the range, missing data, etc. As well as these periodic checks of the historical data loaded, the daily data that feed these series are subject to a data quality process to guarantee their integrity.

The choice of proxies is based on the correlation detected between the performance of the factor to be entered and the proxy factor. A Simple Linear Regression model is used, selecting the proxy that best represents the determination coefficient (R2) within the whole period for which the performance of both series is available. Next, the performance of the factor on the necessary dates is reconstructed, using the beta parameter estimated in the simple linear regression.

3.3.4.2.1. Valuation methodology and description of the independent price verification process

Fair value is the price that would be received for selling an asset or paid for transferring a liability in an orderly transaction between market participants. It is therefore a market-based measurement, and not specific to each entity.

The fair value is reached without making any deduction in transaction costs that might be incurred due to sale or disposal by other means.

At BBVA SA, BBVA Mexico, BBVA USA and Garanti BBVA, full revaluation is used for most financial products. For the other geographies, approximations are used through sensitivities to risk factors

For Further information about valuation methodology and fair value levels, see Note 8 of Consolidated Financial Statements.

In addition, the Group calculates Prudent Valuation Adjustments (PVA) for all instruments valued at fair value. PVA is an additional or conservative adjustment to the fair value that allows a more prudent assessment to be obtained by considering sources of risks that exist in the calculation of the fair value (uncertainty inputs, risk model, etc). A detailed breakdown of the method for calculating PVAs for the Group is below:

Table 58. EU PV1 - Prudent Valuation Adjustments (Million Euros. 12-31-2020)

	Equity	Interest Rates	FX	Credit	Commodities	Unearned credit spreads	Investment and funding costs	Total	Of which: in the trading book	Of which: in the banking book
Close-out uncertainty, of which:	73	366	28	12	-	5	-	205	101	104
Mid-market value	28	183	11	2	-	1	-	77	39	37
Close-out cost	30	136	17	10	-	4	-	67	47	20
Concentration	15	46	-	-	-	-	-	62	15	47
Early termination	-	1	-	-	-	-	-	1	1	-
Model risk	16	3	-	3	-	-	2	8	3	5
Operational risk	2	11	1	1	-	-	-	14	9	6
Future administrative costs	-	4	-	-	-	-	-	4	4	-
Total Adjustment	**91**	**384**	**29**	**16**	**-**	**5**	**2**	**233**	**118**	**115**

EU PV1 - Prudent Valuation Adjustments (Million Euros. 12-31-2019)

	Equity	Interest Rates	FX	Credit	Commodities	Unearned credit spreads	Investment and funding costs	Total	Of which: in the trading book	Of which: in the banking book
Close-out uncertainty, of which:	106	301	30	12	-	18	-	274	121	153
Mid-market value	27	146	9	7	-	7	-	98	50	48
Close-out cost	37	115	21	5	-	10	-	94	63	32
Concentration	42	39	-	-	-	-	-	82	8	73
Early termination	-	1	-	-	-	-	-	1	1	-
Model risk	15	4	-	1	-	11	4	17	10	8
Operational risk	-	7	-	-	-	-	-	7	0	6
Future administrative costs	-	3	-	-	-	-	-	3	3	-
Total Adjustment	**121**	**315**	**30**	**13**	**-**	**28**	**4**	**302**	**135**	**136**

3.3.4.2.2. Market risk evolution in 2020

During 2020, the average VaR stood at 27 million euros, levels higher than in the 2019 financial year, with a maximum level in the year reached on May 14, when rose to 39 million euros.

VaR without smoothing by risk factor for the Group is below:

Chart 19. Trading book. Trends in VaR without smoothing (Million euros)

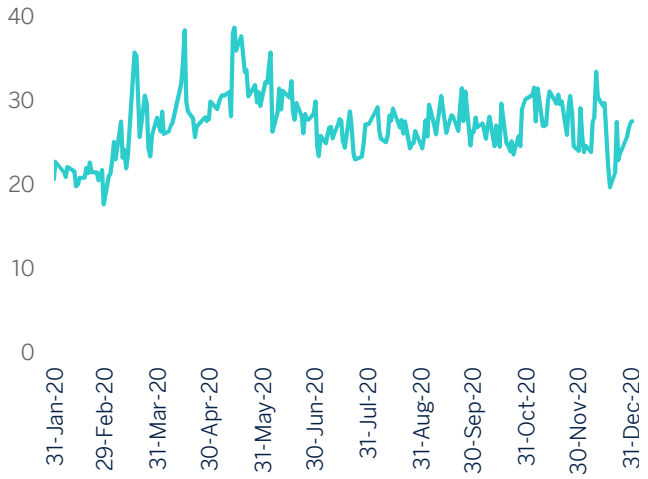


Table 59. Trading Book. VaR without smoothing by risk factors (Million Euros)

VaR by risk factors	Interest-rate and spread risk	Exchange - rate risk	Equity risk	Vega / correlation risk	Diversification effect[1]	Total
December 2020						
Average VaR for the period	29	12	4	11	(28)	27
Maximum VaR for the period	39	20	10	20	(14)	39
Minimum VaR for the period	20	3	1	6	(39)	18
VaR at the end of the period	**32**	**12**	**2**	**11**	**(29)**	**28**
December 2019						
Average VaR for the period	21	6	4	9	(20)	19
Maximum VaR for the period	28	6	3	9	(21)	25
Minimum VaR for the period	13	5	5	9	(18)	14
VaR at the end of the period	**24**	**5**	**5**	**8**	**(22)**	**20**

[1] The diversification effect is the difference between the sum of the average individual risk factors and the total VaR figure that includes the implied correlation between all the variables and scenarios used in the measurement.

By type of market risk assumed by the Group's trading portfolio, the main risk factor in the Group continues to be that linked to interest rates, with a weight of 56% of the total at the end of 2020 (this figure includes the spread risk), dropping the relative weight compared to 2019 end (58%). On the other hand, the foreign exchange risk represents 22%, slightly increasing the proportion with respect to 2019 (13%), while that of equity and that of volatility and correlation decrease, presenting a weight of 22% at the end of 2020 (vs. 29% at year-end 2019).

In accordance with Article 455 d) and e) of the CRR, corresponding to the breakdown of information on internal market risk models, the elements comprising the own funds requirements referred to in Articles 364 and 365 of the CRR are presented below.

Table 60. EU-MR3 - IMA values for trading portfolios (Million Euros)

IMA values for trading portfolios (2020)[1][2]		
VaR (10 day 99%)		
1	Maximum value	91
2	Average value	61
3	Minimum value	35
4	Period value	63
SVaR (10 day 99%)		
5	Maximum value	163
6	Average value	109
7	Minimum value	59
8	Period value	127
Incremental Risk Charge (99.9%)		
9	Maximum value	165
10	Average value	127
11	Minimum value	84
12	Period value	104

[1] Data related to the second half of 2020.

[2] The amounts reported do not include additional capital charges especifically required by the supervisor, i.e. multiplier factor.

IMA values for trading portfolios (2019)[1][2]		
VaR (10 day 99%)		
1	Maximum value	90
2	Average value	53
3	Minimum value	34
4	Period value	52
SVaR (10 day 99%)		
5	Maximum value	203
6	Average value	131
7	Minimum value	82
8	Period value	170
Incremental Risk Charge (99.9%)		
9	Maximum value	170
10	Average value	143
11	Minimum value	108
12	Period value	115

[1] Data related to the second half of 2019.

[2] The amounts reported do not include additional capital charges especifically required by the supervisor, i.e. multiplier factor.

Table 61. EU MR2-A - Market risk under the IMA (Million Euros. 12-31-2020)

	RWAs	Capital Requirements
VaR	**2,276**	**182**
Previous day's VaR	793	63
Average of the daily VaR on each of the preceding sixty business days (VaRavg) x multiplication factor	2,276	182
SVaR	**3,640**	**291**
Latest SVaR	1,587	127
Average of the SVaR during the preceding sixty business days (sVaRavg) x multiplication factor (mc)	3,640	291
Incremental risk charge - IRC	**2,461**	**197**
Most recent IRC value	2,076	166
Average of the IRC number over the preceding 12 weeks	2,461	197
Comprehensive Risk Measure- CRM	**-**	**-**
Most recent risk number for the correlation trading portfolio over the preceding 12 weeks	-	-
Average of the risk number for the correlation trading portfolio over the preceding 12 weeks	-	-
8% of the own funds requirement in SA on most recent risk number for the correlation trading portfolio	-	-
Others	**-**	**-**
Total	**8,376**	**670**

EU MR2-A - Market risk under the IMA (Million Euros. 12-31-2019)

	RWAs	Capital Requirements
VaR	**2,095**	**168**
Previous day's VaR	653	52
Average of the daily VaR on each of the preceding sixty business days (VaRavg) x multiplication factor	2,095	168
SVaR	**4,680**	**374**
Latest SVaR	2,126	170
Average of the SVaR during the preceding sixty business days (sVaRavg) x multiplication factor (mc)	4,680	374
Incremental risk charge - IRC	**2,301**	**184**
Most recent IRC value	2,301	184
Average of the IRC number over the preceding 13 weeks	1,934	155
Comprehensive Risk Measure- CRM	**-**	**-**
Most recent risk number for the correlation trading portfolio over the preceding 13 weeks	-	-
Average of the risk number for the correlation trading portfolio over the preceding 13 weeks	-	-
8% of the own funds requirement in SA on most recent risk number for the correlation trading portfolio	-	-
Others	**-**	**-**
Total	**9,075**	**726**

The main changes in the market RWAs, calculated using the method based on internal models are below:

Table 62. EU MR2-B - RWA flow statements of market risk exposures under the IMA (Million Euros)

	VaR	SVaR	IRC	CRM	Other	Total RWAs	Total Capital Requirements
RWAs September, 2020	**2,355**	**4,386**	**3,404**	**-**	**-**	**10,145**	**812**
Regulatory adjustments	1,617	3,132	-	-	-	4,749	380
RWAs as of September 30, 2020	**738**	**1,254**	**3,404**	**-**	**-**	**5,396**	**432**
Level risk variation	(130)	(901)	(1,066)	-	-	(2,098)	(168)
Model updates	-	-	-	-	-	-	-
Methodology and policy	-	-	-	-	-	-	-
Acquisitions and disposals	-	-	-	-	-	-	-
Foreign Exchange movements	51	155	123	-	-	329	26
Other	-	-	-	-	-	-	-
RWAs as of December 31, 2020	**793**	**1,587**	**2,076**	**-**	**-**	**4,456**	**356**
Regulatory adjustments	1,483	2,052	385	-	-	3,920	314
RWAs December, 2020	**2,276**	**3,640**	**2,461**	**-**	**-**	**8,376**	**670**

During the last quarter of 2020, the own funds requirements for market risk under the internal model were affected mainly by the fall in capital requirements for incremental risk capital (IRC) at BBVA S.A. and BBVA Mexico as a result of the reduction in positions and the fall in capital requirements due to stressed VaR at BBVA Mexico.

- Capital requirements have fallen by 17% at BBVA S.A. compared to September 2020, down to 388 million. The capital charge for IRC has fallen by 41% compared to the previous quarter as a result of reduced positions.

- Capital requirements have fallen by 24% at BBVA Mexico compared to September 2020, down to 282 million. The capital charge for SVaR has fallen by 30% compared to the previous quarter due to the exit of higher SVaR and the entry of lower SVaR. The fall in capital requirements for IRC—26% in comparison with the previous quarter—is a result of decreased exposure to sovereign positions in Mexico.

Following the internal model review process in 2019, the IRC component remains subject to the additional surcharge of 1.60.

The full annual series of RWA flow of market risk under the IMA is available in the editable file "Pillar III 2020 – Tables & Annexes".

3.3.4.2.3. Stress testing

All the tasks associated with stress, methodologies, scenarios of market variables or reports are undertaken in coordination with the Group's Risk Areas.

Several different stress-test exercises are performed on the Group's trading portfolios. Both local and global historical scenarios are used, which replicate the behavior of a past extreme event, for example, the collapse of Lehman Brothers or the "Tequila crisis". These stress exercises are supplemented with simulated scenarios which aim to generate scenarios that have a significant impact on the different portfolios, but without being restricted to a specific historical scenario.

Lastly, for certain portfolios or positions, fixed stress test exercises are also prepared that have a significant impact on the market variables that affect those positions.

Historical scenarios

The baseline historical stress scenario in the Group is that of Lehman Brothers, whose sudden collapse in September 2008 had a significant impact on the behavior of financial markets at a global level. The following are the most relevant effects of this historical scenario:

1. Credit shock: reflected mainly in the increase in credit spreads and downgrades of credit ratings.
2. Increased volatility in most financial markets.
3. Liquidity shock in the financial systems, reflected in major fluctuations in interbank curves, particularly in the shortest terms of the euro and dollar curves.

Table 63. Trading Book. Impact on earnings in Lehman scenario (Million Euros)

Impact on earnings in Lehman scenario	12-31-2020	12-31-2019
GM Europe, NY & Asia	(54)	(38)
GM Mexico	(23)	(19)
GM Argentina	(1)	(1)
GM Chile	-	-
GM Colombia	(3)	(3)
GM Peru	(3)	(7)
GM Venezuela	-	-

Simulated scenarios

Unlike the historical scenarios, which are fixed and, thus, do not adapt to the composition of portfolio risk at any given time, the scenario used to perform the economic stress exercises is based on the resampling method. This methodology uses dynamic scenarios that are recalculated regularly according to the main types of risk held in the trading portfolios. A simulation exercise is carried out in a data window that is sufficiently extensive to include different periods of stress (data is taken from January 1, 2008 until the day of assessment), using a resampling of the historical observations. This generates a distribution of profit and loss that allows an analysis of the most extreme events occurring within the selected historical window.

The advantage of this methodology is that the stress period is not pre-established, but rather a function of the portfolio held at any given time; and the large number of simulations (10,000) means that the expected shortfall analysis can include richer information than that available in scenarios included in the VaR calculation.

The main characteristics of this methodology are as follows:

a. The simulations generated respect the data correlation structure.

b. It provides flexibility in terms of including new risk factors.

c. It enables a great deal of variability to be introduced in simulations (which is desirable for considering extreme events).

The impact of the stress tests by simulated scenarios (Stress VaR 95% at 20 days, Expected Shortfall 95% at 20 days and Stress VaR 99% at 1 day) is shown below.

Table 64. Trading Book. Stress resampling (Million Euros)

	Europe	Mexico	Peru	Venezuela	Argentina	Colombia	Turkey	USA
Expected impact	(121)	(69)	(8)	-	(8)	(4)	(8)	(5)

2020	Stress VaR 95 20 D	Expected Shortfall 95 20 D	Stress Period	Stress VaR 1D 99% Resampling
Total				
GM Europe, NY and Asia	(77)	(121)	02-01-2008 - 02-12-2009	(36)
GM Mexico	(51)	(69)	09-05-2008 - 06-05-2010	(15)

3.3.4.2.4. Backtesting

Introduction

The ex-post or Backtesting validation is based on the comparison of the periodic results of the portfolio with the market risk measures from the established measurement system. The validity of a VaR model is particularly dependent on whether the empirical reality of the results does not enter into open contradiction with what is expected in the model. If the observed results were sufficiently adjusted to what was predicted by the model, it would be rated as good, and if the discrepancy were notable, revisions would be required in order to correct possible errors or modifications and to improve quality.

In order to determine whether the results have been sufficiently adjusted to the risk measurements, it is necessary to establish objective criteria, which are specified in a series of validation tests carried out with a given methodology. In establishing the most appropriate methodology, the criteria recommended by Basel have been largely followed as they are considered appropriate.

Validation test

In the comparison between results and risk measurements, a key element that is of interest is the confidence that the losses do not exceed the VaR risk measurements made more than a number of times determined by the level of confidence adopted in the model. The validation test presented below, which focuses on contrasting this aspect, emphasizes that the risk measurement model is underestimating the risk that is actually being borne.

For the establishment of a hypothesis comparison test, we start from the observed results and try to infer whether there is enough evidence to reject the model (the null hypothesis that the trust of the model is established is not met).

In cases where the model functions properly, the VaR measurement indicates that the variation of the value of a portfolio in a given time horizon will not exceed the value obtained in a percentage of times determined by the level of confidence. In other words, the probability of having a loss that is higher than the VaR measurement, what we will call an exception, will be 1%, and the probability that the exception will not occur will be 99%.

GREEN ZONE model acceptance zone	It is characterised as being an area in which there is a high probability of accepting a suitable model and a low probability of accepting an unsuitable model. This is defined by the set for which the accumulated probability of less than 95%, with the null hypothesis proving correct. It covers a number between zero and four exceptions.
YELLOW ZONE ambiguous zone	Possible results for both a suitable and inadequate model. It begins when the accumulated probability is greater than equal to 95% (it must be less than 99.99%), with the null hypothesis proving correct. It covers a number of between five and nine exceptions.
RED ZONE model rejection zone	High probability that the model is unsuitable and unlikely to reject if suitable. It is defined by the fact that the level of significance is less than 0.1% or, which is the same, the accumulated probability is greater than or equal to 99.99%, with the null hypothesis proving correct. It corresponds to a number of exceptions equal to or greater than ten.

To carry out this test it is advisable to have, at least, a one-year historical series of both results and risk estimates on a daily basis.

The criterion used is perfectly adapted to the priority of supervisory, which is to avoid situations where excess risk for which the entity is not prepared jeopardizes its survival. However, the use of risk measurements as a tool for managing positions entails a concern that the risk measurements are adjusted to the real risk on both sides: not only is there concern that the risk is being underestimated, but also that It may be overestimating.

At the close of December 31, 2020, the model is in the green zone of acceptance of the model.

Backtesting results

Regulatory backtesting is made up of two types: Hypothetical Backtesting and Actual Backtesting:

- Hypothetical Backtesting is defined as the contrast of the Hypothetical P&L on the estimated VaR, the day before the performance of said result. Actual Backtesting is defined as the contrast with the Actual P&L on the same estimated VaR, the day before the performance of said result.

- Actual Backtesting was implemented and entered into force on January 1, 2013, as a result of the transposition in the national legal order through the Bank of Spain Circular 4/2011 of November 30, of the CRD III that introduces Basel 2.5 in the European Union. The results that are used for the construction of both types of Backtesting are based on the actual results of the management tools.

According to Article 369 of the CRR, the P&L used in Backtesting should have a sufficient level of granularity in order to be shown at the "top-of-house" level, differentiating between Hypothetical and Actual P&L. In addition to the above, the historical Backtesting series will include a minimum of one year.

Actual P&L

The Actual P&L contains the complete management results, including the intraday operation and the daily and non-daily valuation adjustments, discounting the results of the franchises and commissions of each day and each desk.

The valuation functions and the parameters of the valuation models used in the calculation of the Actual P&L are the same as those used in the calculation of the Economic P&L.

At the close of December 31, 2020, the actual negative P&L did not exceed the VaR within the last 250 top-of-house level observations in BBVA SA thus presenting zero Exceptions in the BBVA SA Actual Backtesting.

At the close of December 31, 2020, the actual negative P&L exceeded three times the VaR within the last 250 top-of-house level observations in BBVA Mexico thus presenting three Exceptions in the BBVA Mexico Actual Backtesting[7] . The origin of these exceptions lies in the spread of the COVID-19 pandemic, together with the fall of oil price, which led to a sharp depreciation of the local currency, a considerable increase in stock market volatility, a break in the correlation between different curves and an abrupt movement of the local interest rate curves.

Hypothetical P&L

The Hypothetical P&L contains the management results without the P&L of the daily activity, it is said, excluding intraday operations, premiums, and commissions. The data is provided by the management systems and broken down by desk, in adherence with the Volcker Rule on desk distribution.

The valuation functions and the parameters assigned to the valuation models used in the calculation of the Hypothetical P&L are the same as those used in the calculation of the Actual P&L.

The P&L figures used in both Backtesting types exclude Credit Valuation Adjustments (CVA), Debt Valuation Adjustments (DVA) and Additional Valuation Adjustments (AVA). As well as any change in value resulting from migrations from rating to default, except those reflected in prices by the market itself, since the changes in value due to migration from rating to default are included in the Counterparty Credit Risk metrics.

8. Joint Supervisory Team allows the exclusion of the exceptions, since they were caused by COVID-19 pandemic, based in CRR article 500c.

At the close of December 31, 2020, the hypothetical negative P&L did not exceed the VaR within the last 250 top-of-house level observations in BBVA SA thus presenting zero exceptions in the BBVA SA Hypothetical Backtesting.

At the close of December 31, 2020, the hypothetical negative P&L exceeded three times the VaR within the last 250 top-of-house level observations in BBVA Mexico thus presenting three exceptions in the BBVA Mexico Hypothetical Backtesting. The origin of these exceptions lies in the spread of the COVID-19 pandemic, together with the fall of oil price, which led to a sharp depreciation of the local currency, a considerable increase in stock market volatility, a break in the correlation between different curves and an abrupt movement of the local interest rate curves.

Perimeter of the backtesting and internal model exceptions

The calculation scope of VaR and P&L (Hypothetical and Actual) is limited to the totality of the Trading Book portfolios of the Global Markets Internal Model of BBVA SA and BBVA Mexico.

All the positions belonging to the Banking Book, the portfolios under the Standardised Approach and the trading activity with Hedge Funds (this activity was excluded from the Internal Model in its original approval) are thus excluded from this scope of application.

It is considered that there is an exception at the Top of House level, when the two following circumstances concur in the same internal model and date:

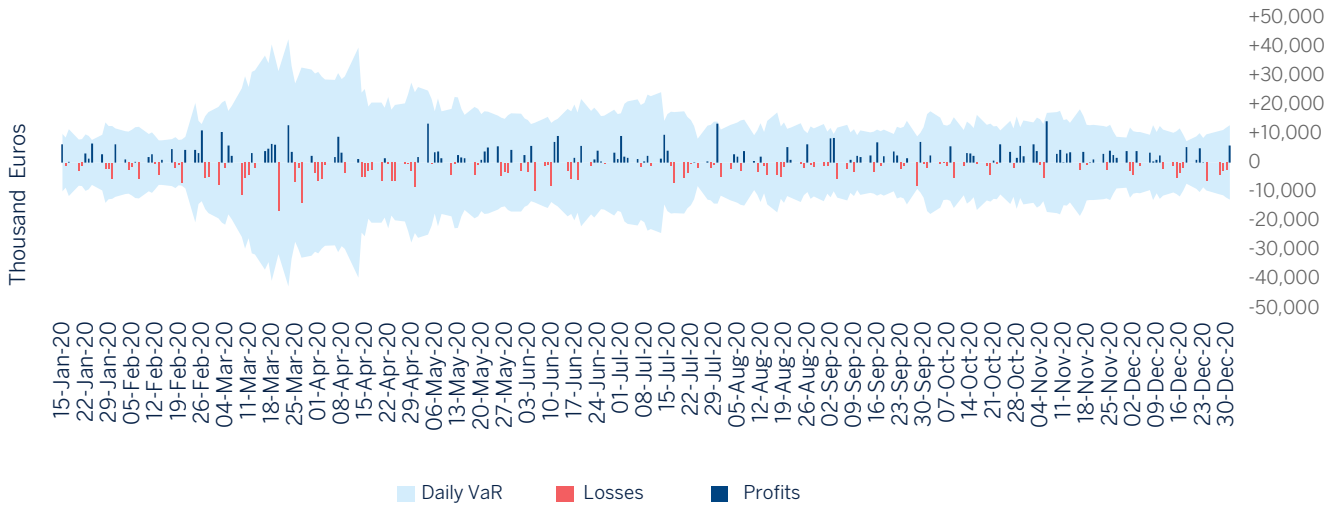
- The Hypothetical P&L and/or the Actual P&L are negative.
- With an amount equal to or greater than the maximum between VaR without smoothing and VaR with smoothing calculated based on the previous day

For the purposes of calculating the number of exceptions of the Regulatory Backtesting, exceptions will only be taken into account within a mobile window of 250 consecutive Business Days at the Top of House level in each respective internal model.

At the close of December 31, 2020, there are no exceptions in Real Backtesting or Hypothetical Backtesting in the last 250 BBVA SA observations[8].

t the close of December 31, 2020, there are three exceptions in Real Backtesting and Hypothetical Backtesting in the last 250 BBVA Mexico observations[9].

Chart 20. Trading book. Market Risk Model Validation for BBVA S.A. Hypothetical Backtesting (EU MR4) (Million Euros)



9. Joint Supervisory Team allows the exclusion of the exceptions, since they were caused by COVID-19 pandemic, based in CRR article 500c.

Chart 21. Trading book. Market Risk Model Validation for BBVA S.A. Real Backtesting (EU MR4) (Million Euros)

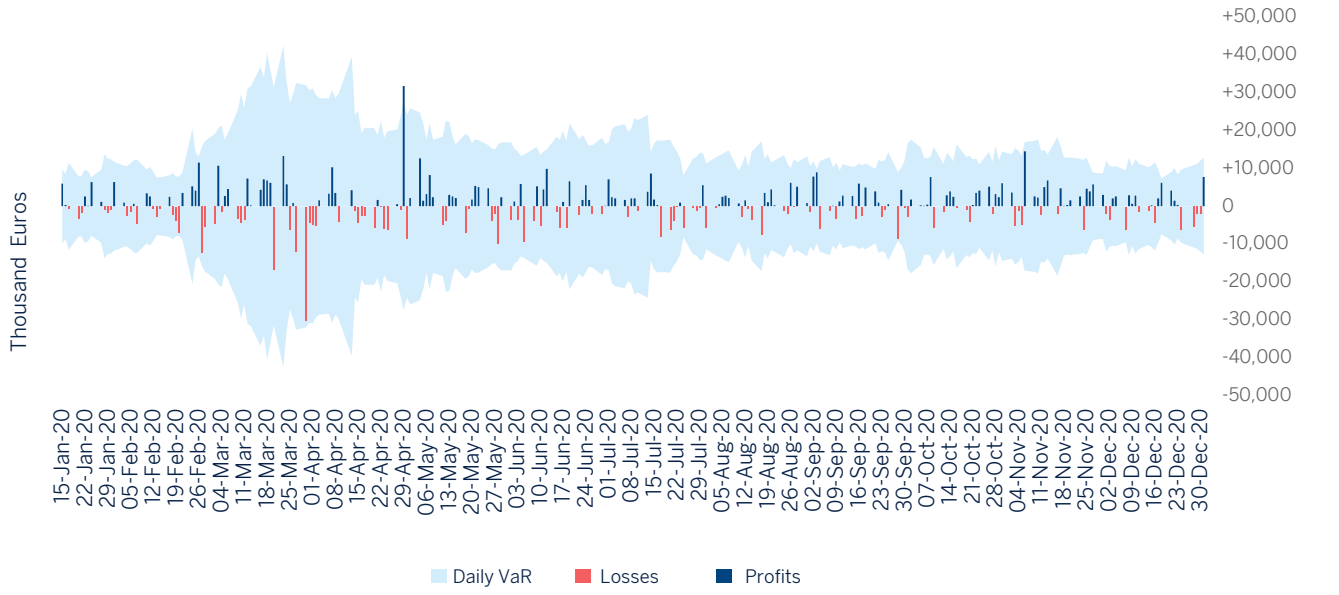


Chart 22. Trading book. Market Risk Model Validation for BBVA Bancomer. Hypothetical Backtesting (EU MR4) (Million Euros)

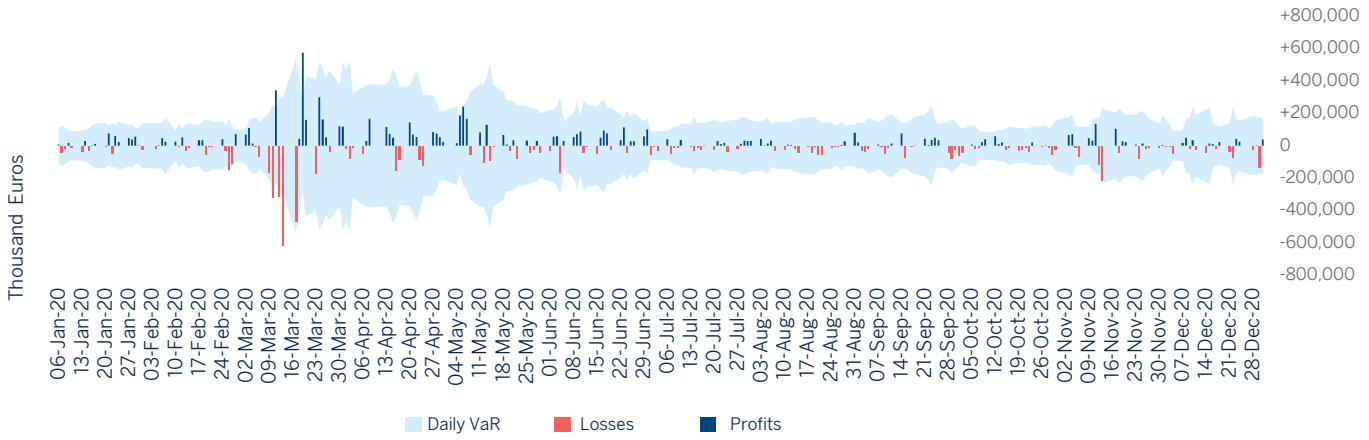
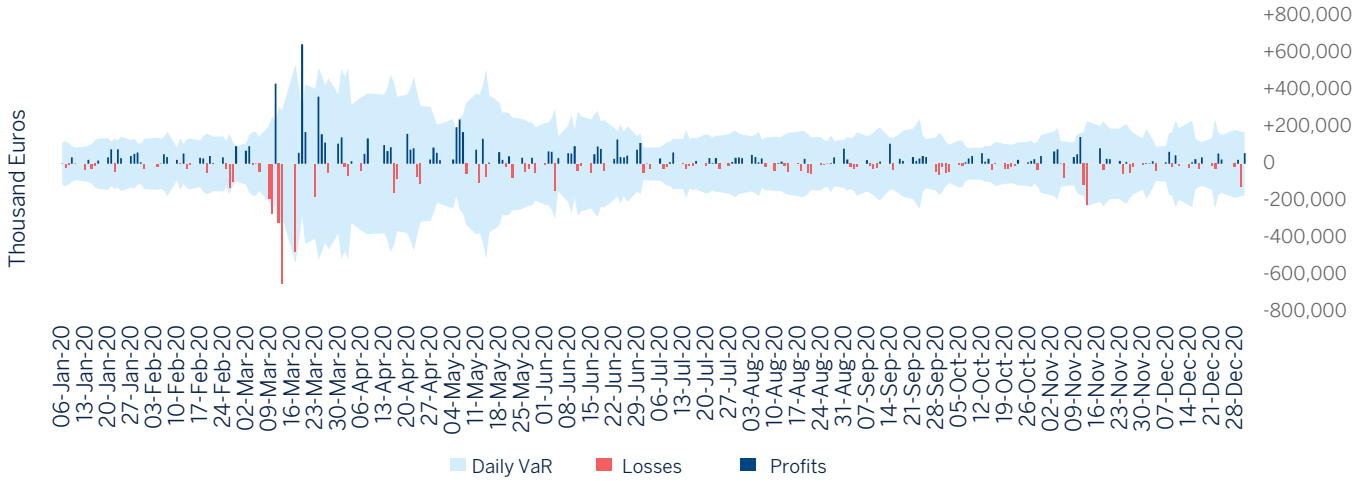


Chart 23. Trading book. Market Risk Model Validation for BBVA Bancomer. Real Backtesting (EU MR4) (Million Euros)



3.3.4.3. Characteristics of the risk management system

The Group has a risk management system in place which is appropriate for the volume of risk managed, complying with the functions set out in the Corporate Policy on Market Risk in Market Activities.

The risk units must have:

- A suitable organisation (means, resources and experience) in line with the nature and complexity of the business.
- Segregation of functions and independence in decision-making.
- Performance under integrity and good governance principles, driving the best practices in the industry and complying with the rules, both internal (policies, procedures) and external (regulation, supervision, guidelines).
- The existence of channels for communication with the relevant corporate bodies at local level according to their corporate governance system, as well as with the Corporate Area.
- All market risk existing in the business units that carry out trading activity must be adequately identified, measured and assessed, and procedures must be in place for its control and mitigation.
- The Global Market Risk Unit (GMRU), as the unit responsible for managing market risk at Group level, must promote the use of objective and uniform metrics for measuring the different types of risks.

3.4. Structural risk

The structural risks are defined, in general terms, as the possibility of sustaining losses due to adverse movements in market risk factors as a result of mismatches in the financial structure of an entity´s balance sheet.

In the Group, the following types of structural risk are defined, according to nature and market factors: Interest rate, exchange rate and equity.

The scope of structural risk in the Group is limited to the banking book, excluding market risk of the trading book, which is clearly defined and separated and makes up the Market Risks.

The Assets and Liabilities Committee (ALCO) is the main responsible body for the management of structural risks regarding liquidity/ funding interestrate, currency, equity and solvency. Every month, with the participation of the CEO and representatives from the areas of Finance, Risks and Business Areas, this committee monitors the structural risks and is presented with proposals for managing them for its approval. These management proposals are made proactively by the Finance area, taking into accountthe risk appetite framework and with the aim of guaranteeing recurrent earnings and financial stability and preserving the entity's solvency. All balance management units have a local ALCO, which is permanently attended by members of the corporate center, and there is a corporate ALCO where management strategies are monitored and presented in the Group's subsidiaries.

Global Risk Management (GRM) area acts as an independent unit, ensuring adequate separation between the management and risk control functions, and is responsible for ensuring that the structural risks in the Group are managed according to the strategy approved by the Board of Directors.

For more information on governance regarding structural risk, see Note 7.4 of the Consolidated Financial Statements of BBVA Group.

3.4.1. Structural interest rate risk

The structural interest-rate risk ("IRRBB") is related to the potential impact that variations in market interest rates have on an entity's net interest income and equity. In order to properly measure IRRBB, BBVA takes into account the main sources that generate this risk: repricing risk, yield curve risk, option risk and basis risk, which are analysed with an integral vision, combining two complementary points of view: net interest income (short term) and economic value (long term).

The exposure of a financial entity to adverse interest rates movements is a risk inherent to the development of the banking business, which is also, in turn, an opportunity to create economic value. Therefore, interest rate risk must be effectively managed so that it is limited in accordance with the entity's equity and in line with the expected economic result.

In this regard, the BBVA Group maintains an exposure to fluctuations on interest rates according to its objective strategy and risk profile, being carried out in a decentralised and independent manner in each of the banking entities that compose its structural balance-sheet.

As described above, the structural interest rate risk in the banking book (IRRBB) is within the entity's risk management framework and is included within the internal capital assessment process as part of Pillar 2 of the Basel framework.

For more information on the nature of interest-rate risk, as well as on interest rate variations in 2020, see Note 7.4.1 to the Consolidated Financial Statements of BBVA Group.

3.4.2. Structural exchange rate risk

Structural exchange rate risk, inherentto the business of international banking groups that develop their activities in different geographies and currencies, is defined as the possibility of impacts on solvency, equity value and results driven by fluctuations in the exchange rates due to exposures in foreign currencies.

In the BBVA Group, structural exchange-rate risk arises from the consolidation of holdings in subsidiaries with functional currencies other than the euro. Its management is centralised in order to optimize the joint management of permanent foreign currency exposures, taking diversification into account.

For more information on exchange rate management and governance, see Note 7.4.2 of the Consolidated Financial Statements of BBVA Group.

The evolution of the capital requirements on structural exchange rate risk during 2020 is shown in paragraph 3.3.3. of this Report.

3.4.3. Structural equity risk

Structural equity risk refers to the possibility of suffering losses in the value of positions in shares and other equity instruments held in the banking book with long or medium term investment horizons due to fluctuations in the value of equity indexes or shares.

BBVA Group's exposure to structural equity risk arises largely from minority shareholdings held on industrial and financial companies. This exposure is modulated in some portfolios with positions held on derivative instruments on the same underlying assets, in order to adjust the portfolio sensitivity to potential changes in equity prices.

For more information on equity management, see Note 7.4.3 of the Consolidated Financial Statements of BBVA Group.

3.4.3.1. Classification of equity exposure not included in the trading book

The Group distinguishes between equity exposures in investments in associates, capital instruments classified as financial assets at fair value through other comprehensive income and non-trading financial assets mandatory at fair value through profit or loss.

The investments in associates are the investments in entities over which the Group has a significant influence. It is presumed that there is significant influence when 20% or more of the voting rights of the subsidiary are held, directly or indirectly, unless it can be clearly demonstrated that such influence does not exist. There are certain exceptions to this criterion that do not constitute significant amounts for the Group. These investments in associates are valued using the equity method.

For further details, see Note 2.1 of the Consolidated Financial Statements of BBVA Group.

The remaining capital instruments not held for trading are classified as financial assets at fair value through other comprehensive income and non-trading financial assets mandatory at fair value through profit or loss, depending on the business model and the contractual cash flow assessment, commonly known as "Solely Payments of Principal and Interest (SPPI). The detailed description of the classification and valuation of capital instruments is found in Section 2.2.1 of the Consolidated Financial Statements of BBVA Group.

3.4.3.2. Carrying amount and exposure of investments in associates and capital instruments contained in aforementioned portfolios

The accompanying table shows the carrying amount, exposure and RWAs of equity exposures by portfolio class:

Table 65. Breakdown of book value, EAD and RWAs of equity investments and capital instruments (Million Euros)

	Equity investments and capital instruments							
	2020				2019			
	Book value	OE	EAD	RWAs	Book value	OE	EAD	RWAs
Investments in associates	4,249	4,249	4,249	10,901	4,577	4,577	4,577	11,819
Financial assets at fair value through other comprehensive income	1,307	1,307	1,307	2,244	2,108	2,108	2,108	3,355
Non - trading financial assets mandatorily at fair value through profit or loss	568	568	568	1,387	439	439	439	994
Total	6,123	6,123	6,123	14,532	7,124	7,124	7,124	16,167

The accompanying table shows the types, nature and amounts of the original exposure in investments in associates and capital instruments listed or unlisted on a stock market, with an item differentiating sufficiently diversified portfolios and other unlisted instruments:

Table 66. Exposure in equity investments and capital instruments (Million Euros)

	Nature of Exposure[1]			
	2020		2019	
	Non-derivatives	Derivatives	Non-derivatives	Derivatives
Exchange-traded instruments	1,418	79	2,481	88
Non-exchange traded instruments	4,626	-	4,555	-
Included in sufficiently diversified portfolios	4,626	-	4,555	-
Other instruments	-	-	-	-
Total	**6,044**	**79**	**7,036**	**88**

[1] Depending on their nature, equity instruments not included in trading book activity will be separated into derivatives and non-derivatives. The amount shown refers to Original Exposure, i.e. gross exposure of value corrections through asset impairment and provisions, before applying risk mitigation techniques.

3.4.3.3. Risk-weighted assets of investments in associates and capital instruments

A breakdown of the RWAs by the method applicable to investments in associates and capital instruments by accounting portfolio as of December 31, 2020 and December 31, 2019 is shown below:

Table 67. Breakdown of RWAs, equity investments and capital instruments by applicable approach (Million Euros)

		RWA´s			
		Internal Models	Simple method	PD/LGD method	Total
12-31-2020	Investments in associates	-	8,514	2,909	11,423
	Financial assets at fair value through other comprehensive income	261	500	1,036	1,797
	Non - trading financial assets mandatorily at fair value through profit or loss	352	960	-	1,312
12-31-2019	Investments in associates	-	8,253	3,566	11,819
	Financial assets at fair value through other comprehensive income	289	1,077	1,988	3,355
	Non - trading financial assets mandatorily at fair value through profit or loss	160	834	-	994

The table below shows the main variations in RWA of equity credit risk as of December 31, 2020:

Table 68. Variation in RWAs for Equity Risk (Million Euros)

Equity Risk		
RWAs as of December 31, 2019		**16,167**
Effects	Asset size	(1,111)
	Acquisitions and disposals	-
	Foreign exchange movements	(524)
	Other	-
RWAs as of December 31, 2020		**14,532**

The portfolio mainly consist of the Group's insurance companies, which for regulatory purposes are considered as investments in associates. It also includes stakes in real estate investment companies and equity holdings in other sectors, with a significant stake in Telefónica. In 2020, the most relevant event in this regard was the drop of Telefónica's share price, which reduced exposure and led to a decrease in credit risk RWAs of approximately €1,025 million. Meanwhile, the RWA of the Group's insurance companies increased due to the profit generation, as well as the positive effect that the joint venture with Allianz had on the net equity of BBVA Seguros.

3.4.3.4. Profit and loss and valuation adjustments of investments in associates and capital instruments

Below is a breakdown of the profit and loss made by the sale and liquidation of investments in associates and capital instruments and by applicable portfolio type as of December 31, 2020 and December 31, 2019, as well as the valuation adjustments for latent revaluation of investments in associates and capital instruments:

Table 69. Realised profit and loss from sales and settlements of equity investments and capital instruments (Million Euros)

	2020			2019		
	Losses	Gains	Net	Losses	Gains	Net
Investments in associates	1	7	6	2	18	16
Financial assets at fair value through other comprehensive income	1	8	7	0	18	17
Non - trading financial assets mandatorily at fair value through profit or loss	74	159	85	28	198	170

Table 70. TValuation adjustments for latent revaluation of equity investments and capital instruments (Million Euros)

Valuation adjustments for latent revaluation	
	FVOCI
December 2019	(402)
Variation	(852)
December 2020	(1,255)

3.5. Liquidity Risk

Liquidity and funding risk is defined as the incapacity of a bank in meeting its payment commitments due to the lack of resources or that, to face those commitments, should have to make use of funding under burdensome terms.

Liquidity and funding risk management is aimed to ensure a solid balance sheet structure that allows for a sustainable business model, with the short term aim of preventing the entity from having difficulties in meeting its payment commitments in due time and form, or having to resort to obtaining funds under burdensome terms that damage the image or reputation of the entity in order to meet them. In the medium term the aim is to ensure that the Group's financing structure is ideal and that it is moving in the right direction with respect to the economic situation, the markets and regulatory changes.

This management of structural finance and liquidity is based on the principle of financial self-sufficiency of the entities that make it up. This approach helps prevent and limit liquidity risk by reducing the Group's vulnerability during periods of high risk.

The core objectives of the Group in terms of liquidity risk and funding are determined through Liquidity Coverage Ratio (LCR) and the Loan to Stable Customer Deposits ratio (LtSCD).

A statement of the level of appropriateness of the liquidity risk management mechanisms is included as part of the Internal Liquidity Adequacy Assessment Process (ILAAP) approved by the Board of Directors in April 2020:

"From the internal assessment carried out, the Board of Directors concluded that the liquidity and funding management model is robust, with a medium-low liquidity and funding risk profile backed by the existing Risk Appetite Framework and the liquidity and funding planning."

Also, this liquidity and funding management model considers the liquid resources needed and the ability to generate the additional measures to continue maintaining this profile over the planning horizon and face unexpected stress conditions.

Even considering the uncertainty of the current situation and its future impacts, the assessment reveals that BBVA Group entities maintain a robust funding structure and an effective governance that enables the planning and management of liquidity and funding to be adapted to adverse situations.

The foregoing is endorsed by the adaptation of the liquidity and funding plan to the context of Covid-19 for the main Group entities, together with the management capacity faced with a possible worsening and/or prolongation of this scenario.

For more information on Liquidity Risk and Funding see Note 7.5 of the Consolidated Financial Statements of BBVA Group.

3.5.1. Liquidity and funding prospects

The Group faces 2021 with a comfortable liquidity situation in all the territories it operates in. The financing structure based on stable customer deposits and biased toward the long term, as well as the proven capacity to access capital markets, allows to comfortably face the moderate volume of maturities expected for the coming quarters.

The following is a breakdown of wholesale financing maturities of the most significant units of the Group according to their nature:

Table 71. Maturity of wholesale issuances of Balance Euro by nature (Million Euros)

Type of issuance	2021	2022	2023	After 2023	Total
Senior debt	1,484	2,790	1,160	3,217	8,651
Non preferred senior debt	-	1,499	1,650	5,538	8,687
Mortgage-covered bonds	3,175	1,618	2,350	5,417	12,559
Public-covered bonds	-	300	200	-	500
Preferred shares[1]	1,193	500	1,000	3,628	6,320
Subordinated debt[1]	86	68	150	4,168	4,471
Structured financing[2]	2,497	225	199	724	3,644
Total	**8,434**	**7,000**	**6,708**	**22,691**	**44,833**

[1] Regulatory capital instruments are classified in this table by terms according to their contractual maturity or nearest amortisation option.

[2] Global Markets MTN programme balances not eligible as MREL instruments, classified according to their nearest repayment option.

Table 72. Maturity of wholesale issuances of BBVA Mexico by nature (Million Euros)

Type of issuance	2021	2022	2023	After 2023	Total
Senior debt	184	322	517	2,075	3,098
Subordinated debt[1]	611	1,222	-	1,589	3,423
Total	**796**	**1,544**	**517**	**3,664**	**6,521**

[1] Regulatory capital instruments are classified in this table by terms according to their contractual maturity or nearest amortisation option.

Table 73. Maturity of wholesale issuances of BBVA USA by nature (Million Euros)

Type of issuance	2021	2022	2023	After 2023	Total
Senior debt	937	611	-	489	2,037
Subordinated debt[1]	17	-	-	628	645
Total	**954**	**611**	**-**	**1,117**	**2,683**

[1] Regulatory capital instruments are classified in this table by terms according to their contractual maturity or nearest amortisation option.

Table 74. Maturity of wholesale issuances of BBVA Garanti by nature (Million Euros)

Type of issuance	2021	2022	2023	After 2023	Total
Senior debt	407	471	432	122	1,432
Mortgage-covered bonds	-	92	16	-	109
Subordinated debt(1)	-	-	-	721	721
Securitisations	47	288	105	176	616
Syndicated loans	1,132	-	-	-	1,132
Other long term financial instruments	461	324	146	1,593	2,524
Total	**2,047**	**1,175**	**700**	**2,612**	**6,535**

[1] Regulatory capital instruments are classified in this table by terms according to their contractual maturity or nearest amortisation option.

Table 75. Maturity of wholesale issuances of South America by nature (Million Euros)

Type of issuance	2021	2022	2023	After 2023	Total
Senior debt	286	816	272	206	1,580
Subordinated debt[1]	41	20	68	805	934
Total	**327**	**836**	**340**	**1,011**	**2,514**

[1] Regulatory capital instruments are classified in this table by terms according to their contractual maturity or nearest amortisation option.

Going into 2021, one of the main objectives of the Group's funding strategy is maintaining the strength of the financing structure based on the growth of stable customer resources; diversifying the different sources of financing and ensuring the availability of sufficient levels of liquid assets; and optimizing the generation of collateral, for compliance with regulatory ratios, and other internal metrics to monitor liquidity risk, including stress scenarios.

3.5.2. LCR disclosure

A breakdown of the LCR disclosure as of December 31, 2020 is shown below, according to Article 435 of Regulation (EU) No 575/2013. These figures are calculated as simple averages of end-of-month observations from the twelve months preceding each quarter. No transfer of liquidity is assumed between subsidiaries, and therefore no excess liquidity is transferred from the entities abroad to the consolidated figures displayed in the following table:

Table 76. EU LIQ1: Liquidity Coverage Ratio disclosure (Million Euros)

	Total unweighted value (average)				Total weighted value (average)			
	March	June	September	December	March	June	September	December
End of the quarter	03-31-20	06-30-20	09-30-20	12-31-20	03-31-20	06-30-20	09-30-20	12-31-20
Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
High-quality liquid assets	-	-	-	-	-	-	-	-
Total high-quality liquid assets (HQLA)					91	98	105	114
Cash-outflows	-	-	-	-	-	-	-	-
Retail deposits and deposits from small business customers, of which:	221	231	240	248	16	16	17	17
Stable deposits	149	154	158	163	7	8	8	8
Less stable deposits	72	73	74	74	9	9	9	9
Unsecured wholesale funding	130	134	135	139	55	57	57	58
Operational deposits (all counterparties) and deposits in networks of cooperative banks	52	54	56	58	12	12	13	13
Non-operational deposits (all counterparties)	76	78	78	79	42	43	42	43
Unsecured debt	2	2	1	2	2	2	1	2
Secured wholesale funding					4	5	5	5
Additional requirements	96	93	93	93	16	16	17	18
Outflows related to derivative exposures and other collateral requirements(1)	6	6	7	8	6	6	7	8
Outflows related to loss of funding on debt products	0	0	0	0	0	0	0	0
Credit and liquidity facilities	89	87	86	85	9	9	9	10
Other contractual funding obligations	14	14	13	13	1	1	1	1
Other contingent funding obligations	64	78	79	81	3	3	3	3
Total cash outflows					96	99	99	102
Cash - inflows	-	-	-	-	-	-	-	-
Secured lending (e.g. reverse repos)	21	22	21	21	1	1	1	1
Inflows from fully performing exposures	31	30	29	29	20	19	19	18
Other cash inflows	4	4	4	5	4	4	4	5
(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)								
(Excess inflows from a related specialised credit institutions)								
Total cash inflows	56	56	55	54	25	24	24	24
Fully exempt inflows								
Inflows subject to 90% cap								
Inflows subject to 75% cap	56	56	55	54	25	24	24	24
Total adjusted value								
Liquidity buffer					91	98	105	114
Total net cash outflows					71	75	75	78
Liquidity coverage ratio (%)					128.4%	131.6%	140.6%	147.0%
Liquidity buffer (including excess liquidity of subsidiaries)					112	119	128	138
Total net cash outflows					71	75	75	78
Liquidity coverage ratio (%)					156.9%	159.5%	170.3%	178.5%

(1) Includes the amount of the collateral that the entity would have to provide in case of a credit downgrade, according to CRR Article 449(d).

The establishment of an independent control framework for the Euro, USA, Mexico and Turkey LMUs, allows compliance with the Liquidity and Finance corporate requirements on the four main currencies in which the BBVA Group operates: Euro, Dollar, Mexican Peso and Turkish Lira.

With the exception of the dollar, significant currencies at the Group level are fully managed by entities resident in the jurisdictions of each of them, with their financing needs covered in the local markets in which they operate.

For those LMUs operating in dollarised economies (Argentina, Peru, Mexico and Turkey) there are specific regulatory requirements that limit the level of risk of each subsidiary. In addition, the LCR in US dollars in all of them exceeds 100%.

Regarding the sustainability of wholesale financing as a source of funding, this depends on the degree of diversification. In particular, in order to ensure adequate diversification by counterparties, specific concentration thresholds are set and must be met at all times by each LMU. As of December 31, 2020, except for the positions against central clearing houses and the secured financing operations with several Central Banks, the Group has no counterparties that maintain balances greater than 1% of the Group's total liabilities and the weight of the first 10 counterparties per balance represents 5%.

3.5.3. Net Stable Funding Ratio

The Net Stable Funding Ratio (NSFR), defined as the ratio between the amount of stable funding available and the amount of stable funding required, is one of the Basel Committee's essential reforms, and requires banks to maintain a stable funding profile in relation to the composition of their assets and off-balance-sheet activities. This ratio should be at least 100% at all times.

This requirement was defined by the Basel Committee in October 2014, and following the final approval of the Capital Requirements Regulation II (CRR II) or Regulation (EU) 2019/876 amending the CRR, the transposition of the Basel requirement will be effective in June 2021.

Within its risk appetite framework, BBVA has included the NSFR indicator within the limits scheme for both the Group as a whole and for each individual LMU, aimed at keeping this metric at a comfortable level above 100%. In this respect, the NSFR of the Group as of December 31, 2020 was 127%.

For information on the NSFR of the main LMUs, see Note 7.5.3 of the Consolidated Financial Statements of BBVA Group.

3.5.4. Encumbered assets in funding operations

In relation to the management of encumbered liquid assets[10] , all LMUs maintain adequate positions not only to cover the minimum survival periods in a stress situation, but also uncollateralised wholesale liabilities, which are ultimately the most affected by the ratio of encumbered assets.

All of the Group's LMUs have implemented procedures and controls to ensure that the risk associated with the management of guarantees and asset assessment are properly identified, controlled and managed in compliance with the Corporate Liquidity and Financing Risk Policy, highlighting: i) monitoring and control scheme for encumbered assets risk indicators, ii) periodic evaluation of stress scenarios as a result of the risk levels achieved, and iii) a contingency plan with action measures based on the degree of criticality and immediacy of the situation.

The impact on the business model of the level of the asset pledging, as well as the importance in the Group's financing model is low because the financing is based on stable customer deposits, the dependence on short term financing is reduced, and a robust financing structure is maintained, with a moderate level of encumbered assets.

The ratio of encumbered assets to total assets for the main LMUs as of December 31, 2020 is:

Table 77. Encumbered assets over total assets

	12-31-2020
BBVA Group	**20%**
LMU Euro	25%
LMU Mexico	17%
LMU Compass	11%
LMU Garanti	5%

The Group mainly has the following pledging sources:

Guaranteed bonds

The issue of guaranteed bonds is one of the main sources of guaranteed financing which give the holders a high degree of protection. Issues are backed by on-balance sheet assets that are susceptible to being curbed (pooled) and have a joint guarantee from the Entity that will support the issue in the event that the underlying assets cannot cope with the payments. The products through which this type of financing is implemented are mortgage-covered bonds, public covered bonds and internationalisation bonds.

Assets sold under repurchase agreement

Co-financing operations collateralised by assets sold under repurchase agreement are among the short term sources of financing. These operations play an important role in the type of encumbered assets in the Group.

Assets pledged with Central Banks

The role of central banks as suppliers of liquidity ultimately constitutes one of the key contingent financing resources in the event of there being tensions in the financial markets. In this regard, in accordance with the principles established for management of collateral, the Group's strategy consists of maintaining broad credit policies with the central banks concerned by pledging assets as collateral in geographical areas where these instruments are used as part of monetary policy.

Additionally, a relevant element is, in the case of the ECB, the non-standard monetary policy measures related to the "Targeted Longer-Term Refinancing Operations" (TLTRO) to provide long-term financing in order to facilitate the credit conditions of the private sector and stimulate financing to the real economy. In this sense, BBVA maintained at the end of December 2020 an amount drawn down from the TLTRO III program of €35 billion.

Management of collateral agreements

The use of collateral is one of the most effective techniques to mitigate exposure to Credit Risk arising from operations with Derivatives or in operations with repurchase agreements or Value Loans. The assets currently used as collateral are: cash, fixed-income and credit letters.

10. An asset is considered encumbered if it is subject to any form of agreement with the objective of ensuring, collateralizing or improving the credit quality of a transaction, and it cannot be freely removed.

In any case, the consideration of a committed asset is not based on an explicit legal definition, such as the transfer of a title, but on an economic criterion, so any asset that is subject to any restriction to be used or to replace another asset, is considered pledged.

Securitisation

The issuance of securitisation represents one of the main potential sources of risk for pledged assets on the balance sheet. According to the type of assets supporting the securitisation, the following classes are issued: residential mortgage-backed securities (RMBS), consumer loans and loans to SMEs. The impact of this pledging source is very low for the Group.

The projects subject to overcollateralisation are:

- **Mortgage-covered bonds.**

These are mortgage bonds issued with first-rank mortgage loan collateral constituted in favor of the bank. In the case of BBVA S.A., which accounts for more than 95% of the issuance of mortgage-covered bonds in the Group, the bonds have to be overcollateralised at 125% of their nominal value, and the amount of loans that back them cannot be more than 80% of the value of the collateral. The other geographic area that issues these types of product (to a residual extent) is Garanti BBVA.

- **Public covered bonds.**

Public covered bonds are similar to mortgage-covered bonds. They are backed by loans and credit granted by the issuer to the State, to central and regional governments, local authorities and autonomous bodies that answer to them, as well as other public-sector entities in the European Economic Area. In this case, the issues have to be overcollateralised at 143% of their nominal value. BBVA SA accounts for 100% of this type of issue.

- **Internationalisation bonds.**

These are securities guaranteed by loans and credit linked to the financing of contracts for the export of goods and services or to the internationalisation of companies. The level of overcollateralisation is the same as for public covered bonds. BBVA SA accounts for 100% of this type of issue. The weight of this type of issue is very residual.

Within the Group there are units responsible for the execution, monitoring and control of issues of this type, as well as the calculation of the capacity for additional issuance, with the aim of ensuring that the Entity is not over-issued and complies with the established limits of the Encumbered Asset Ratio.

The following table shows assets contributed as collateral (loans) underlying the issue of mortgage-covered bonds, public covered bonds and internationalisation bonds, as well as the total issued and excess issuance capacity as of December 31, 2020:

Table 78. Mortgage-covered bonds (Million euros. 12-31-2020)

Withheld	
Withheld applied	19,500
Withheld not applied	9
Issued to Market	12,560
Total mortgage-covered bonds issued	**32,069**
Eligible collateral to consider	**43,685**
Maximum to issue	34,948
Capacity to issue	**2,879**

Table 79. Public-covered bonds (Million euros. 12-31-2020)

Withheld applied	
Withheld not applied	6,040
Issued to Market	-
Total mortgage-covered bonds issued	500
Eligible collateral to consider	**6,540**
Maximum to issue	**12,803**
Capacity to issue	8,962
Capacity to issue	**2,422**

Table 80. Internationalisation-covered bonds (Million euros. 12-31-2020)

Withheld applied	
Withheld applied	1,500
Withheld not applied	-
Issued to Market	-
Total internationalisation-covered bonds issued	**1,500**
Eligible collateral to consider	**3,276**
Maximum to issue	2,293
Capacity to issue	**793**

The assets on the balance sheet and the collaterals received that, as of December 31, 2020, is encumbered (provided as collateral or security with respect to certain liabilities) and the collateral that is unencumbered are shown below. It should be noted that the value used for the purpose of this disclosure is the carrying amount and fair value, for both the assets on the balance sheet and the pledged and unpledged guarantees received. The balances are calculated as annual medians using as a sample the four quarters of the last year.

Table 81. Encumbered and unencumbered Assets (Million Euros. 12-31-2020)

	Carrying value of encumbered assets		Fair value of encumbered assets		Carrying value of unencumbered assets		Fair value of unencumbered assets	
		of which notionally elligible EHQLA and HQLA		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
Institution's assets	**122,054**	**31,223**			**593,490**	**144,764**		
Equity instruments	2,231	1,495			6,073	2,684		
Debt securities	31,409	30,159	28,149	30,159	82,078	74,084	85,229	75,078
Of which: covered bonds	72	63	72	63	592	592	591	591
Of which: ABSs	31	-	36	-	220	-	214	-
Of which: issued by general governments	26,642	26,642	23,210	23,210	67,528	64,679	70,841	65,630
Of which: issued by financial corporations	2,238	1,650	2,409	1,650	8,988	5,738	8,824	5,826
Of which: issued by non- financial corporations	2,860	1,967	2,864	1,967	2,598	768	2,589	784
Loans and Other assets	91,156	-			506,019	64,394		
Of which: Loans and advances	87,939	-			397,392	55,091		
Of which: Other assets	0	-			105,139	5,780		

Encumbered and unencumbered Assets (Million Euros. 12-31-2019)

	Carrying value of encumbered assets		Fair value of encumbered assets		Carrying value of unencumbered assets		Fair value of unencumbered assets	
		of which notionally elligible EHQLA and HQLA		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
Institution's assets	**109,189**	**32,142**			**570,814**	**105,564**		
Equity instruments	2,664	1,635			7,269	3,862		
Debt securities	32,119	30,491	33,255	30,673	73,893	64,130	73,766	64,850
Of which: covered bonds	46	44	45	44	693	691	683	681
Of which: ABSs	22	-	22	-	193	-	231	-
Of which: issued by general governments	27,802	28,109	28,879	28,290	61,515	58,527	61,457	59,219
Of which: issued by financial corporations	2,751	1,369	2,823	1,375	7,545	4,840	7,473	4,855
Of which: issued by non- financial corporations	1,289	971	1,280	971	2,564	732	2,578	745
Loans and Other assets	74,238	-			490,012	37,056		
Of which: Loans and advances	74,238	-			396,242	31,073		
Of which: Other assets	-	-			89,710	5,253		

Table 82. Collateral received (Million Euros. 12-31-2020)

	Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA
Collateral received	**38,879**	**35,352**	**7,590**	**4,455**
Loans on demand	-	-	-	-
Equity instruments	220	111	199	158
Debt securities	38,659	35,233	7,410	4,327
Of which: covered bonds	823	143	25	2
Of which: ABSs	-	-	24	-
Of which: issued by general governments	32,065	30,628	4,240	3,980
Of which: issued by financial corporations	5,115	2,085	2,400	535
Of which: issued by non- financial corporations	1,260	259	530	42
Loans and advances other than loans on demand	-	-	-	-
Other collateral received	-	-	-	-
Own debt securities issued other than own mortgage-covered bonds or ABSs	-	-	112	-
Own mortgage-covered bonds and ABSs issued and not yet pledged			11,141	-
Total assets, collateral received and own debt securities issued	**162,044**	**68,860**		

Collateral received (Million Euros. 12-31-2019)

	Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA
Collateral received	**33,705**	**28,795**	**10,301**	**6,724**
Loans on demand	-	-	0	-
Equity instruments	125	77	67	27
Debt securities	33,582	28,750	10,217	6,689
Of which: covered bonds	640	146	91	10
Of which: ABSs	-	-	175	-
Of which: issued by general governments	28,575	26,591	6,008	5,558
Of which: issued by financial corporations	3,105	599	2,989	1,068
Of which: issued by non- financial corporations	692	153	360	74
Loans and advances other than loans on demand	-	-	1	-
Other collateral received	-	-	-	-
Own debt securities issued other than own mortgage-covered bonds or ABSs	9	-	82	-
Own mortgage-covered bonds and ABSs issued and not yet pledged			19,311	-
Total assets, collateral received and own debt securities issued	**139,930**	**-**		

The pledging sources with associated collateral as of December 31, 2020 are below:

Table 83. Sources of encumbrance (Million Euros. 12-31-2020)

	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own securities issued other than mortgage-covered bonds, public-covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	**138,902**	**156,573**
Derivatives	18,165	16,700
Repos and other collateralised deposits	104,618	121,009
Debt securities	17,818	21,671
Other sources of encumbrance	516	5,472

Sources of encumbrance (Million Euros. 12-31-2019)

	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own securities issued other than mortgage-covered bonds, public-covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	**120,985**	**135,005**
Derivatives	13,345	12,914
Repos and other collateralised deposits	89,895	99,999
Debt securities	17,882	21,865
Other sources of encumbrance	465	4,925

The assets without associated liabilities shown in the table above correspond to guarantees given to be able to operate in certain markets, as well as assets mainly encumbered in security lending operations. The collateral received off the balance sheet is mostly reverse repurchase agreements, of sovereign securities.

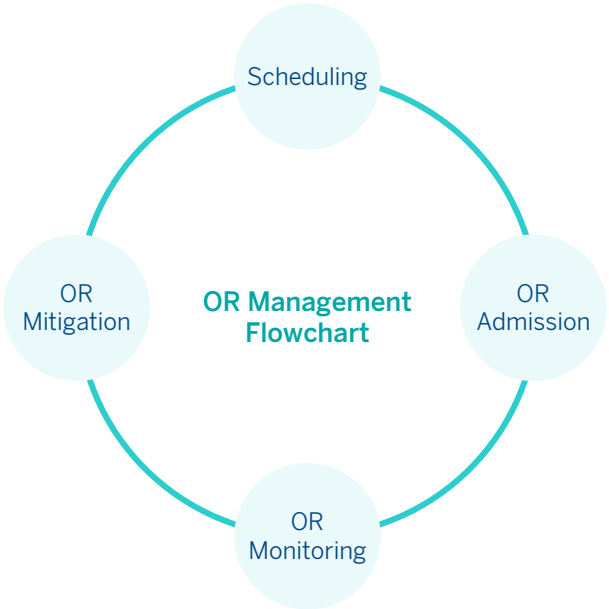
3.6. Operational Risk

BBVA defines operational risk (OR) as risk that may cause losses as a result of human error; inadequate or defective internal processes; inadequate conduct towards customers, in the markets or against the company; failures, interruptions or deficiencies in systems or communications; theft, loss or misuse of information, as well as deterioration of its quality; internal or external fraud including, in all cases, fraud resulting from cyber-attacks; theft or physical damage to assets or persons; legal risks; risks resulting from workforce and occupational health management; and inadequate service provided by suppliers.

Operational risk management is oriented toward identifying its root causes, preventing its occurrence, and mitigating its potential consequences, so that the risk level falls within defined tolerance limits.

Operational risk management is based on a number of components similar to those adopted for other types of risk.

Chart 24. Operational Risk Management Processes



All these elements, as well as operational risk governance, are described in the "Risk Management – Operational Risk" section of the Management Report accompanying the Group's Consolidated Financial Statements

3.6.1. Methods used for calculating capital

On 18 December 2020, the European Central Bank's Governing Council authorised BBVA to revert to using advanced models to calculate regulatory capital requirements for operational risk at the consolidated level, for geographical areas in which it was previously used (Spain and Mexico).

At the Group level, this reversal does not significantly impact capital figures for this type of risk, nor does it imply an eased level of requirement in terms of its measurement and management.

BBVA remains steadfast in its full commitment to effectively and pre-emptively manage operational risks as a key tool in helping to not only minimise the economic impact of operational events within the Group, but also as an instrument for increasing the quality of the service provided and helping to achieve the Bank's strategic objectives.

Following said change, all Group entities apply a standard method for calculating their capital requirements for operational risk, except for Bolivia and the international subsidiaries of Garanti Bank, for which the basic method is applied.

Both the basic and standard methods use fixed parameters to calculate regulatory capital for operational risk:

- *Basic method:* according to Chapter 2 of Title III of the CRR, the capital requirement for operational risk using the basic method is calculated as the three-year average of relevant income multiplied by a single factor established by the Regulator, which amounts to 15%. The sum of the following elements of the profit and loss account is defined as relevant income:
  - Income from interest and other similar income
  - Interest expense and other similar charges
  - Return on equities and other fixed- or variable-income securities
  - Fees receivable
  - Fees payable
  - Net trading income
  - Other operating income
- *Standard method:* according to Chapter 3 of Title III of the CRR, capital requirement for operational risk using the standard method is calculated as the three-year average of relevant income multiplied by a factor established by the Regulator for each line of business.

For information on the AMA model used by the Group until this year, see Section 3.6.1 of the Pillar III Report 2019 available on the BBVA Group's Shareholders and Investors website.

The following table shows the operational risk capital requirements broken down according to the calculation models used and by geographic area, to provide a global vision of capital consumption for this type of risk:

Table 84. Regulatory capital for Operational Risk (Million Euros)

Regulatory capital for operational risk	Capital requirements		RWAs	
	12-31-2020	12-31-2019	12-31-2020	12-31-2019
Advanced		1,746		21,822
Spain		1,382		17,270
Mexico		364		4,552
Standardised	2,782	1,220	34,773	15,250
Spain	804	5	10,045	62
Mexico	875	0	10,943	0
Others	1,103	1,215	13,785	15,188
Basic	71	64	883	805
BBVA Group total	2,853	3,030	35,656	37,877

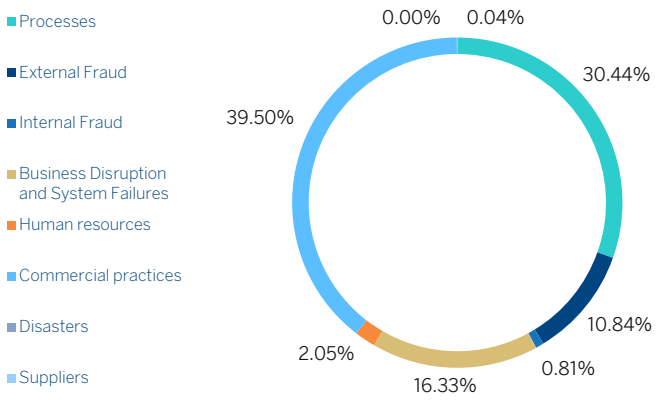
The main variations in the regulatory capital requirements for operational risk are due to:

- The increase in capital in the Standard Method is mainly due to including Spain and Mexico in the calculation through this method. The change in model for Spain has generated a capital reduction of €606m, offset by an increase in capital of €511 million in Mexico, meaning that the total decrease in capital in these countries amounts to €95 million. This variation is explained by: depreciation of the Mexican peso exchange rate (€-132 million), the decrease in relevant income (€-23 million) and increased due to the change in the method (€+60 million).
- The other countries have generally shown a decrease in capital, essentially as a result of exchange rate differences, mainly in Turkey and the United States.

3.6.2. The Group's Operational Risk Profile

BBVA's operational risk profile is shown below by risk type after assessing the risk, resulting in the following distribution:

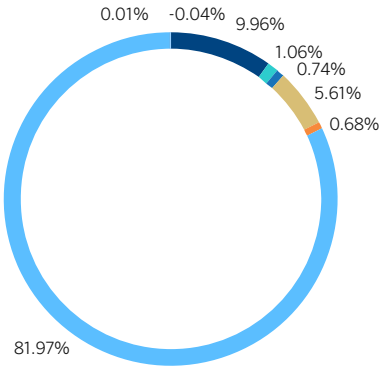
Chart 25. Operational Risk Profile of BBVA Group



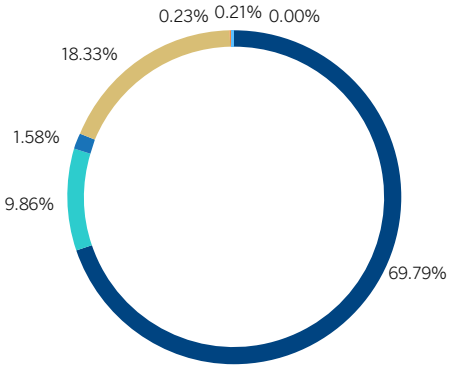
The following charts reflect the distribution of operational losses by risk class and country for 2020.

Chart 26. Operational Risk by risk and country

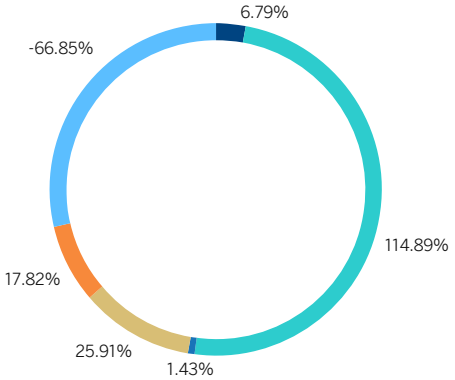
Spain[1]



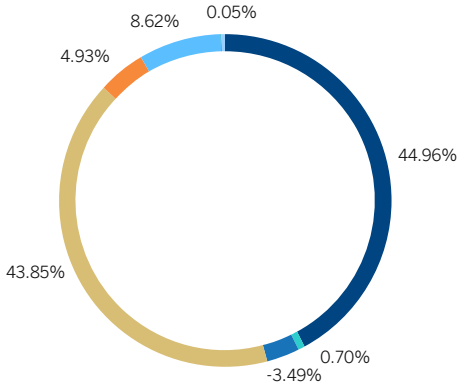
Mexico



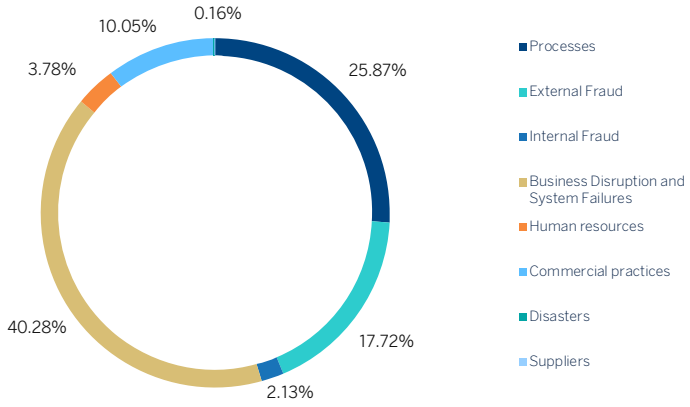
USA



Turkey



Others



[1]An amount greater than the loss that occurred this year has been recovered by insurance of events of previous years.