ING Group

Additional Pillar III Report 2020

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General Information

Introduction

Basis of disclosure

The information in this report relates to ING Groep N.V. and all of its subsidiaries (hereafter ING Group). There are no differences between the scope of consolidation for prudential purposes and the scope of consolidation for accounting purposes as reported in the annual accounts in Note 1 'Basis of preparation and accounting policies', Note 47 'Principal subsidiaries' and Note 48 'Structured entities'.

Governance

The Pillar III disclosures have been subject to ING Group's internal control assessments and validation mechanisms, to ensure compliance with laws and regulations. The Disclosure Committee (DisCom), responsible for all ING Group disclosures, assesses the accuracy of the content before reporting their conclusions to the Audit Committee (AC) for review and submission to the Supervisory Board for final approval. This report has not been audited by ING Group's external auditor.

Regulatory framework

In 2010, the Basel III framework was adopted and consequently translated in the European Union (EU) into regulation through the Capital Requirement Regulation (CRR) and Capital Requirement Directive IV (CRD IV). The CRR is binding for all EU member states and became effective per 1 January 2014.

On 16 April 2019, the European Parliament (EP) approved the final agreement on a package of reforms proposed by EC to strengthen the resilience and resolvability of European banks. The package of reforms comprises certain amendments to CRR and CRD IV commonly referred to as 'CRR II' and CRD V'. On 27 June 2019, the Banking Reform Package came into force, subject to various transitional and staged timetables.

The Basel Committee's framework is based on three pillars. Pillar I on minimum capital requirements, which defines the rules for the calculation of credit, market and operational risk. Pillar II is about Supervisory Review and Evaluation Process (SREP), which requires banks to undertake an internal capital adequacy assessment process (ICAAP) to identify and assess risks, also those not included in Pillar I, and maintain sufficient capital to face these risks, and an internal liquidity adequacy assessment process (ILAAP) focusing on maintaining sufficient liquidity (and funding) risk management. Pillar III is on market discipline and transparency, requiring disclosures to allow investors and other market participants to understand the risk profiles of individual banks.

ING Group prepares the Pillar III report in accordance with the CRR II and CRD V. ING Group's 'Additional Pillar III Report' contains disclosures for regulatory capital requirements, credit risk, including counterparty credit risk, securitisations and other non-credit obligation assets (ONCOA), market risk, liquidity risk, non-financial risk and compliance risk. Furthermore, the report discusses regulatory exposures and risk weighted assets. In June 2020, the EBA published the final ITS on public disclosures (Pillar III) that implements changes introduced in the revised Capital Requirements Regulation (CRR II). Those EBA templates in order to comply to CRR II will be applicable as of June 2021.

The Pillar III report is published on an annual basis. However, some capital requirements as laid down in Article 438 of the CRR as well as information on risk exposure or other items prone to rapid change are disclosed on a quarterly or semi-annual basis. Some subsidiaries publish information on capital and solvency on their websites or annual reports pursuant to local regulatory requirements.

Disclosure requirements changes in 2020

The following EBA guidelines have already been applied into our disclosures, whereas the implementation of the draft ITS will be done after the European Commission has approved them.

EBA Guidelines on reporting and disclosure as a result of the CRR “quick fix” adjustments in response to the Covid-19 pandemic

Regulation (EU) 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 (CRR II) as regards certain adjustments in response to the Covid-19 pandemic (CRR ‘quick fix’) was published in the Official Journal of the EU on 26 June 2020.

The CRR ‘quick fix’ is part of a series of measures taken by European institutions to mitigate the impact of the Covid-19 pandemic on institutions across EU Member States. In addition to the flexibility already provided in the existing rules, the CRR ‘quick fix’ introduces certain adjustments to the CRR, including temporary measures, intended to enhance credit flows to companies and households, thereby supporting the EU’s economy. The adjustments that have an impact on our disclosures are as follows:

- frontloading from CRR II the possibility of temporarily excluding certain exposures to central banks from the calculation of an institution’s total exposure measure (Article 500b of Regulation (EU) No 575/2013);
- frontloading from CRR II the possibility to not deduct from CET1 capital certain software assets, but assign RWA instead. The scope of assets subject to this exemption was defined by Commission Delegated Regulation (EU) 2020/2176 published on 22 December 2020; and
- A 2 years extension transitional arrangements for mitigating the impact on own funds of the introduction of IFRS 9 (Article 473a (8) of Regulation (EU) No 575/2013);

ING has decided not to apply the temporary prudential filter for unrealised gains and losses measured at fair value through other comprehensive income.

In August 2020, the EBA issued guidelines to provide institutions with the necessary clarifications on how to apply the measures set out in the CRR ‘quick fix’. These Guidelines are an interim solution until the new comprehensive Implementing Technical Standards (ITS) on disclosure start to apply (June 2021).

EBA Guidelines on reporting and disclosure of exposures subject to measures applied in response to the Covid-19 crisis

In response to the need to address negative economic consequences of Covid-19 pandemic, the European Union (EU) and Member States have introduced a wide range of mitigating measures to support the real economy and the financial sector. As part of such measures, some Member States have introduced legislative moratoria on loan repayments granting the borrowers various forms of payment holidays on their existing loans. In other Member States similar measures have been introduced under individual institutions’ industry-coordinated initiatives. Many Member States have also introduced various forms of public guarantees to be applied to new lending.

As a coordinated approach to the collection of information regarding the application of the payment moratoria to the existing loans and public guarantees to new lending in response to Covid-19 pandemic, the EBA introduced additional disclosure requirements covering both aspects. The guidelines are built on the existing definitions of Commission Implementing Regulation (EU) No 680/2014 (FINREP) and put forward strictly in the context of the Covid-19 pandemic, and are therefore expected to be time-limited.

Final draft ITS on institutions’ public disclosures of the information referred to in Titles II and III of Part Eight of Regulation (EU) No 575/2013

In June 2020, the EBA published the final draft ITS on public disclosures by institutions that implements changes introduced in the revised Capital Requirements Regulation (CRR II). The publication of the ITS is a major step forward towards promoting market discipline through enhanced and comparable public disclosures for stakeholders, and towards keeping the reporting requirements in line with the evolving needs for Supervisory Authorities' risk assessments.

The disclosure ITS optimise the Pillar III policy framework for credit institutions by providing a single overarching package that brings together all previous pieces of regulation and incorporates all prudential disclosures, thus facilitating implementation by institutions and improving clarity for users of such information. The ITS implement the disclosures in a way to ensure that market participants have sufficient and comparable information to assess the risk profiles of institutions, in line with the Basel Committee's Pillar 3 standards and with the increased standardisation of institutions' public disclosures. This reinforces the ultimate objective of market discipline. The CRR II definitions for 'small and less complex institutions' and 'large institutions' support proportionality of Pillar III disclosures. In addition, the ITS include thresholds to trigger additional disclosures for large banks based on their risk profiles. The ITS on disclosure have been developed in accordance with the mandate included in Article 434a of Regulation (EU) N0 575/2013.

Final draft ITS on disclosure and reporting of MREL and TLAC

In August 2020, the EBA published its final draft Implementing Technical Standards (ITS) on disclosure and reporting on the G-SII requirement for own funds and eligible liabilities (TLAC) and the minimum requirements for own funds and eligible liabilities (MREL). This is the first time that the EBA has developed disclosure and reporting requirements in this area, thus expanding the scope of the existing Pillar III and supervisory reporting frameworks in the EU.

The EBA sought to maximise efficiency for entities when complying with their disclosure and reporting obligations and to facilitate the use of information by authorities and market participants. For these purposes, MREL and TLAC are presented in an integrated manner, both in the reporting and disclosure templates.

The integrated approach aims to optimise efficiency by institutions when complying with their disclosure and reporting obligations, to facilitate the use of information by authorities and market participants, and to promote market discipline. The disclosure and reporting requirements on TLAC apply only to G-SIIs, entities that are part of G-SIIs and material subsidiaries of non-EU G-SIIs. Globally Systemic Important Institutions (G-SIIs), including ING Group, are required to hold own funds and eligible liabilities of at least the highest of 16% of RWA and 6% of the Leverage Ratio Exposure Amount (LREA). This requirement will increase to 18% of RWA and 6.75% of LREA as per 1 January 2022. Per December 2020, the combined buffer requirement (5.03% of RWA) has been added to the RWA-based TLAC requirement. The disclosure and reporting requirements on MREL apply to entities other than those whose resolution plan provides that they would be wound up under normal insolvency proceedings. These draft ITS have been developed in accordance with articles 430 and 434a of CRR II, which mandate the EBA to specify uniform reporting templates and disclosure formats.

Public disclosure of return on assets (ROA)

The CRD IV requires ING Group to disclose information on its return on assets. ING Group has decided to calculate ROA based on results and average assets derived from quarter-end assets to align it with the other indicators. The ROA represents profit as a percentage of average total assets. In 2020, the ROA decreased to 0.27% (in 2019: 0.54%).

Capital requirements

Economic and Regulatory Capital

Economic Capital (EC) and Regulatory Capital (RC) are the main sources of capital allocation within ING. Both of these capital metrics are used to determine the amount of capital that a transaction or business unit requires to support the economic and regulatory-based risks it faces. The concept of EC differs from RC in the sense that RC is the mandatory amount of capital that is defined under Pillar I while EC is the best estimate of Pillar II capital that ING uses internally to manage its own risk. EC is a non-accounting measure that is inherently subject to dynamic changes and updated as a result of ING's portfolio mix and general market developments. ING continuously recalibrates the underlying assumptions behind its EC model which may have an impact on the values of EC going forward. ING has started in 2019 with the implementation of the new EC Framework, for which the key design principles were adopted in November 2018. These design principles as well as an increased role of EC in business planning and decision making will be implemented in the next years.

EC is defined as the amount of capital that a transaction or business unit requires in order to support the economic risks it takes. EC focuses on the bank activities on an ING Bank consolidated level and is therefore only available per that scope. In general, EC is measured as the unexpected loss above the expected loss at a given confidence level. The EC calculation is used as part of the CRR II/CRD V Pillar II Internal Capital Adequacy Assessment Process (ICAAP) and is subject to the Supervisory Review and Evaluation Process (SREP) that is performed regularly by the supervisor.

The following fundamental principles and definitions have been established for the model:
- ING Bank uses a one-sided confidence level of 99.90% and a one-year time horizon to calculate EC;
- It is assumed that all currently known measurable sources of risk are included;
- The best estimate risk assumptions are as objective as possible and to the extent possible based on statistical analysis;
- The EC calculations reflect known embedded options and the influence of customer behaviour in banking products;
- The EC calculations are on a before tax basis and do not consider the effect of regulatory requirements on capital levels; and
- The framework does not include any franchise value of the business, discretionary management intervention or future business volumes and margins.

Capital Adequacy

The rules for required Regulatory Capital or Capital adequacy are defined by European Union regulation and directives.

The rules express the regulators' and legislators' opinion on how much capital a bank and other regulated institutions must retain in relation to the size and the type of risks it is taking, expressed in the form of Risk-Weighted Assets. The most important part of the capital base is the shareholders' equity. In addition to equity, the institution may issue certain liabilities such as Tier 1 and Tier 2 instruments to be included in the capital base. The legal minimum requirement (excluding buffers) stipulates that the capital base must correspond to at least 8% of the Risk-Weighted Assets (RWA).

The table below presents an overview of the Minimum capital requirements and the RWA at year-end 2020 per risk type and method of calculation. The largest part of the RWA is related to Credit risk (excluding counterparty credit risk) (77%), primarily to the portfolio with calculations based on the Advanced Internal Ratings Based (AIRB) approach. More information on credit RWA is given in the chapter "Credit risk".

EU OV1: Regulatory capital requirements

	RWA amounts		Minimum capital requirements	
	2020	2019	2020	2019
Credit risk (excluding counterparty credit risk (CCR))	**237,041**	**262,715**	**18,963**	**21,017**
Of which standardised approach (SA)	26,865	26,919	2,149	2,154
Of which internal rating-based (IRB) approach	209,002	234,610	16,720	18,769
Of which Equity IRB under the simple risk-weight or the internal models approach	1,173	1,185	94	95
Counterparty credit risk (CCR)	**11,056**	**9,050**	**884**	**724**
Of which Marked to market	9,939	8,009	795	641
of which standardised approach for counterparty credit risk	386	307	31	25
Of which risk exposure amount for contributions to the default fund of a CCP	152	184	12	15
Of which CVA	579	550	46	44
Settlement risk	**450**		**36**	
Securitisation exposures in banking book (after cap)	**1,903**	**1,059**	**152**	**85**
Of which IRB approach (RBA)	708	635	57	51
Of which Internal assessment approach (IAA)	526	354	42	28
Of which Standardised approach (SA)	669	70	53	6
Market risk	**8,927**	**5,564**	**714**	**445**
Of which standardised approach (SA)	2	14	0	1
Of which internal model approaches (IMA)	8,925	5,550	714	444
Operational risk	**37,785**	**38,061**	**3,023**	**3,045**
Of which Advanced Measurement Approach	37,785	38,061	3,023	3,045
Amounts below the thresholds for deduction (subject to 250% risk weight)	**9,162**	**9,966**	**733**	**797**
Total	**306,324**	**326,414**	**24,506**	**26,113**

The amount of RWA decreased in 2020 with EUR 20.1 billion to EUR 306.3 billion. This decrease is mainly caused by EUR 23.2 billion reduction in Credit RWA, partially offset by a EUR 3.4 billion increase in Market RWA. The reduction in Credit RWA is mainly visible in book quality, book size and model, methodology and policy changes. For more information on Credit RWA see the credit risk chapter and for Market IMA see market risk chapter.

Regulatory Capital flow statement

	Total	Total
	2020	2019
	CRR II/CRD V	CRR II/CRD V
Common Equity Tier 1 capital		
Opening amount	47,552	45,443
Profit included in CET1 capital	972	2,092
Adjustment prudential filters own credit risk	6	134
Change in intangibles (net of related tax liability)	992	-13
Change in revaluation reserves	-1,991	-385
Change in minority interests, counting as Common Equity Tier 1 capital	-28	31
Other	-170	250
Closing amount	47,333	47,552
Additional Tier 1 capital		
Opening amount	6,966	5,387
Change in AT 1 instruments	-1,273	1,577
Change in minority interests, counting as Additional Tier 1 capital	-2	2
Closing amount	5,691	6,966
Tier 2 capital		
Opening amount	7,784	7,112
Change in Tier 2 instruments	416	695
Haircut on externally placed Tier 2 instruments by subsidiaries	336	-14
Change in minority interests, counting as Tier 2 capital	-24	-8
Closing amount	8,513	7,784
Total Regulatory Capital	61,537	62,303

As per 31 December 2020, the total amount of available distributable items following the CRD IV definition increased to EUR 44,911 million, compared to EUR 45,479 million in 2019.

Available distributable items according to the CRR II/CRD V	2020	2019
Share premium	17,089	17,078
Other reserves	32,784	28,052
Legal and Statutory reserves	2,334	3,999
Non distributable	-9,831	-8,398
	42,376	**40,732**
Accrued interest expenses on own fund instruments at year-end	145	147
Distributable items excluding unappropriated result for the year	42,520	40,879
Unappropriated result for the year	2,391	4,601
Total available distributable items	**44,911**	**45,479**

Capital position

As of 1 January 2014, the CRR/CRD IV capital rules entered into force. According to CRR/CRD IV capital adequacy rules, the Common Equity Tier 1 ratio has to be at least 4.5%, the Tier 1 ratio at least 6% and the total capital ratio at least 8% of all risk-weighted assets. This was not changed in the CRR II/CRD V.

ING Group's Common Equity Tier 1 ratio at year-end 2020 of 15.5% is well in excess of the 10.51% common equity Tier 1 requirement for ING Group in 2020. This requirement is the sum of a 4.5% Pillar 1 requirement, a 0.98% Pillar 2 requirement, a 2.5% Capital Conservation Buffer, a 2.5% O-SII Buffer that are set separately for Dutch Systemic banks by the Dutch Central Bank (DNB) as macro-prudential supervisor and 0.02% for the countercyclical buffer (CCyB). With a 15.5% CET1 ratio as at 31 December 2020, ING is compliant with this CET1 requirement. We note that as of 29/12/2020, the 2.5% O-SII Buffer replaced the former Systemic Risk Buffer of the same size.

Capital position	2020	2019
	2020 rules	2019 rules
	CRR II/CRD V	CRR II/CRD V
Shareholders' equity	**54,637**	**53,769**
Regulatory adjustments:		
Minority interests, counting as Common equity Tier 1	173	201
Intangibles deducted from Tier 1 (net of related tax liability)[1]	-1,097	-2,089
IRB shortfall of credit risk adjustments to expected losses		-459
Revaluation reserve cash flow hedge	-1,450	-1,208
Prudent valuation adjustment	-484	-13
Irrevocable Payment Commitment (IPC)	-339	-262
IRB Excess of provisions over expected losses eligible	110	
Non-Performing Exposure Prudential Backstop	-351	
Prudential filters:		
Own credit risk	117	114
Net defined benefit pension fund assets	-579	-605
Deferred tax assets	-124	-128
Own credit risk adjustments to derivatives (DVA)	-13	-16
Reserved profit not included in CET1 capital	-3,266	-1,754
Available capital - Common equity Tier 1	**47,333**	**47,552**
Subordinated loans qualifying as Tier 1 capital[2]	5,643	6,916
Minority interests, counting as Additional Tier 1 capital	48	51
Available capital - Tier 1	**53,024**	**54,519**
Paid up Tier 2 capital instruments and subordinated loans[2]	9,359	8,888
Haircut on externally placed Tier 2 instruments by subsidiaries	-866	-1,146
Minority interests, counting as Tier 2 capital	20	43
Total capital	**61,537**	**62,303**
Risk-weighted assets	**306,324**	**326,414**
Common Equity Tier 1 ratio	**15.45%**	**14.57%**
Tier 1 ratio	**17.31%**	**16.70%**
Total capital ratio	**20.09%**	**19.09%**

1 Intangibles: mainly goodwill and capitalised software.

2 Assuming that non CRR-compliant Tier 1 and Tier 2 capital will be replaced by CRR-compliant equivalents before they stop to meet the CRR grandfathering rules. Future Tier 2 instruments will be issued by ING Groep N.V..

Countercyclical buffer

As reaction to the Covid-19 pandemic, many regulators decided to reduce their CCyB requirement in an attempt to avoid a related credit crunch. The reduction is intended to free up bank capital to support further lending to businesses and households, and help alleviate economic disruption arising from Covid-19. As consequence, ING has a smaller countercyclical buffer requirement of 0.02% at the end of 2020 compared to 0.08% at the end of 2019. See below for an overview of the exposure distribution for the most relevant countries (having a share larger than 1% and/or having in place or announced a countercyclical buffer rate larger than 0%).

Countercyclical buffer

2020	General credit exposures		Trading book exposures	Securitisation exposures		Own funds requirements			Total	Own funds requirements weights	Counter-cyclical capital buffer rate
	Exposure value for SA	Exposure value for IRB	Value of trading book exposures for internal models	Exposure value for SA	Exposure value for IRB	of which: General credit exposures	of which: Trading book exposures	of which: Securitisation exposures			
Netherlands	2,907	195,077	96	658		3,066	1	12	**3,079**	17.43%	
Belgium	1,104	90,351		220		2,908	1	3	**2,912**	16.48%	
Germany	389	110,399		314	2,194	2,396		29	**2,425**	13.73%	
United States	1	93,550		3,068		1,328	1	47	**1,376**	7.79%	
Poland	14,936	14,030				1,220			**1,220**	6.91%	
Spain	3,622	24,205		1		700			**700**	3.96%	
Australia	3,205	44,538		5		651			**652**	3.69%	
United Kingdom	41	17,451		403		593	1	6	**600**	3.40%	
France	2,602	21,578		627		527	1	9	**538**	3.04%	
Luxembourg	201	16,101	12	2,499		479	1	39	**519**	2.94%	0.25%
Italy	1,548	13,906		81		443		1	**445**	2.52%	
Turkey	4,194	1,889	20			361	2		**362**	2.05%	
Romania	3,879	2,232				273			**273**	1.55%	
Switzerland	20	17,691		134		235		2	**237**	1.34%	
Hong Kong	57	7,598				123			**123**	0.70%	1.00%
Norway		2,843				44			**44**	0.25%	1.00%
Czechia	4	1,298	3			39			**39**	0.22%	0.50%
Slovakia		844				35			**35**	0.20%	1.00%
Bulgaria		570				27			**27**	0.15%	0.50%
Other countries	1,269	99,219	32	846	76	2,032	5	25	**2,062**	11.67%	
Total	**39,979**	**775,369**	**164**	**8,857**	**2,269**	**17,481**	**16**	**173**	**17,670**	**100.00%**	**0.02%**

Countercyclical buffer

2019	General credit exposures		Trading book exposures	Securitisation exposures		Own funds requirements			Total	Own funds requirements weights	Counter-cyclical capital buffer rate
	Exposure value for SA	Exposure value for IRB	Value of trading book exposures for internal models	Exposure value for SA	Exposure value for IRB	of which: General credit exposures	of which: Trading book exposures	of which: Securitisation exposures			
Netherlands	3,026	200,390		284	409	3,331	4	5	**3,339**	18.70%	
Belgium	1,053	93,733				2,747	1		**2,747**	15.38%	
Germany	333	104,223	87	489	3,063	2,133	2	24	**2,159**	12.09%	
United States	1	97,041		885	855	1,473	8	35	**1,516**	8.49%	
Poland	14,207	14,936	2			1,243			**1,243**	6.96%	
Spain	3,846	22,500	13		5	614	3		**617**	3.45%	
Australia	3,398	42,559	9	1	2	610	1		**611**	3.42%	
United Kingdom	61	28,761		58	199	539	3	3	**544**	3.05%	1.00%
France	2,156	23,914		200	205	508	3	4	**515**	2.88%	0.25%
Italy	1,722	15,333			10	484	2		**486**	2.72%	
Turkey	5,172	2,560	21			451	2		**453**	2.53%	
Luxembourg	158	16,763		601	423	423	2	11	**436**	2.44%	
Romania	3,732	2,384	4			274	1		**275**	1.54%	
Russian Federation		4,730	77			252	5		**257**	1.44%	
Switzerland	32	15,180				249	2		**251**	1.41%	
Brazil		3,294				182			**183**	1.02%	
Hong Kong	57	8,860	4			154			**154**	0.86%	2.00%
Ireland	1	14,794		140	23	88		2	**90**	0.50%	1.00%
Sweden		3,032				58			**59**	0.33%	2.50%
Czechia	5	1,284	2			39			**39**	0.22%	1.50%
Norway		2,681				37			**37**	0.21%	2.50%
Slovakia		907				28			**28**	0.16%	1.50%
Denmark	5	2,078				23			**23**	0.13%	1.00%
Bulgaria		570				21			**21**	0.12%	0.50%
Iceland		20				1			**1**	0.00%	1.75%
Lithuania		2								0.00%	1.00%
Other countries	731	79,999	116	94	62	1,759	13	2	**1,774**	9.94%	
Total	**39,695**	**802,530**	**335**	**2,752**	**5,258**	**17,721**	**52**	**85**	**17,858**	**100.00%**	**0.08%**

Amount of institution-specific CCyB	2020	2019
Total RWA	**306,324**	**326,414**
Weighted countercyclical buffer rate	0.021%	0.081%
Countercyclical buffer requirement	63.2	264.4

Own funds

The CRR requires ING Group to disclose information on own funds in a specific format that was provided in the EBA Implementation Technical Standards. The EBA templates Annex I, II and Annex VI are disclosed as part of the "Additional Pillar 3 disclosures" excel file on the corporate website ing.com. https://www.ing.com/Investor-relations/Financial-performance/Annual-reports.htm

Leverage ratio

The leverage ratio is a CRR/CRD IV measure indicating the level of the Tier 1 Capital compared to the total exposure. Its aim is to assess the risk of excessive leverage of the institution. In line with the regulatory requirements, ING Group will use the specific EBA templates as basis for the presentation of its Leverage ratio. These EBA templates reflect the Leverage ratio as calculated under the Leverage ratio Delegated Act which was introduced in October 2014. The Final Draft Implementing Technical Standards (ITS) on disclosure of the leverage ratio have been approved by the European Commission and published in the EU Official Journal early 2016. The official reporting of the Delegated Act Leverage ratio to the ECB has commenced per September 2016.

On 17 September 2020, the ECB authorised the temporary exclusion until June 2021 of certain central bank exposures from the leverage ratio in view of the Covid-19 pandemic. As a result, ING's leverage ratio on 31 December 2020 temporarily increased to 4.8% due to the exclusion of €98.3 billion of central bank balances from leverage exposure. Without the exclusion, the leverage ratio would have been 4.4% at 31 December 2020.

Summary reconciliation of accounting assets and leverage ratio exposures

		2020	2019
		CRR/CRD IV Applicable amounts	CRR/CRD IV Applicable amounts
1	Total assets as per published financial statements	937,275	891,744
2	Adjustments for derivative financial instruments	0	0
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 'CRR')	0	0
4	Adjustments for derivative financial instruments[1]	2,981	7,460
5	Adjustments for securities financing transactions 'SFTs'	5,152	13,404
6	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	77,436	81,510
EU-6b	(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	-98,288	
7	Other adjustments[1]	177,214	192,223
8	**Total leverage ratio exposure**	**1,101,771**	**1,186,340**

1 The adjustment for Receivables for cash variation margin provided in derivatives transactions has been included in the line Other adjustments.

Group leverage ratio common disclosure

		2020	2019
		CRR/CRD IV Applicable amounts	CRR/CRD IV Applicable amounts
On-balance sheet exposures (excluding derivatives and SFTs)			
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	1,038,402	1,013,265
2	(Asset amounts deducted in determining Tier 1 capital)	-3,871	-4,435
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)**	**1,034,531**	**1,008,829**
Derivative exposures			
4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	12,274	10,792
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	19,837	19,321
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-9,038	-8,891
9	Adjusted effective notional amount of written credit derivatives	10,267	13,100
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-8,575	-11,802
11	**Total derivative exposures (sum of lines 4 to 10)**	**24,764**	**22,520**
Securities financing transaction exposures			
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	75,357	80,622
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-17,182	-20,545
14	Counterparty credit risk exposure for SFT assets	5,152	13,404
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	**63,327**	**73,481**
Other off-balance sheet exposures			
17	Off-balance sheet exposures at gross notional amount	-229,200	-240,970
18	(Adjustments for conversion to credit equivalent amounts)	-151,764	-159,460
19	**Other off-balance sheet exposures (sum of lines 17 to 18)**	**77,436**	**81,510**
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	-98,288	
Capital and total exposures			
20	Tier 1 capital[1]	53,024	54,519
21	**Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)**	**1,101,771**	**1,186,340**
Leverage ratio			
22	**Leverage ratio**	**4.81%**	**4.60%**
EU-22a	Leverage ratio (excluding the impact of any applicable temporary exemption of certain exposures to central banks in view of the COVID-19 pandemic)	**4.42%**	

1 Please note that Tier 1 Capital per December 2020 includes grandfathered hybrids to an amount of € 983 million (2019: € 1,604 million)

Disclosure on qualitative items

1	Description of the processes used to manage the risk of excessive leverage	ING follows the leverage ratio on a monthly basis and takes it into account when taking certain securitisation and/or Tier 1 issuance/redemption decisions.
2	Description of the factors that had an impact on the leverage ratio during the period to which the disclosed leverage ratio refers	In 2020, the Leverage ratio increased compared to 2019 mainly driven by the recently introduced exclusion of eligible Central Bank assets (EUR -98 billion).

Transitional arrangements for IFRS 9 or analogous ECLs

In January 2018, the EBA published its final guidelines on disclosure requirements of IFRS 9 or analogous expected credit losses (ECLs) transitional arrangements. The guidelines specify a uniform disclosure template institutions shall use when disclosing the information on own funds, capital and leverage ratios, with and without the application of transitional arrangements for IFRS 9 or ECLs. These guidelines have been drafted in accordance with article 473a, paragraph 10 of the CRR, which mandates the EBA to issue guidelines on the disclosure requirements laid down in the same article.

In 2018, ING Group initially decided not to apply the CRR transitional arrangements for mitigating the impact of the introduction of IFRS 9 impairment on own funds. Therefore, the capital and leverage ratios published as from reporting period 1 January 2018 fully reflected the impact of impairment requirements resulting from IFRS 9.

On 26 June 2020, the Regulation (EU) 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 (CRR II) as regards certain adjustments in response to the Covid-19 pandemic (CRR 'quick fix') was published. Part of that was the possibility to extend by 2 years the transitional arrangements for mitigating the impact on own funds of the introduction of IFRS 9 (Article 473a (8) of Regulation (EU) No 575/2013). During 2020, ING obtained supervisory permission to apply the dynamic component of transitional arrangements pursuant the CRR 'quick fix' (phasing in impact of increases in IFRS 9 Stage 1 and 2 provisions that have arisen since 1 January 2020). The next table illustrates the own funds, capital and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs.

Template IFRS 9-FL: Comparison of institutions' own funds and capital and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs

	2020
Available capital (amounts)	
Common Equity Tier 1 (CET1) capital	47,333
Common Equity Tier 1 (CET1) capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	47,224
Tier 1 capital	53,024
Tier 1 capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	52,915
Total capital	61,537
Total capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	61,427
Risk-weighted assets (amounts)	
Total risk-weighted assets	306,324
Total risk-weighted assets as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	306,278
Capital ratios	
Common Equity Tier 1 (as a percentage of risk exposure amount)	15.45%
Common Equity Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	15.42%
Tier 1 (as a percentage of risk exposure amount)	17.31%
Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	17.28%
Total capital (as a percentage of risk exposure amount)	20.09%
Total capital (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	20.06%
Leverage ratio	
Leverage ratio total exposure measure	1,101,771
Leverage ratio	4.81%
Leverage ratio as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	4.80%

TLAC

Following the publication of the CRR II on 28 June 2019, TLAC requirements entered into force. Globally Systemic Important Institutions (G-SIIs), including ING Group, are currently required to hold own funds and eligible liabilities of at least the highest of 16% of RWA or 6% of the Leverage Ratio Exposure Amount (LREA). Per December 2020, the combined buffer requirement (5.03% of RWA) has been added to the RWA-based TLAC requirement as CRDV has been incorporated into Dutch law, resulting in a TLAC-MDA level of 21.03% of RWA. From January 2022, these requirements will increase to the highest of 18% of RWA (23.03% TLAC-MDA) or 6.75% of TLAC Leverage. Per 31 December 2020, The TLAC requirement is EUR 66.1 million (2019: EUR 71.2 million).

The CRR II requires ING Group to disclose information on TLAC, among others (i) the TLAC ratios and its components and (ii) the composition of own funds and eligible liabilities, their maturity and their main features. The disclosures on TLAC ratios and its components can be found in the table below and for the composition of own funds and eligible liabilities, ING has added a template with "Other TLAC eligible instruments' main features" to complement the template on own funds. Both templates are disclosed as part of the "Additional Pillar 3 disclosures" excel file on the corporate website ing.com.
https://www.ing.com/Investor-relations/Financial-performance/Annual-reports.htm

ING Group TLAC surplus

	2020	2019
Regulatory capital elements of TLAC and adjustments		
Common Equity Tier 1 capital (CET1)	47,333	47,552
AT1 instruments eligible under the TLAC framework	5,691	6,966
T2 instruments eligible under the TLAC framework	8,513	7,784
TLAC arising from regulatory capital	**61,537**	**62,303**
Non-regulatory capital elements of TLAC		
External TLAC instruments issued directly by the bank and subordinated to excluded liabilities	24,783	23,686
TLAC arising from non-regulatory capital instruments before adjustments	**24,783**	**23,686**
Non-regulatory capital elements of TLAC: adjustments		

TLAC before deductions	**86,320**	**85,989**
Deductions of investments in own other TLAC liabilities	-91	-79
Amortisation	299	
TLAC after deductions	**86,527**	**85,910**
Risk-weighted assets and leverage exposure measure for TLAC purposes		
Total risk-weighted assets adjusted as permitted under the TLAC regime	306,324	326,414
Leverage exposure measure	1,101,771	1,186,340
TLAC ratios and buffers		
TLAC requirement (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	21.03%	16.00%
TLAC (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	28.25%	26.32%
TLAC requirement (as a percentage of leverage exposure)	6.00%	6.00%
TLAC (as a percentage of leverage exposure)	7.85%	7.24%
TLAC surplus	**20,421**	**14,730**

Credit Risk

Basis and scope of presentation

In the credit risk section of Pillar III, data included in the tables are related to ING's credit risk resulting from Lending (both on- and off-balance), Money Market activities, Investment Risks, Securities Financing and Derivatives. The Securities Financing and Derivatives portfolios are presented separately in the counterparty credit risk section.

The amounts presented in this section relate to amounts used for credit risk management purposes, which follow ING's internal interpretation of the definitions as prescribed under CRR/CRD IV. Therefore, the numbers can be different from the accounting numbers as reported in the annual accounts under IFRS-EU. An example is the treatment of ONCOA (Other Non-Credit Obligation Assets) items – while the accounting numbers include ONCOA, they are excluded from the credit risk section of Pillar III.

The majority of the tables included in this section are based on gross or net carrying value. The gross carrying value refers to the original exposure pre-credit conversion factors for the on- and off-balance sheet items. The net carrying value corresponds to the original exposure (on- and off-balance) pre-credit conversion factors corrected for allowances, impairments and provisions.

READ is the Regulatory Exposure at Default (READ) and credit risk weighted assets (RWA) under the CRR/CRD IV definitions. READ is the sum of the on-balance and off-balance sheet: Lending, Investment, Money Market and counterparty activities plus an estimated portion of the unused credit facilities extended to the obligor. The amounts associated with Investment and Lending activities are based on the original amount invested less repayments.

Figures for Derivatives and Securities Financing are based on the Current Exposure Method, which is equal to the marked-to-market value of the underlying trades plus a (regulatory defined) 'add-on' which represents estimated potential future exposure (PFE). The amounts are adjusted based on the underlying collateral and any legal netting or compensation that may be permitted under master agreement arrangements such as International Swaps and Derivatives Association (ISDA) master agreements and Credit Support Annexes (CSAs).

Off-balance sheet exposures include letters of credit and guarantees, which are associated with the Lending risk category and are included under 'credit risk outstanding'. Additionally, off-balance sheet exposures include a portion of the unused limits, which represent the expected value of the outstanding at the theoretical moment of default. These are not counted under 'credit risk outstanding' but they contribute to total exposure and READ.

Investments in a financial sector entity, determined following art. 43 of the CRR, are included in the item "amounts below the thresholds for deduction" of table EU-OV1 "ING Group Regulatory capital requirements" up to the level at which the combined significant investments are equal to 10% of the CET1 capital of ING Group. These exposures are subject to 250% risk weight.

A small part of the equity exposure of ING's portfolio is subject to the simple risk weight method for calculating the regulatory capital.

In 2020 ING's new Definition of Default (DoD) was implemented, including limitations (add-ons) imposed by ECB for RWA. The add-ons are applied at the rating system level and at the end of the RWA computation process as a multiplier.

Credit RWA Migration Analysis

The table below explains the changes in Credit RWA in the AIRB portfolio during the reporting period and provides additional information by linking the impact of changes in portfolio composition, model changes and shifts in the risk environment on Credit RWA. The table reconciles movements in Credit RWA for the period for each Credit RWA risk type of ING for the AIRB portfolio including securitisations excluding equity and ONCOA. It does not include counterparty credit risk exposures under the Internal Model Method (IMM), as ING has not yet received regulatory approval to use IMM.

EU CR8 RWA flow statement of credit risk exposures under the IRB approach

	2020		2019	
	RWA amounts	Minimum capital requirements	RWA amounts	Minimum capital requirements
RWAs as at the end of the previous reporting period	**207,080**	**16,566**	**211,592**	**16,927**
Asset size	-5,056	-404	5,724	458
Asset quality	-9,047	-724	-16,131	-1,290
Model updates	13,053	1,044	1,830	146
Methodology and policy	-4,982	-399	838	67
Foreign exchange movements	-4,910	-393	1,512	121
Other	-2,160	-173	1,714	137
RWAs as at the end of the reporting period	**193,977**	**15,518**	**207,080**	**16,566**

Over the year 2020 the credit RWA in the IRB portfolio decreased by EUR 13.1 billion from EUR 207.1 billion to EUR 194.0 billion.

- Asset size: The asset size of the portfolio decreased and led to a lower RWA (EUR -5.1 billion), mainly observed in Wholesale Banking, SMEs and midsized corporates in Market Leaders.
- Asset Quality: The risk profile of the portfolio improved, resulting in a reduction of EUR -9.0 billion RWA. The largest decrease was related to improved risk profiles in Wholesale Banking (mainly due to higher redemptions in the uncollaterised part of the book) and C&G countries. Also the NVM House Price index uplift further improved the book quality of the Dutch mortgages portfolio by relieving RWA by EUR 1.6 billion RWA in Market Leaders.
- Model Updates: The total Model Updates in 2020 caused RWA to increase by EUR 13.1 billion. The main contributor being an update in the Large Corporates model.
- Methodology and policy: In 2020, the new definition of default was implemented which increased RWA. The increase was offset by several methodology and policy change, causing RWA to decrease by combined EUR -5.0 billion. The main one being the implementation of the partial permanent use for the governments and central bank exposure class in 2020. After approval of the ECB, ING went from the AIRB method for calculating RWA to the Standardized approach.
- Foreign exchange movements: The decrease of RWA by EUR -4.9 billion was mainly due to depreciation of the US dollar and the Turkish Lira 2020. The US dollar depreciation against the Euro was 8.4% and the Turkish Lira 26.2% against 2019
- Other: The remaining decrease of EUR -2.2 billion RWA was partially due to recalculation of provisions and covers for several clients.

Overall, RWA management has a high priority throughout ING Group in all aspects of our business. From product design to pricing, RWA allocation and consumption is extensively monitored, reported and managed at all levels of the organisation.

Credit risk approach

ING applies the Advanced Internal Ratings Based (AIRB) approach on the majority of its significant portfolios that contain credit risk in accordance with the required approvals granted by ECB and various local regulators. The AIRB approach is permitted by the regulator if there are regulatory approved rating models (PD, EAD and LGD) in place and if the (local) management understands and uses these rating models (Basel Use Test) in their credit decision-making processes. However, a small portion of the portfolio remains subject to the Standardised Approach (SA). The majority of SA portfolios at ING relate to subsidiaries where the home regulator does not have a robust AIRB framework or requirement.

Credit risk capital

Regulatory capital is the minimum amount of capital (based on 99.90% confidence level) that ING holds from a regulatory perspective as a cushion to be able to survive large unexpected losses.

RWA comparison

The differences in RWA among banks have been classified by the BIS in 3 categories:

- Risk based drivers that stem from the differences in underlying risk at the exposure/portfolio level and in business models/ strategies including asset class mix;
- Practice-based drivers including approaches to risk management and risk measurement; and
- Regulatory environment such as supervisory practices, implementing laws and regulations including national discretion and accounting standards.

Risk based drivers
ING's portfolio is dominated by secured lending especially in the areas of residential mortgages, leasing and commercial real estate. Secured lending tends to have a much lower LGD, given the collateral involved, which is a key driver of RWA calculations. Therefore the regulatory formula for residential mortgages tends to result in lower RWA, all other factors being equal.

Practice based drivers
ING has a proactive approach to non-performing exposures. Non-performing exposures are recognised early based on unlikely to pay triggers. For non-retail, ING typically classifies default based on a borrower rating and not a facility rating which means that a customer will only have one PD (probability of default) regardless of the type(s) of transactions done with ING. As a consequence, if one facility is in default, usually all facilities of the client are in default. Non-performing clients which were granted forbearance measures have an additional probation period of 1 year starting from the last moment they are classified as forborne, before returning to performing status.

Regulatory environment
ING's primary supervising entity is the ECB, which is supported by many host supervisors. The ECB supervises adherence to regulatory rules: the regulatory framework defined in CRR/CRD, implementing- and regulatory technical standards, European Banking Authority (EBA) guidelines and ECB guidance. Regulations require all 'significant changes' in internal models (PD, LGD and EAD) and policies to be reviewed and approved by the ECB, prior to implementation. Lower level model changes are either pre-notified or post-notified to the ECB.

Comparing capital levels across banks is a challenging exercise because of different risk profiles, differences in risk based drivers, practice based drivers and the regulatory environment (e.g. advanced internal rating based approach or the standardised approach). These factors have a substantial impact on the regulatory capital/RWA of a financial institution. ING continues to work with industry groups and strives to adhere to the latest BIS and EBA recommendations to improve the transparent reporting of the bank's capital calculations.

Economic capital
Economic capital reflects ING's own view on credit risk, which allows it to be used in decision-making processes at (sub) portfolio level. Credit risk and transfer risk capital are calculated for all portfolios which contain credit or transfer risk, including investment portfolios. Economic capital is the minimum amount of capital required to cover unexpected losses within a 99.9% confidence level and a 12 month time horizon. It is used throughout ING in the decision-making process (mainly wholesale banking), in risk adjusted counterparty and portfolio profitability measurement tools (wholesale and retail banking), in investment and divestment decisions, in the country risk framework and in concentration risk management, including risk appetite statements (RAS). Economic capital is calculated using the economic values of rating models (PD, EAD and LGD), in line with regulatory requirements.

An important characteristic of our IT systems and framework is that models are built for several purposes, including economic capital, regulatory capital and loan loss provisioning. These credit risk models are used throughout the organisation which is compliant with the Basel Use Test requirement and facilitates active feedback on the risk parameters by business units.

Credit risk measurement

There are two ways to measure credit risk for regulatory reporting purposes within ING's portfolio, depending on whether the exposure is booked under an ING office that is permitted by the ECB to use the advanced internal rating based (AIRB) approach, or if it falls under the standardised approach (SA).

Standardised approach
The SA applies a fixed risk weight to each asset as dictated by the CRR, and is based on the exposure class to which the exposure is assigned. As such, the SA is the least sophisticated of the regulatory capital methodologies and is not as sensitive as the risk-based approach. Where external rating agency ratings are available, they may be used as a substitute to using the fixed risk weightings assigned by the Financial Supervisory Authorities. Because the underlying obligors are relatively small for exposures treated under SA, with an exception for Governments and central banks, the underlying obligors tend not to have external ratings.

Advanced internal rating based approach
There are five main elements that drive the determination of risk-weighted assets under the AIRB approach.

- **Probability of Default (PD)**: The first is the borrower's probability of default, which measures a client's creditworthiness in terms of likelihood to go into default. It attempts to measure the senior, unsecured standalone creditworthiness of an organisation without consideration of structural elements of the underlying transactions, such as collateral, pricing, or maturity. Each borrower has a rating which translates into a specific PD.
- **Exposure at Default (EAD)**: The second element is the borrower's exposure at default. EAD models are intended to estimate the outstandings amount or obligation at the moment of default. Since the time in which a client may go into default is unknown, and the level of outstandings that may occur on that date is also unknown, ING uses a combination of statistical and hybrid models to estimate the EAD. With the exception of guarantees and letters of credit, the EAD is always equal to or higher than the associated credit risk outstandings, under the assumption that clients tend to absorb liquidity from available credit resources before financial problems become apparent to the clients' creditors. EAD is largely a function of the type of credit facility (overdraft, revolving, term) offered to the borrower.
- **Loss Given Default (LGD)**: The third element is loss given default. LGD models are intended to estimate the amount ING would lose after liquidating collateral pledged in association with a given loan or financial obligation, or alternatively, from liquidating the company as a whole as part of a workout process. LGD models are based on cover types, estimated recovery rates given orderly liquidation, and (in)direct cost of liquidation.
- **Maturity (M)**: The fourth element is the time to the maturity of the underlying financial obligation. Regulatory requirements (CRR/CRDIV) floor the maturity element at one year and cap it at five years.
- **Exposure Class**: The fifth element is the exposure class (a regulatory prescribed grouping of a common obligor type or product type) which is a driver for the correlation factor. To calculate risk-weighted assets the default correlation between a transaction and all other transactions in the portfolio is taken into account.

The expected loss (EL) provides a measure of the value of the credit losses that ING may reasonably expect to incur on its portfolio. In its basic form, the expected loss can be represented as:

EL = PD * EAD * LGD

Credit risk tools

Exposure classes

The BCBS has developed the concept of 'Exposure Classes', which has been transposed into CRR/CRDIV. These are essentially groupings of credit risks associated with a common client type, product type and/or cover type. For the AIRB Approach, most of the exposure classes have subcategories. ING has applied the following definitions to determine Exposure Classes:

- Sovereigns include Sovereign Government entities, Central Banks and recognised Local / Regional Authorities as well as Supranational Organisations;
- Institutions include Commercial Banks, non-Bank Financial Institutions, such as Funds and Fund Managers, and Insurance Companies, as well as local and regional government entities not classified as governments;
- Corporates includes all legal entities, that are not considered to be Governments, Institutions or Retail Other;
- Retail includes the following classes:
  - Retail – Secured by immovable property non-SME (hereafter residential mortgages) includes all retail loans which are covered by residential properties;
  - Retail - Secured by immovable property SME (included in tables with Other Retail) includes all retail loans which are covered by commercial properties; and
- Other Retail includes all other credit obligations related to Retail SMEs (such as partnerships and one-man businesses) and private individuals (such as consumer loans, car loans and credit cards). Under these exposure class definitions, it is possible for a private individual to have exposure classified as both residential mortgages and retail other.
- Securitisations include securitisation programs for which ING acts as an investor, sponsor or originator.

Models used for exposure classes

ING has developed PD, EAD and LGD models for Wholesale Banking and Retail Banking portfolios. These models are subject to Credit and Trading Risk Committee (CTRC) approval and changes which significantly impact the results require approval from the regulator before implementation. By nature, the above described exposure classes have different, specific characteristics. To capture these specific characteristics and to have suitable valuations and analyses in place, Model Development is continuously updating and developing models within each exposure class.

ING master scale

Internal rating grade and corresponding PD and external rating equivalent				
Internal rating grade		PD range for each grade		External Rating Equivalent
Performing				
Investment grade	1	0.00 - 0.01%		AAA
	2	0.01 - 0.03%		AA+
	3	0.03 - 0.04%		AA
	4	0.04 - 0.05%		AA-
	5	0.05 - 0.06%		A+
	6	0.06 - 0.08%		A
	7	0.08 - 0.11%		A-
	8	0.11 - 0.17%		BBB+
	9	0.17 - 0.26%		BBB
	10	0.26 - 0.37%		BBB-
Non-investment grade	11	0.37 - 0.58%		BB+
	12	0.58 - 1.00%		BB
	13	1.00 - 1.77%		BB-
	14	1.77 - 3.23%		B+
	15	3.23 - 6.05%		B
	16	6.05 - 11.67%		B-
	17	11.67 - 20.20%		CCC
Sub-standard grade	18	20.20 - 29.58%		CC
	19	>29.58%-100%		C
Non-performing				
Non-performing grade	20		1	Default
	21		1	Default
	22		1	Default

AIRB models per exposure class

In the table below, the number of significant PD, EAD and LGD models per asset class are shown. Additionally a description of the model and methodology are provided per exposure class. The asset classes presented in this table do not align with the EBA Exposure classes as the scope has been redefined to better fit the scope of the model. SME exposure, for example, can be part of either corporate exposures or other retail depending on the size of the SME.

AIRB models

	Model Type	Number of significant models	Model description and methodology	Number of years of data
Government related entities	PD	1	The government related entities PD model is expert based and assigns ratings based on stand-alone credit fundamentals as well as degree of government support.	>7 years
	LGD	1	The LGD model for Government related entities is a secured/unsecured recovery model built on assessment of stand-alone fundamentals as well as geography.	>7 years
	EAD	1	The Low Default EAD model is a hybrid model that pools default information from multiple low default portfolios, including government related entities.	>7 years
Financial institutions	PD	3	The main PD model applied is Bank Commercial based upon financial, qualitative and country information. Other PD models for different types of financial institutions are built using a similar framework, but are more specialised for the specific characteristics of the financial institution.	>7 years
	LGD	1	This LGD model was developed based on expert judgement, supported by limited internal and external data. The developed LGD model is based on ultimate recovery rates.	>7 years
	EAD	1	The Low Default EAD model is a hybrid model used that pools default information from multiple low default portfolios, including financial institutions.	>7 years
Corporates - Specialized lending	PD	3	Expert based scorecards Models predict a rating for Commercial Property Finance, Project Finance, Trade and Commodity Finance.	>7 years
	LGD	3	Hybrid LGD Models predict loss given default for Commercial Property Finance, Project Finance, Trade and Commodity Finance.	>7 years
	EAD	1	There is a dedicated EAD model for commercial property finance due to the specificities of this portfolio.	>7 years
Large Corporates	PD	1	The Corporate Large model is a global hybrid model build on 13 years of data, including balance sheet and qualitative information as well as country risk and parent influence.	>7 years
	LGD	1	Loss Given Default for Large corporates are predicted by a dedicated hybrid LGD model using both no loss rates as well as secured/unsecured recovery rates.	>7 years
	EAD	1	The Low Default EAD model is a hybrid model used that pools default information from multiple low default portfolios, including large corporates.	>7 years
SME	PD	6	The SME PD models are estimated statistically and directly predict a PD. Most of these models are developed locally to reflect regional/jurisdiction circumstances.	>7 years
	LGD	6	Local statistical models or hybrid models use various data inputs on cure behaviour as well as cost and recovery.	>7 years
	EAD	6	Local statistical models that use various data inputs, including product type and geography.	>7 years
Secured by residential mortgages	PD	71	The PD mortgages models are all developed statistically and include borrower specific information, payment behaviour and product related information. These are statistical models that directly predict a PD.	>5 years[2]
	LGD	7	Local statistical models or hybrid models use various data inputs on cure behaviour as well as cost and recovery	>7 years
	EAD	7	Local statistical models that use various data inputs, including product type and geography.	>7 years
Private Individuals	PD	41	The PD models for private individuals are all developed statistically and include borrower specific information, payment behaviour and product related information. These are statistical models that directly predict a PD.	>5 years[2]
	LGD	4	Local statistical models use various data inputs on cure behaviour as well as cost and recovery.	>7 years
	EAD	4	Local statistical models that use various data inputs, including product type and geography.	>7 years
Other[1]	Other		(Covered Bonds, Structured assets)	

1 Belgian PD models provide a rating at a customer level, covering both secured and unsecured loans.

2 For retail PD modelling a minimum of 5 years is allowed based on ING's Modelling Standards, which are compliant with regulatory requirements.

Credit risk mitigation

ING's lending and investment businesses are subject to credit risk. As such, the creditworthiness of our customers and investments is continually monitored for their ability to meet their financial obligations to ING Bank. In addition to determining the credit quality and creditworthiness of the customer, ING uses various credit risk mitigation techniques and instruments to mitigate the credit risk associated with an exposure and to reduce the losses incurred subsequent to an event of default on an obligation a customer may have towards ING. The most common terminology used in ING for credit risk protection is 'cover'. While a cover can be an important method for mitigation of credit risk and an alternative source of repayment, generally it is ING's practice to lend on the basis of the customer's creditworthiness rather than exclusively relying on the value of the cover. Within ING, there are two distinct forms of covers: assets and third party obligations.

Cover forms Assets

The asset that has been pledged to ING as collateral or security gives ING the right to liquidate it in the event where the customer is unable to fulfil its financial obligation. As such, the proceeds can be applied towards full or partial payments of the customer's outstanding exposure. An asset can be tangible (such as cash, securities, receivables, inventory, plant & machinery and mortgages on real estate properties) or intangible (such as patents, trademarks, contract rights and licenses).

Third party obligation

Third Party Obligation, indemnification or undertaking (either by contract and/or by law) is a legally binding declaration by a third party that gives ING the right to expect and claim from that third party to pay an amount, if the customer fails on its obligations to ING. The most common examples are guarantees (such as parent guarantees and export credit insurances) and letters of comfort.

Cover valuation methodology

General guidelines for cover valuation are established to ensure consistency of the application within ING. These general guidelines also require that the value of the cover is monitored on a regular basis, in principle at least annually. Covers shall be revalued accordingly and whenever there is reason to believe that the market is subject to significant changes in conditions. The frequency of monitoring and revaluation depends on the type of covers.

The valuation method also depends on the type of covers. For asset collateral, the valuation sources can be the customer's balance sheet (e.g. inventory, machinery, and equipment), nominal value (e.g. cash, receivables), market value (e.g. securities and commodities), independent appraiser (commercial real estate) and market indices (residential real estate). For third party obligations, the valuation is based on the value that is attributed to the contract between ING and that third party.

For the determination of the Credit Risk applicable amount for Pre-Settlement transactions, ING first matches trades with similar characteristics to determine their eligibility for offset. This offsetting effect is called 'compensation'. Subsequently, ING reduces the amount by any legal netting that may be permitted under various types of Master Agreements (such as ISDAs and GMRAs). Lastly, the amount is further reduced by any collateral that is held by ING under CSAs or other similar agreements.

For the other risk types and especially lending, covers are received that are intended to reduce the losses incurred subsequent to an event of default on an obligation a customer may have towards ING. These are subdivided into four groups called collateral values mortgages, cover values cash, cover value guarantees and other physical covers.

The table below presents the ING portfolio excluding equities per loan type. Exposures represent the outstanding and a loan is presented as secured by collateral or a guarantee if such a cover exists on a facility type. The secured amounts represent the part of the loan that is covered by the collateral. If a loan has both collateral and a guarantee than these are both shown in the designated column.

Credit Risk Mitigations techniques – overview

The table below presents the extent of the use of CRM techniques. All collaterals and financial guarantees are included for all secured exposures, irrespective of whether the standardized approach or the IRB approach is used for RWA calculation. In the column Exposures unsecured – Carrying amount are the exposures (net of allowances/impairments) that do not benefit from a CRM technique.
In the column Exposures to be secured are the exposures that have at least one CRM mechanism (collateral, financial guarantees, credit derivatives) associated with them.

EU CR3: Credit risk mitigation techniques - overview

2020	Exposures unsecured: carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
Total loans	637,783	566,718	525,541	41,177	
Total debt securities	187,412	863	5	859	
Total exposures	**825,195**	**567,582**	**525,546**	**42,036**	
Of which defaulted	4,743	5,572	4,808	764	

EU CR3: Credit risk mitigation techniques - overview

2019	Exposures unsecured: carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
Total loans	627,003	567,117	522,367	44,750	
Total debt securities	166,931	272	198	74	
Total exposures	**793,934**	**567,389**	**522,565**	**44,824**	
Of which defaulted	4,861	4,090	3,550	540	

For more information on the covers, please see the section 'credit risk mitigation' part of the Risk Management section of the ING Group Annual Report 2020.

Credit risk exposure excluding Counterparty Credit Risk

In this credit risk section the tables shown represent the net carrying values of on- and off-balance sheet exposures as per EBA definitions. The scope of these tables are the credit risk exposures excluding the counterparty credit risk exposures (also named Pre-Settlement exposures), Securitisations, Equity positions, CVA and ONCOA items.

In the next four tables the net carrying values are broken down per exposure class, geography, counterparty type and maturity.

The table below displays the net carrying values at the end of 2020 and 2019 per AIRB and SA exposure classes. Next to it the average net carrying value per the same exposure classes over the past 4 quarters is provided. This average net carrying value is based upon the last 4 quarter-end observations in the year 2020.

EU CRB-B: Total and average net amount of exposures

	Net carrying value of exposures at the end of 2020	Average net exposures over the period	Net carrying value of exposures at the end of 2019
Central governments or central banks		309,365	264,834
Institutions	106,920	109,672	114,090
Corporates	544,873	567,709	590,138
Of Which: Specialised lending	127,131	137,746	161,343
Of Which: SME	33,204	31,624	27,039
Retail	339,964	337,108	337,382
Secured by real estate property	308,849	305,741	306,284
SMEs	11,395	11,527	11,508
Non-SMEs	297,454	294,215	294,776
Other Retail	31,115	31,367	31,098
SMEs	4,598	4,777	4,874
Non-SMEs	26,517	26,590	26,224
Total AIRB approach	**991,757**	**1,323,854**	**1,306,444**
Central governments or central banks	332,292	166,403	4,237
Regional governments or local authorities	145	157	152
Public sector entities		21	21
Multilateral development banks	7,498	7,498	
International organisations	11,730	11,731	
Institutions	434	680	760
Corporates	9,430	9,452	10,464
of which: SMEs	1,267	1,328	1,669
Retail	18,035	18,154	18,547
of which: SMEs	3,010	3,101	3,412
Secured by mortgages on immovable property	20,401	19,964	19,921
of which: SMEs	1,317	1,084	1,009
Exposures in default	889	907	778
High Risk Items	166	166	
Total SA approach	**401,020**	**235,133**	**54,880**
Total	**1,392,777**	**1,558,987**	**1,361,324**

In 2020, the total net carrying value of the portfolio increased by EUR 31.5 billion. In AIRB Approach, the most noticeable trend was the move of 'Central governments or central banks' exposure from AIRB to SA due to the Permanent partial use resulting in a higher exposure under SA Approach. Further in AIRB, the Corporate category showed a decrease, mainly in Corporates: Specialized Lending.
In SA Approach, the 'Multilateral development banks' and 'International organisations' noted a higher net carrying value.

Exposure by geography

The table below presents a breakdown of net carrying value of exposures and their totals by geographical area and exposure classes under the AIRB and SA approaches.

EU CRB-C: Geographical breakdown of exposures

	Net carrying value														
2020	Europe	Netherlands	Belgium & Luxembourg	Germany	UK	France	Spain	Poland	Italy	Other Europe	America	Africa	Asia	Australia	Total
Institutions	61,197	7,014	14,993	2,420	10,109	8,982	770	2,501	1,218	13,190	13,781	990	28,223	2,728	106,920
Corporates	340,812	85,866	62,793	22,632	24,744	23,211	7,233	17,737	9,026	87,570	131,206	3,505	61,238	8,112	544,873
Retail	303,188	128,635	51,508	96,069	288	301	18,592	67	7,517	210	216	31	200	36,329	339,964
Total AIRB approach	**705,197**	**221,515**	**129,294**	**121,122**	**35,141**	**32,493**	**26,595**	**20,305**	**17,761**	**100,970**	**145,203**	**4,526**	**89,661**	**47,169**	**991,757**
Central governments or central banks	298,923	65,067	63,281	90,233	18,330	8,456	9,001	14,551	4,196	25,808	17,148	581	7,563	8,077	332,292
Regional governments or local authorities	145	7	4						1	134					145
Multilateral development banks	4,160		3,320		240	500				100	2,258	50	1,030		7,498
International organisations	11,730		11,130							600					11,730
Institutions	406	59	22	4	121	8	11			181	5		23		434
Corporates	9,129	412	950	407	33	233	57	960	46	6,032			300	1	9,430
Retail	17,728	31	42	30	2	3,034	4,119	3,799	1,627	5,044	7	5		294	18,035
Secured by mortgages on immovable property	17,448	2,980	245	1	2			10,822	66	3,331	1		58	2,895	20,401
Exposures in default	785	28	168	16	10	14	41	118	147	243	12	44	6	41	889
High Risk Items	41		41											125	166
Total SA approach	**360,496**	**68,584**	**79,203**	**90,692**	**18,738**	**12,244**	**13,229**	**30,251**	**6,082**	**41,473**	**19,431**	**680**	**8,980**	**11,434**	**401,020**
Total	**1,065,693**	**290,100**	**208,497**	**211,814**	**53,879**	**44,737**	**39,823**	**50,556**	**23,843**	**142,443**	**164,634**	**5,206**	**98,641**	**58,603**	**1,392,777**

EU CRB-C: Geographical breakdown of exposures

2019	Net carrying value														
	Europe	Netherlands	Belgium & Luxembourg	Germany	UK	France	Spain	Poland	Italy	Other Europe	America	Africa	Asia	Australia	Total
Central governments or central banks	227,420	44,062	51,929	70,892	11,695	8,456	7,368	8,784	1,500	22,734	18,712	759	10,240	7,703	264,834
Institutions	61,764	6,680	15,100	2,640	11,031	8,714	888	2,875	1,460	12,376	14,976	1,187	30,981	5,182	114,090
Corporates	362,189	86,308	68,609	20,467	37,328	25,687	7,030	17,954	9,624	89,180	134,747	4,622	81,449	7,132	590,138
Retail	301,331	131,918	52,318	90,447	308	244	17,314	94	8,462	226	265	41	208	35,536	337,382
Total AIRB approach	**952,704**	**268,968**	**187,956**	**184,446**	**60,362**	**43,101**	**32,599**	**29,708**	**21,045**	**124,517**	**168,700**	**6,609**	**122,878**	**55,553**	**1,306,444**
Central governments or central banks	4,237	1								4,236					4,237
Regional governments or local authorities	152		3							148					152
Public sector entities													21		21
Institutions	730	40	45	51	47				1	545	23		5	2	760
Corporates	10,122	461	1,065	349	75	166	56	992	39	6,917	1		308	33	10,464
Retail	18,172	34	38	1	2	2,631	4,310	3,975	1,987	5,194	7	7		360	18,547
Secured by mortgages on immovable property	16,678	3,018	3	1	1			9,944		3,710	2		57	3,185	19,921
Exposures in default	769	40	183	37	11	8	25	89	31	346				9	778
Total SA approach	**50,860**	**3,594**	**1,338**	**440**	**136**	**2,806**	**4,392**	**15,000**	**2,058**	**21,096**	**32**	**7**	**391**	**3,589**	**54,880**
Total	**1,003,564**	**272,562**	**189,294**	**184,886**	**60,499**	**45,907**	**36,991**	**44,708**	**23,103**	**145,613**	**168,732**	**6,616**	**123,270**	**59,142**	**1,361,324**

Again, the 'Central governments or central banks' exposure moved from AIRB to SA due to the afore mentioned Permanent partial use resulting in a higher exposure in SA Approach. The effect was noticeable across all the country exposures but mainly in Germany, the Netherlands and Belux. The decrease of Corporates: Specialized Lending was visible primarily in UK, Belux and Asia.

In SA Approach, the increase in 'Multilateral development banks' and 'International organisations' was mainly concentrated in Belux.

Exposure by industry or counterparty type

The following table provides a breakdown of the net carrying values by industry or counterparty type per exposure class, for both the AIRB and SA portfolio and ordered by the size of the combined AIRB and SA exposure. These industry sector or counterparty types are based upon the European NACE codes (Nomenclature statistique des Activités économiques dans la Communauté Européenne) and reflect the main activity of the client. The industry or counterparty type allocation is based exclusively on the nature of the client. The classification of the exposures incurred jointly by more than one obligor should be done on the basis of characteristics of the obligor that was the more relevant, or determinant, for the institution to grant the exposure.

EU CRB-D: Concentration of exposures by industry or counterparty types

2020	Net carrying value						
	Activities of households as employers and own use	Wholesale and retail trade	Financial and insurance activities	Public administration and defence, compulsory social security	Manufacturing	Other Services	Total
Institutions			93,711	7,203	41	5,965	106,920
Corporates	68	97,797	63,715	2	150,125	233,166	544,873
Retail	278,517	6,262	2,230	14,726	10,004	28,223	339,964
Total AIRB approach	**278,585**	**104,060**	**159,656**	**21,931**	**160,170**	**267,355**	**991,757**
Central governments or central banks			169,440	161,658		1,194	332,292
Regional governments or local authorities				134		11	145
Multilateral development banks			7,498				7,498
International organisations				11,730			11,730
Institutions			402			31	434
Corporates	304	2,246	298		3,841	2,740	9,430
Retail	9,896	1,292	391	1,094	1,363	3,999	18,035
Secured by mortgages on immovable property	13,440	278	374	73	423	5,813	20,401
Exposures in default	401	189	14	65	99	122	889
High Risk Items				41		125	166
Total SA approach	**24,041**	**4,006**	**178,418**	**174,794**	**5,726**	**14,035**	**401,020**
Total	**302,626**	**108,066**	**338,074**	**196,725**	**165,896**	**281,391**	**1,392,777**

EU CRB-D: Concentration of exposures by industry or counterparty types

2019	Net carrying value						
	Activities of households as employers and own use	Wholesale and retail trade	Financial and insurance activities	Public administration and defence, compulsory social security	Manufacturing	Other Services	Total
Central governments or central banks			105,365	157,349		2,119	264,834
Institutions			100,751	8,165	15	5,159	114,090
Corporates	46	121,052	65,216		159,944	243,880	590,138
Retail	277,075	6,082	2,284	13,977	9,996	27,968	337,382
Total AIRB approach	**277,121**	**127,134**	**273,616**	**179,492**	**169,955**	**279,127**	**1,306,444**
Central governments or central banks			3,499	737		1	4,237
Regional governments or local authorities				151		2	152
Public sector entities			21				21
Institutions			738			22	760
Corporates	313	2,495	299		4,627	2,731	10,464
Retail	9,772	1,562	438	1,127	1,555	4,093	18,547
Secured by mortgages on immovable property	13,041	424	48	10	672	5,726	19,921
Exposures in default	257	253	4	4	112	149	778
Total SA approach	**23,382**	**4,733**	**5,048**	**2,028**	**6,965**	**12,723**	**54,880**
Total	**300,503**	**131,868**	**278,664**	**181,519**	**176,921**	**291,850**	**1,361,324**

The table shows the industry or counterparty types that represent at least 5% of the total net carrying value. In total, the top 5 counterparty or industry types makes up 78.9% of the exposure in 2020. The other counterparty or industry types exposures are grouped under the Other Services. Manufacturing is logically mostly found in the Corporate exposure class and the Financial and insurance activities in the Institutions and Sovereign exposure classes.

Also here, the 'Central governments or central banks' exposure moved from AIRB to SA due to the afore mentioned Permanent partial use. The effect is concentrated in the industries 'Financial and insurance activities' and 'Public administration and defence, compulsory social security'. The decrease of Corporates: Specialized Lending was visible primarily in Wholesale and retail trade, but also visible in Manufacturing and Other Services .

In SA Approach, the increase in 'Multilateral development banks' and 'International organisations' was concentrated Financial and insurance activities and Public administration, respectively.

Exposure by maturity

The table below presents a breakdown of the net carrying value by residual maturity, for both AIRB and SA exposure classes. In ING's data model all transactions get assigned a regulatory maturity between 1 day and 5 years.

EU CRB-E: Maturity of exposures

	Net carrying value				
2020	<= 1 year	> 1 year < 5 years	>= 5 years	No stated maturity	Total
Institutions	62,494	26,135	18,291		106,920
Corporates	296,794	201,116	46,964		544,873
Retail	11,087	28,165	300,712		339,964
Total AIRB approach	**370,374**	**255,415**	**365,967**		**991,757**
Central governments or central banks	200,753	78,891	52,648		332,292
Regional governments or local authorities	70	51	25		145
Multilateral development banks	1,223	2,809	3,465		7,498
International organisations	1,176	4,114	6,440		11,730
Institutions	306	77	50		434
Corporates	6,081	2,657	691		9,430
Retail	5,329	8,309	4,396		18,035
Secured by mortgages on immovable property	2,182	3,104	15,115		20,401
Exposures in default	389	276	223		889
High Risk Items	145	21			166
Total SA approach	**217,655**	**100,310**	**83,054**		**401,020**
Total	**588,030**	**355,726**	**449,022**		**1,392,777**

EU CRB-E: Maturity of exposures

	Net carrying value				
2019	<= 1 year	> 1 year < 5 years	>= 5 years	No stated maturity	Total
Central governments or central banks	121,178	92,551	51,105		264,834
Institutions	68,750	27,304	18,035		114,090
Corporates	311,246	200,185	78,706		590,138
Retail	9,941	23,556	303,885		337,382
Total AIRB approach	**511,116**	**343,597**	**451,731**		**1,306,444**
Central governments or central banks	3,910	326			4,237
Regional governments or local authorities	3	119	30		152
Public sector entities		13	8		21
Institutions	596	136	29		760
Corporates	5,512	4,105	846		10,464
Retail	5,021	6,539	6,987		18,547
Secured by mortgages on immovable property	1,924	3,606	14,392		19,921
Exposures in default	504	72	202		778
Total SA approach	**17,471**	**14,915**	**22,494**		**54,880**
Total	**528,587**	**358,512**	**474,225**		**1,361,324**

The largest part of the exposure is in the <1 year maturity bucket (42.1%). This lower maturity buckets for Central Governments or Central Banks are mostly in money market deposits and regulatory reserve deposits and revolving loans. Exposures in the other two buckets are predominantly seen in bond investment products. Regarding Corporates, revolving loans, guarantees and letters of credit make up the majority of the exposure seen in the first maturity bucket, whereas term loans and revolving loans are the dominant product types in the longer maturity buckets. The exposure in the 2 maturity buckets (lower than 1 year and between 1 year and 5 years) increased mainly driven to the afore mentioned move of the 'Central governments or central banks' exposure from AIRB to SA due to the Permanent partial use, whereas the maturity bucket >5 years decreased due to Corporates exposures.

Credit quality

This section focusses on non-performing loans, which are loans where there is a reasonable probability that ING may encounter a loss, unless ING intervenes with specific and significant actions. In other words, in this category an account or portfolio requires a more intensified approach, which may include renegotiation of terms and conditions and/or business/financial restructuring. This section should be read in conjunction with the Risk Management paragraph sections of the Annual Report on: Risk Appetite Framework and Credit Quality.

The credit quality of risk exposures is presented in three tables providing insight in the credit quality per exposure class, industry or counterparty type and geography. These tables present the gross carrying values, consisting of on- and off-balance sheet exposures, split over non-performing / performing, specific risk adjustments and impairments/allowances. The net carrying values are the result of specific risk adjustments and / or after impairments/allowances and are presented at the end of the tables. These three tables should be read in conjunction with table EU CR6: IRB-Credit risk exposures by exposure class and PD range.

On-balance sheet items include loans and debt securities. Off-balance sheet items include guarantees given and irrevocable loan commitments. Pre-settlement exposures are not included in this section. More information on the definition of non-performing loans and allowances can be found in the credit quality section of the Risk Management paragraph of the Annual report.

Credit quality of exposures

This section provides a comprehensive picture of the credit quality of the banks' assets per exposure class. The data excludes Counterparty Credit Risk exposures, Securitisations, CVA RWA, Equities and ONCOA. The net carrying values correspond to the original exposure (on and off-balance) pre-credit conversion factors corrected for allowances, impairments and provisions.

EU CR1-A: Credit quality of exposures by exposure classes and instruments

2020	gross carrying values of		specific credit risk adjustments	Net values
	Defaulted exposures	Non-defaulted exposures		
Institutions	311	106,636	–27	106,920
Corporates	7,361	540,545	–3,033	544,873
Of Which: Specialised lending	1,925	125,946	–740	127,131
Of Which: SME	1,096	32,482	–374	33,204
Retail	4,814	336,156	–1,006	339,964
Secured by real estate property	3,994	305,325	–469	308,849
SMEs	321	11,133	–60	11,395
Non-SMEs	3,672	294,191	–409	297,454
Other Retail	821	30,831	–537	31,115
SMEs	225	4,519	–147	4,598
Non-SMEs	595	26,312	–390	26,517
Total AIRB approach	**12,486**	**983,336**	**–4,065**	**991,757**
Central governments or central banks		332,326	–34	332,292
Regional governments or local authorities		147	–2	145
Multilateral development banks		7,498		7,498
International organisations		11,730		11,730
Institutions		434	–1	434
Corporates		9,452	–22	9,430
of which: SMEs		1,275	–3	1,272
Retail		18,226	–191	18,035
of which: SMEs		3,057	–47	3,010
Secured by mortgages on immovable property		20,439	–37	20,401
of which: SMEs		1,328	–11	1,317
Exposures in default	1,720		–831	889
High Risk Items		166		166
Total SA approach	**1,720**	**400,419**	**–1,119**	**401,020**
Total	**14,206**	**1,383,755**	**–5,184**	**1,392,777**

EU CR1-A: Credit quality of exposures by exposure classes and instruments				
2019	gross carrying values of		specific credit risk adjustments	Net values
	Defaulted exposures	Non-defaulted exposures		
Central governments or central banks	51	264,795	–12	264,834
Institutions	422	113,688	–19	114,090
Corporates	6,997	585,804	–2,662	590,138
Of Which: Specialised lending	1,663	160,273	–593	161,343
Of Which: SME	869	26,469	–299	27,039
Retail	3,414	335,035	–1,068	337,382
Secured by real estate property	2,761	304,002	–479	306,284
SMEs	281	11,299	–71	11,508
Non-SMEs	2,480	292,703	–408	294,776
Other Retail	654	31,033	–589	31,098
SMEs	205	4,847	–177	4,874
Non-SMEs	449	26,186	–412	26,224
Total AIRB approach	**10,884**	**1,299,322**	**–3,762**	**1,306,444**
Central governments or central banks		4,246	–11	4,237
Regional governments or local authorities		157	–5	152
Public sector entities		21		21
Institutions		762	–2	760
Corporates		10,503	–39	10,464
of which: SMEs		1,680	–7	1,673
Retail		18,760	–214	18,547
of which: SMEs		3,453	–41	3,412
Secured by mortgages on immovable property		19,960	–39	19,921
of which: SMEs		1,020	–11	1,009
Exposures in default	1,472		–693	778
Total SA approach	**1,472**	**54,409**	**–1,001**	**54,880**
Total	**12,356**	**1,353,731**	**–4,763**	**1,361,324**

The overall exposure increased by EUR 31.5 billion in 2020. The increase in non-defaulted exposure in SA was mainly due to the exposure in Central governments or central banks moving from AIRB to SA following the implementation of the Permanent partial use. The defaulted exposures increased by EUR 1.6 billion mainly due to retail exposure secured by real estate property.

EU CR1-B: Credit quality of exposures by industry or counterparty types				
2020	gross carrying values of		specific credit risk adjustments	Net values
	Defaulted exposures	Non-defaulted exposures		
Agriculture, Forestry and Fishing	243	4,711	–78	4,876
Mining and Quarrying	1,360	18,718	–477	19,602
Manufacturing	1,946	164,787	–837	165,896
Electricity, Gas, Steam and Air Conditioning Supply	167	28,067	–104	28,130
Water Supply; Sewerage, Waste Management and Remediation Activities	76	3,683	–14	3,745
Construction	750	20,312	–260	20,802
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,615	107,162	–711	108,066
Transportation and Storage	854	34,816	–247	35,423
Accommodation and Food Service Activities	297	10,682	–113	10,867
Information and Communication	249	35,970	–206	36,012
Financial and Insurance Activities	514	337,691	–131	338,074
Real Estate Activities	431	41,394	–146	41,679
Professional, Scientific, and Technical Activities	709	36,659	–393	36,976
Administrative and Support Service Activities	637	26,812	–156	27,294
Public Administration and Defence; Compulsory Social Security	174	196,639	–88	196,725
Education	44	1,556	–12	1,587
Human Health and Social Work Activities	92	10,348	–50	10,390
Arts, Entertainment, and Recreation	49	1,646	–28	1,666
Other Service Activities	37	2,328	–23	2,342
Activities of Households as Employers; Producing	3,962	299,776	–1,112	302,626
Total	**14,206**	**1,383,755**	**–5,184**	**1,392,777**

EU CR1-B: Credit quality of exposures by industry or counterparty types				
2019	gross carrying values of		specific credit risk adjustments	Net values
	Defaulted exposures	Non-defaulted exposures		
Agriculture, Forestry and Fishing	211	5,102	–72	5,240
Mining and Quarrying	1,055	23,025	–324	23,756
Manufacturing	1,914	175,905	–898	176,921
Electricity, Gas, Steam and Air Conditioning Supply	160	26,624	–87	26,697
Water Supply; Sewerage, Waste Management and Remediation Activities	94	3,786	–21	3,859
Construction	778	20,932	–310	21,399
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,578	130,979	–690	131,868
Transportation and Storage	591	36,255	–208	36,638
Accommodation and Food Service Activities	113	12,171	–58	12,226
Information and Communication	175	37,731	–142	37,763
Financial and Insurance Activities	965	277,796	–97	278,664
Real Estate Activities	652	47,289	–176	47,765
Professional, Scientific, and Technical Activities	616	30,289	–280	30,624
Administrative and Support Service Activities	444	28,852	–149	29,146
Public Administration and Defence; Compulsory Social Security	148	181,450	–79	181,519
Education	22	1,814	–12	1,824
Human Health and Social Work Activities	82	10,542	–60	10,563
Arts, Entertainment, and Recreation	27	1,732	–15	1,744
Other Service Activities	47	2,583	–27	2,603
Activities of Households as Employers; Producing	2,685	298,875	–1,056	300,503
Total	**12,356**	**1,353,731**	**–4,763**	**1,361,324**

In 2020, the non-defaulted exposures increased mainly in ‘Financial and Insurance activities’ due to the move from AIRB to SA following the implementation of the Permanent partial use. For the defaulted exposures, an increase is witnessed in ‘Activities of Households’ due to residential mortgages.

EU CR1-C : Credit quality of exposures by geography				
2020	gross carrying values of		specific credit risk adjustments	Net values
	Defaulted exposures	Non-defaulted exposures		
Europe	10,885	1,059,024	–4,216	1,065,693
Netherlands	2,945	287,965	–811	290,100
Germany	956	211,351	–493	211,814
Belgium & Luxembourg	3,918	205,562	–983	208,497
UK	198	53,752	–71	53,879
France	131	44,651	–45	44,737
Spain	322	39,776	–274	39,823
Poland	872	50,327	–642	50,556
Italy	454	23,546	–158	23,843
Other Europe	1,088	142,094	–739	142,443
Africa	95	5,149	–38	5,206
America	1,369	163,847	–583	164,634
Asia	940	97,916	–215	98,641
Australia	917	57,819	–133	58,603
Total	**14,206**	**1,383,755**	**–5,184**	**1,392,777**

EU CR1-C : Credit quality of exposures by geography

2019	gross carrying values of		specific credit risk adjustments	Net values
	Defaulted exposures	Non-defaulted exposures		
Europe	10,055	997,548	-4,040	1,003,564
Netherlands	3,158	270,369	-964	272,562
Germany	707	184,588	-408	184,886
Belgium & Luxembourg	3,131	186,977	-813	189,294
UK	166	60,408	-75	60,499
France	98	45,860	-52	45,907
Spain	280	36,942	-231	36,991
Poland	815	44,420	-527	44,708
Italy	375	22,926	-199	23,103
Other Europe	1,326	145,058	-771	145,613
Africa	71	6,561	-17	6,616
America	1,331	167,901	-499	168,732
Asia	159	123,212	-101	123,270
Australia	739	58,509	-106	59,142
Total	**12,356**	**1,353,731**	**-4,763**	**1,361,324**

The defaulted exposure mainly increased for Germany, but was partly offset by the decrease in the Netherlands. The total exposure increased mainly in Europe due to the move from AIRB to SA following the implementation of the Permanent partial use, which was partly offset by a decrease in Asia.

Non-performing and forborne exposures

EBA Template 4: Performing and non-performing exposures and related provisions

2020	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-off	Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions				On performing exposures	On 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			
Loans and advances	**703,923**	**650,896**	**53,027**	**12,943**		**12,943**	**1,223**	**385**	**838**	**3,715**		**3,715**	**186**	**424,043**	**6,151**
Central banks	109,685	109,681	3				5	4	2						
General governments	14,391	14,201	189	70		70	5	3	2	4		4		5,305	61
Credit institutions	16,438	16,182	256				23	18	5					2,326	
Other financial corporations	31,636	29,749	1,887	429		429	37	14	24	39		39		20,740	23
Non-financial corporations	198,646	164,755	33,891	6,861		6,861	620	163	457	2,583		2,583	185	90,914	2,242
Of which SMEs	32,422	24,435	7,987	1,427		1,427	183	39	144	479		479	3	20,956	620
Households	333,128	316,327	16,801	5,583		5,583	532	184	348	1,090		1,090	1	304,758	3,825
Debt securities	**81,658**	**81,621**	**37**				**45**	**29**	**16**					**533**	
Central banks	1,502	1,502													
General governments	61,058	61,058					26	26							
Credit institutions	16,754	16,754					2	2						219	
Other financial corporations	1,825	1,788	36				15		15					247	
Non-financial corporations	519	518	1				1	1	1					67	
Off-balance-sheet exposures	**153,771**	**109,045**	**8,917**	**873**		**455**	**64**	**24**	**40**	**110**		**39**			**1**
Central banks	51	5													
General governments	6,993	6,813	84												
Credit institutions	4,894	542	74												
Other financial corporations	20,099	16,577	506	32		31	3	2	1	3		3			
Non-financial corporations	104,090	68,250	7,628	796		382	55	20	35	105		35			1
Households	17,643	16,858	625	44		42	6	2	4	1		1			
Total	**939,352**	**841,562**	**61,981**	**13,816**		**13,398**	**1,332**	**438**	**894**	**3,825**		**3,754**	**186**	**424,576**	**6,152**

EBA Template 4: Performing and non-performing exposures and related provisions															
2019	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-off	Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions				On performing exposures	On 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			
Loans and advances	**667,611**	**630,665**	**36,946**	**10,446**		**10,446**	**1,248**	**426**	**822**	**3,204**		**3,204**	**214**	**467,476**	**5,314**
Central banks	52,386	52,364	22				3	2							
General governments	14,259	14,060	199	64		64	7	6	1	3		3		5,319	57
Credit institutions	19,909	19,742	167				10	8	2					3,224	
Other financial corporations	27,566	26,591	974	415		415	41	16	25	23		23		17,922	41
Non-financial corporations	220,407	201,655	18,752	5,985		5,985	603	209	393	2,231		2,231	213	135,382	2,692
Of which SMEs	26,616	23,354	3,262	1,256		1,256	139	45	95	454		454	2	21,044	614
Households	333,084	316,252	16,832	3,982		3,982	585	184	401	946		946		305,628	2,525
Debt securities	**75,430**	**75,430**					**18**	**18**						**213**	
Central banks	844	844													
General governments	55,387	55,387					16	16							
Credit institutions	15,814	15,814					1	1							
Other financial corporations	2,724	2,724												119	
Non-financial corporations	662	662					1							94	
Off-balance-sheet exposures	**156,787**	**111,152**	**4,137**	**1,414**		**509**	**76**	**36**	**39**	**123**		**37**			**5**
Central banks	8														
General governments	6,604	6,315	171				1								
Credit institutions	5,755	391	27				1								
Other financial corporations	19,047	15,823	175	426		54	4	3	1						
Non-financial corporations	109,803	73,829	3,147	972		441	64	31	33	122		36			4
Households	15,571	14,794	617	16		14	6	1	5	1		1			1
Total	**899,828**	**817,247**	**41,083**	**11,860**		**10,955**	**1,342**	**480**	**861**	**3,327**		**3,241**	**214**	**467,689**	**5,319**

In 2020, the loans and advances, debt securities and off-balance-sheet exposures on a total level amount to EUR 952.4 billion, of which EUR 917.1 billion is eligible for IFRS. Of the IFRS eligible exposure, 98.5% is marked as performing of which 92.5% is classified as stage 1. Focussing on loans and advances which make up 78.4% of the IFRS eligible portfolio, 98.2% is marked as performing of which 91.9% is classified as stage 1.

Forborne exposures

EBA Template 1: Credit quality of forborne exposures

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 forborne	Non-performing exposures			On performing forborne exposure	On non-performing forborne exposures	On performing exposures	Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
			Of which defaulted	Of which impaired				
Loans and advances	**14,190**	**5,626**	**5,626**	**5,626**	**209**	**1,509**	**9,537**	**2,612**
General governments	1	45	45	45		1	45	44
Other financial corporations	316	99	99	99	10	23	113	4
Non-financial corporations	10,556	3,407	3,407	3,407	159	1,275	4,783	913
Households	3,318	2,074	2,074	2,074	41	209	4,596	1,651
Loan commitments given	**2,796**	**216**	**216**	**216**	**8**	**9**		
Total	**16,986**	**5,842**	**5,842**	**5,842**	**217**	**1,518**	**9,537**	**2,612**

EBA Template 1: Credit quality of forborne exposures

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 forborne	Non-performing exposures			On performing forborne exposure	On non-performing forborne exposures	On performing exposures	Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
			Of which defaulted	Of which impaired				
Loans and advances	**5,385**	**4,107**	**4,107**	**4,107**	**153**	**1,172**	**6,050**	**1,040**
General governments		52	52	52		1	50	50
Other financial corporations	46	25	25	25	1	6	47	1
Non-financial corporations	3,762	2,664	2,664	2,664	119	997	3,654	925
Households	1,578	1,366	1,366	1,366	33	167	2,299	64
Loan commitments given	**494**	**138**	**138**	**138**	**2**	**5**		
Total	**5,879**	**4,245**	**4,245**	**4,245**	**155**	**1,177**	**6,050**	**1,040**

Total forborne exposures -including off-balance sheet items- increased by EUR 12.7 billion mainly due to the Covid-19 pandemic, noticeable in the performing part of loans and advances (EUR 8.8 billion) and the performing part of loan commitments (EUR 2.3 billion).

With regard to the total on-balance forborne assets, almost 54% of the increase derived from the Wholesale Banking and especially the industries Food, Beverages & Personal Care (+EUR 1.1 billion) Natural Resources (+EUR 0.8 billion), and Transportation & Logistics (+EUR 0.8 billion). The industry with the largest concentration remained the Natural Resources with EUR 2.4 billion. The main concentration of forborne assets in a single country was in the Netherlands with EUR 5.3 billion (27% of the total loans and advances forborne exposures).

Aging of past due exposures

The table below gives an insight into the ageing of the FINREP eligible Business and Consumer exposures, including both performing and non-performing assets. The table covers Loans and Debt Securities. The values displayed are the on balance sheet gross carrying values before impairment, provisions before write-offs, as write- offs take place after the provisioning process.

EBA Template 3: Credit quality of performing and non-performing exposures by past due days

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	**703,923**	**702,740**	**903**	**12,943**	**7,744**	**697**	**1,112**	**1,298**	**1,594**	**235**	**263**	**12,943**
Central banks	109,685	109,685										
General governments	14,391	14,383		70	63	1	1				4	70
Credit institutions	16,438	16,437										
Other financial corporations	31,636	31,631		429	401	7	5	6	8		1	429
Non-financial corporations	198,646	198,232	396	6,861	4,234	364	548	575	911	112	118	6,861
Of which SMEs	32,422	32,359	56	1,427	805	47	103	186	213	24	50	1,427
Households	333,128	332,374	506	5,583	3,045	325	558	717	674	123	140	5,583
Debt securities	**81,658**	**81,658**										
Central banks	1,502	1,502										
General governments	61,058	61,058										
Credit institutions	16,754	16,754										
Other financial corporations	1,825	1,825										
Non-financial corporations	519	519										
Off-balance-sheet exposures	**153,771**			**873**								**455**
Central banks	51											
General governments	6,993											
Credit institutions	4,894											
Other financial corporations	20,099			32								31
Non-financial corporations	104,090			796								382
Households	17,643			44								42
Total	**939,352**	**784,398**	**903**	**13,816**	**7,744**	**697**	**1,112**	**1,298**	**1,594**	**235**	**263**	**13,398**

EBA Template 3: Credit quality of performing and non-performing exposures by past due days

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	**667,611**	**665,690**	**1,655**	**10,446**	**5,621**	**1,191**	**1,025**	**1,097**	**1,119**	**191**	**203**	**10,446**
Central banks	52,386	52,386										
General governments	14,259	14,241	2	64	59						4	64
Credit institutions	19,909	19,908										
Other financial corporations	27,566	27,512	1	415	389	1	12	4	7		2	415
Non-financial corporations	220,407	219,530	827	5,985	3,795	193	536	543	720	85	112	5,985
Of which SMEs	26,616	26,536	68	1,256	750	49	83	147	155	28	44	1,256
Households	333,084	332,113	825	3,982	1,377	996	476	550	392	105	85	3,982
Debt securities	**75,430**	**75,430**										
Central banks	844	844										
General governments	55,387	55,387										
Credit institutions	15,814	15,814										
Other financial corporations	2,724	2,724										
Non-financial corporations	662	662										
Off-balance-sheet exposures	**156,787**			**1,414**								**509**
Central banks	8											
General governments	6,604											
Credit institutions	5,755											
Other financial corporations	19,047			426								
Non-financial corporations	109,803			972								
Households	15,571			16								
Total	**899,828**	**741,120**	**1,655**	**11,860**	**5,621**	**1,191**	**1,025**	**1,097**	**1,119**	**191**	**203**	**10,955**

Exposures subject to measures applied in response to the Covid-19 crisis

In response to the need to address negative economic consequences of Covid-19 pandemic, the European Union (EU) and some Member States have introduced legislative moratoria on loan repayments granting the borrowers various forms of payment holidays on their existing loans. In other Member States similar measures have been introduced under individual institutions' industry-coordinated initiatives. Many Member States have also introduced various forms of public guarantees to be applied to new lending. Subsequently, the EBA issued guidelines covering (i) disclosure requirements for the exposures subject to the payment moratoria in accordance with the GL on moratoria and (ii) disclosure requirements for the new loans subject to the specific public guarantees set up to mitigate the effects of Covid-19 crisis.

The EBA Guidelines on legislative and non-legislative moratoria on loan repayments applied in the light of the Covid-19 crisis which clarifies a set of criteria and conditions under which such measures do not trigger forbearance classification and the assessment of distressed structuring of loans and advances benefiting from these moratoria and they do not automatically lead to default classification. The table below gives an insight into Information on loans and advances subject to legislative and non-legislative moratoria.

EBA Template 1 Covid-19: Information on loans and advances subject to legislative and non-legislative moratoria

2020	Gross carrying amount							Accumulated impairment, accumulated negative changes in fair value due to credit risk							Gross carrying amount
		Performing exposures			Non-performing exposures				Performing exposures			Non-performing exposures			Inflows to non-performing exposures
			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	
Loans and advances subject to moratorium	**1,351**	**1,284**	**75**	**396**	**67**	**9**	**49**	**-13**	**-6**	**-1**	**-5**	**-7**	**-2**	**-4**	**36**
Households	586	544	18	59	42	4	25	-8	-4	-1	-3	-5	-1	-2	26
Of which: Collateralised by residential immovable property	458	429	7	40	29	2	14	-4	-2		-2	-2		-1	23
Non-financial corporations	755	731	57	337	24	4	23	-5	-3	-1	-3	-2	-1	-2	10
Of which: Small and Medium-sized Enterprises	74	67	11	41	7	3	7	-3	-1		-1	-1	-1	-1	4
Of which: Collateralised by commercial immovable property	529	514	24	198	15		15	-1				-1		-1	6

Management overlays are not included in the provisions reported here.

EBA Template 2 Covid-19: Breakdown of loans and advances subject to legislative and non-legislative moratoria by residual maturity of moratoria

2020	Number of obligors	Gross carrying amount							
			Of which: legislative moratoria	Of which: expired	Residual maturity of moratoria				
					<= 3 months	> 3 months <= 6 months	> 6 months <= 9 months	> 9 months <= 12 months	> 1 year
Loans and advances for which moratorium was offered	**203,703**	**20,484**							
Loans and advances subject to moratorium (granted)	**196,098**	**19,385**	**5,135**	**18,035**	**573**	**245**	**475**	**49**	**9**
Households		8,538	4,212	7,951	266	195	74	45	6
Of which: Collateralised by residential immovable property		6,576	3,603	6,118	168	173	67	43	6
Non-financial corporations		10,404	853	9,649	298	50	401	4	2
Of which: Small and Medium-sized Enterprises		2,387	65	2,313	68	4		2	
Of which: Collateralised by commercial immovable property		6,620	654	6,091	162	15	350	2	

As part of the response to the Covid-19 pandemic, a number of Member States introduced public guarantee schemes to be applied to newly originated loans and advances. These public guarantee schemes may vary in their characteristics, such as in the level of guarantee given to different counterparties (e.g. households, SMEs and large corporates) and in the duration of the guarantee.

The table below gives an insight into Information on newly originated loans and advances provided under newly applicable public guarantee schemes introduced in response to Covid-19 crisis.

EBA Template 3 Covid-19: Information on newly originated loans and advances provided under newly applicable public guarantee schemes introduced in response to Covid-19 crisis

2020	Gross carrying amount		Maximum amount of the guarantee 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	**1,512**	**333**	**1,263**	
Households	55			
Of which: Collateralised by residential immovable property	2			
Non-financial corporations	1,449	320	1,209	
Of which: Small and Medium-sized Enterprises	576			
Of which: Collateralised by commercial immovable property	367			

Changes in the stock of general and specific credit risk adjustments

This table identifies the changes in the stock of general and specific credit risk adjustments held against loans and debt securities that are defaulted or impaired. General and specific credit risk adjustments include amounts defined in Article 1 of the Commission Delegated Regulation (EU) No 183/2014 of 20 December 2013.

EU CR2-A: Changes in the stock of general and specific credit risk adjustments

	2020		2019	
	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
Opening balance	**4,645**		**4,647**	
Increases due to amounts set aside for estimated loan losses during the period	1,436		454	
Decreases due to amounts reversed for estimated loan losses during the period	-428		-403	
Decreases due to amounts taken against accumulated credit risk adjustments	-1,200		-1,030	
Transfers between credit risk adjustments	1,650		1,039	
Impact of exchange rate differences	-296		-46	
Other adjustments	46		-16	
Closing balance	**5,853**		**4,645**	

Changes in the stock of defaulted and impaired loans and debt securities

In the next table the changes of the stock of defaulted loans and debt securities is shown. The table shows the movements in the gross carrying amounts of the defaulted exposures in stage 3. The line other changes includes primarily changes in volumes of defaulted loans for instance as a consequence of partial repayments, or FX impact.

EU CR2-B: Changes in the stock of defaulted and impaired loans and debt securities

	2020	2019
	Gross carrying value defaulted exposures	Gross carrying value defaulted exposures
Opening balance	**10,955**	**10,548**
Loans and debt securities that have defaulted or impaired since the last reporting period	5,471	2,985
Returned to non-defaulted status	-749	-1,082
Amounts written off	-1,200	-1,027
Other changes	-1,079	-469
Closing balance	13,398	**10,955**

LTV residential mortgages per country

The table below shows the weighted average Loan-to-Value (LTV) ratio of the ING residential mortgage portfolio per country. All LTV figures are based on market values. In most portfolios, ING uses official house price indices to adjust the market values. In several markets, customers provide additional collateral or (government sponsored) mortgage insurance programmes are used. None of these additional covers are included in the LTV figures.

Loan-to-Value residential mortgages per country

	2020			2019	
	LTV	READ	net carrying values	LTV	READ
Netherlands	56%	113,186	114,085	62%	115,941
Germany	58%	82,532	84,841	59%	77,453
Belgium, Luxembourg	59%	42,409	42,335	62%	42,475
Australia	64%	37,439	36,508	66%	36,567
Spain	59%	18,637	18,600	58%	17,350
Italy	55%	7,542	7,498	57%	8,468
Poland	61%	10,673	10,932	62%	9,718
Turkey	50%	412	411	50%	526
Romania	62%	2,229	2,216	62%	2,006
Total	**58%**	**315,060**	**317,426**	**61%**	**310,504**

1 The net carrying values correspond to the original exposure (on and off-balance) pre-credit conversion factors corrected for allowances, impairments and provisions.

The economic environment in most countries is impacted by Covid-19 pandemic, resulting in decreased house prices and deteriorated LTVs. However, in the Netherlands, the average Dutch house price increased to EUR 356,000 in December 2020 (from EUR 304,000 in December 2019, which led to an improved LTV through indexation.

Off-balance items

Undrawn commitments

The figures below represent the potential exposure that may be drawn by ING's obligors under committed facilities. In most cases, the obligors have the right to draw under these facilities unless an event of default has occurred, or another event as defined in the relevant credit risk agreement has occurred. Usually, the obligor pays a commitment fee to ING on the unused portion of these facilities. Pre-Settlement, Money Market and Investment limits are generally not committed.

Undrawn commitments

	2020						2019
	Central Governments and central banks	Institutions	Corporate	Retail – sec. by imm. property non-SME / on residential prop.	Other retail[1]	Total	Total
Under SA approach	5,519	36	1,088	435	3,142	10,220	4,500
Under AIRB Approach		7,983	89,226	12,347	2,906	112,461	117,471
0% risk weight			58			58	3,087
>0% - <10% risk weight		4,620	15,603	9,365	808	30,396	28,224
>10% - <20% risk weight		980	11,453	1,869	352	14,654	16,815
>20% - <35% risk weight		1,212	21,478	698	662	24,050	26,752
>35% - <50% risk weight		814	15,077	233	384	16,509	17,098
>50% - <75% risk weight		114	13,378	88	280	13,860	14,150
>75% - <100% risk weight		86	5,361	24	273	5,744	4,200
>100% - <150% risk weight		97	4,435	32	116	4,679	4,473
>150% - <200% risk weight		53	1,433	17	15	1,518	1,792
>200% - <1250% risk weight		6	950	21	16	993	879
Total	**5,519**	**8,019**	**90,314**	**12,782**	**6,048**	**122,681**	**121,971**

1 AIRB: Retail – secured by immovable property SME, Retail – Other SME, Retail – non SME; SA: Retail, exposures secured by mortgages on commercial immovable property.

For RWA calculation purposes, the EAD models estimate how much of these commitments would be drawn under normal circumstances and increase the EAD accordingly. For uncommitted facilities a similar approach is applied, albeit at a lower rate.

Advanced Internal Rating Based approach (AIRB)

AIRB credit exposures by exposure class and PD range

The table below provides an overview of the main parameters used for the calculation of capital requirements for AIRB models. The on- and off-balance sheet exposures are shown by the four main exposure classes and according to PD grades to enable an assessment of the credit quality of the portfolio. The exposures are bucketed in PD Scales prescribed by EBA. This bucketing of PD scales is not used within ING. ING's Probability of Default (PD) rating models are based on a 1-22 scale, which corresponds to the same rating grades that are assigned by external rating agencies. Risk Ratings (PD) for performing loans (1-19) are calculated within ING with regulatory approved models. Risk Ratings for non-performing loans (20-22) are set on the basis of an approved discretionary methodology by the Global or Regional Restructuring unit. Overall the risk weights of the ING portfolio are a mixture of low risk weights for sovereigns and residential mortgages combined with higher risk weights for Corporates. Many central governments exposures receive a zero risk weight due to the high quality rating (permanent partial use of the SA rules). Mortgages generally benefit from large levels of (over)collateralisation.

The average Credit Conversion Factor (CCF), which is the conversion of off-balance sheet exposure into credit exposure equivalents, is calculated as the off-balance exposure post-CRM and post-CCF over the original off-balance sheet exposure. The CCF percentages are applied on product or transaction level and are regulatory driven.

EU CR6: IRB- Credit risk exposures by exposure class and PD range

2020

PD Scale	Original on-balance sheet gross exposure	off-balance sheet exposures pre-CCF	Average CCF	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWA	RWA density	EL	Value adjust-ments and provisions
Institutions												
0.00 to < 0.15	31,379	51,416	7%	35,229	0.06%	2,923	27%	2	4,553	13%	6	–9
0.15 to < 0.25	2,148	2,328	33%	2,919	0.21%	401	7%	2	233	8%		
0.25 to < 0.50	4,668	7,326	23%	6,338	0.37%	1,005	9%	2	871	14%	2	–1
0.50 to < 0.75	15		100%	15	0.65%	11	7%	3	3	22%		
0.75 to < 2.50	2,240	2,920	12%	2,603	1.69%	538	18%	2	1,123	43%	8	–7
2.50 to < 10.00	217	1,008	5%	264	4.54%	253	27%	2	255	97%	3	–2
10.00 to < 100.00	90	881	3%	118	20.62%	3,806	43%	3	324	275%	10	–4
default	291	20	1%	291	100.00%	205	1%	5	9	3%	4	–4
sub-total	**41,048**	**65,899**	**10%**	**47,776**	**0.88%**	**9,107**	**23%**	**2**	**7,372**	**15%**	**34**	**–27**
Corporate												
0.00 to < 0.15	67,612	55,276	36%	87,388	0.09%	16,129	21%	2	10,896	12%	16	–8
0.15 to < 0.25	95,930	46,868	34%	111,911	0.19%	8,613	13%	2	14,269	13%	30	–12
0.25 to < 0.50	89,768	56,515	36%	110,174	0.39%	23,790	19%	2	29,618	27%	79	–38
0.50 to < 0.75	1,809	663	47%	2,121	0.60%	2,161	22%	3	825	39%	3	–5
0.75 to < 2.50	61,001	29,088	39%	72,209	1.22%	33,770	21%	3	36,021	50%	197	–124
2.50 to < 10.00	20,026	7,912	36%	22,877	4.69%	13,888	23%	2	18,157	79%	257	–183
10.00 to < 100.00	5,604	2,473	32%	6,403	23.30%	17,245	28%	2	9,860	154%	414	–210
default	6,367	994	70%	7,063	100.00%	6,025	29%	2	6,892	98%	2,453	–2,453
sub-total	**348,117**	**199,789**	**36%**	**420,146**	**2.67%**	**119,452**	**19%**	**2**	**126,537**	**30%**	**3,448**	**–3,033**
Retail												
0.00 to < 0.15	121,776	17,977	80%	136,240	0.08%	5,511,128	28%	5	6,178	5%	19	–5
0.15 to < 0.25	59,569	3,016	61%	61,408	0.18%	623,175	30%	5	5,834	10%	23	–7
0.25 to < 0.50	78,934	3,290	76%	81,448	0.33%	1,195,581	25%	5	10,378	13%	48	–19
0.50 to < 0.75	15,356	1,239	68%	16,195	0.57%	308,537	36%	5	4,597	28%	27	–13
0.75 to < 2.50	20,406	1,998	85%	22,108	1.28%	1,164,033	36%	4	10,795	49%	94	–92
2.50 to < 10.00	8,292	465	82%	8,673	5.08%	358,661	32%	4	6,465	75%	111	–98
10.00 to < 100.00	3,704	133	100%	3,837	23.43%	144,026	30%	4	4,769	124%	211	–168
default	4,729	86	116%	4,828	100.00%	236,763	34%	4	11,029	228%	604	–604
sub-total	**312,765**	**28,205**	**78%**	**334,737**	**2.10%**	**9,328,457**	**29%**	**5**	**60,045**	**18%**	**1,137**	**–1,006**
Total	**701,930**	**293,893**	**34%**	**802,659**	**2.33%**	**9,456,968**	**23%**	**3**	**193,954**	**24%**	**4,619**	**–4,065**

EU CR6: IRB- Credit risk exposures by exposure class and PD range

2019

PD Scale	Original on-balance sheet gross exposure	off-balance sheet exposures pre-CCF	Average CCF	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWA	RWA density	EL	Value adjust-ments and provisions
Central Governments and Central Banks												
0.00 to < 0.15	113,804	140,828	5%	121,508	0.03%	1,020	29%	2	5,029	4%	5	–5
0.15 to < 0.25	1,024	2,404	11%	1,278	0.21%	24	38%	1	322	25%	1	–1
0.25 to < 0.50	1,675	3,755	9%	2,028	0.31%	51	44%	2	1,084	53%	3	–3
0.75 to < 2.50	267	275	54%	416	1.92%	33	23%	4	205	49%	1	–
2.50 to < 10.00	336	380	99%	710	6.63%	36	12%	4	321	45%	7	–2
10.00 to < 100.00	23	24	53%	36	18.44%	52	3%	3	7	18%	–	–
default	51	–	38%	51	100.00%	5	3%	5	1	3%	1	–1
sub-total	**117,181**	**147,666**	**6%**	**126,027**	**0.12%**	**1,218**	**29%**	**2**	**6,970**	**6%**	**18**	**–12**
Institutions												
0.00 to < 0.15	35,880	51,867	10%	40,864	0.06%	3,066	25%	2	4,981	12%	6	–2
0.15 to < 0.25	2,550	3,114	20%	3,182	0.21%	466	13%	2	449	14%	1	–
0.25 to < 0.50	4,680	6,934	20%	6,050	0.36%	895	15%	2	1,201	20%	3	–1
0.50 to < 0.75	16	2	28%	17	0.71%	18	14%	3	6	36%	–	–
0.75 to < 2.50	3,256	2,886	17%	3,747	1.56%	596	19%	2	1,687	45%	11	–5
2.50 to < 10.00	102	1,328	5%	173	5.07%	238	37%	2	233	135%	3	–2
10.00 to < 100.00	18	1,055	4%	58	16.95%	6,003	40%	4	148	255%	4	–1
default	361	61	42%	386	100.00%	185	4%	5	107	28%	9	–9
sub-total	**46,862**	**67,247**	**11%**	**54,476**	**0.95%**	**11,415**	**22%**	**2**	**8,811**	**16%**	**37**	**–19**
Corporate												
0.00 to < 0.15	135,835	81,661	34%	163,446	0.11%	16,733	14%	2	14,857	9%	22	–10
0.15 to < 0.25	45,224	32,840	35%	56,795	0.21%	8,593	19%	2	11,619	20%	23	–10
0.25 to < 0.50	96,431	65,585	37%	120,540	0.37%	26,667	21%	3	37,176	31%	91	–43
0.50 to < 0.75	1,725	651	57%	2,095	0.61%	2,180	29%	3	968	46%	4	–1
0.75 to < 2.50	69,748	33,204	38%	82,414	1.26%	34,630	23%	3	45,722	55%	245	–170
2.50 to < 10.00	11,510	4,825	31%	12,985	5.36%	12,310	26%	3	11,525	89%	174	–162
10.00 to < 100.00	4,094	2,470	28%	4,786	23.57%	16,087	24%	3	6,679	140%	266	–198
default	5,373	1,624	64%	6,407	100.00%	5,595	31%	2	7,999	125%	2,067	–2,067
sub-total	**369,940**	**222,861**	**36%**	**449,467**	**2.23%**	**121,325**	**19%**	**2**	**136,544**	**30%**	**2,892**	**–2,662**

Retail												
0.00 to < 0.15	107,622	16,501	80%	120,839	0.08%	5,169,252	19%	5	5,028	4%	16	–4
0.15 to < 0.25	56,874	2,586	62%	58,479	0.18%	628,025	21%	5	5,091	9%	22	–7
0.25 to < 0.50	90,978	3,256	79%	93,562	0.33%	1,327,680	18%	5	10,690	11%	55	–21
0.50 to < 0.75	16,791	1,207	69%	17,624	0.57%	336,075	29%	5	4,408	25%	28	–12
0.75 to < 2.50	22,385	2,299	87%	24,381	1.32%	1,385,347	33%	4	10,805	44%	109	–94
2.50 to < 10.00	9,256	556	88%	9,746	4.91%	419,432	27%	5	6,848	70%	120	–101
10.00 to < 100.00	4,556	167	101%	4,724	22.29%	174,088	25%	5	5,320	113%	254	–195
default	3,377	38	179%	3,444	100.00%	116,500	31%	4	5,956	173%	634	–634
sub-total	**311,839**	**26,611**	**79%**	**332,800**	**1.78%**	**9,330,011**	**21%**	**5**	**54,145**	**16%**	**1,238**	**–1,068**
Total	**845,821**	**464,385**	**25%**	**962,769**	**1.73%**	**9,463,924**	**21%**	**3**	**206,471**	**21%**	**4,185**	**–3,762**

The PD, LGD, EAD and maturity are drivers of RWA and RWA density. RWA density is measured as the RWA over the EAD and increases with each PD scale. In several instances the RWA Density is lower than one might expect, due to the loans guaranteed by an Export Credit Agency (ECA). These ECAs offer loans and insurance to help remove the risk of uncertainty of exporting to other countries and underwrite the political risk and commercial risks of overseas investments, and as such lower the LGD for these loans. With very low LGDs as a result the RWA is lower than would be assumed in a higher PD class.

RWA decreased by EUR 12.5 billion in 2020 mainly due to decrease in corporates, and central governments and central banks exposure classes. Regarding the corporate exposure class, the RWA for the PD buckets 0.75 to < 2.50 dropped. The decrease of RWA in the central governments and central banks exposures class was following the permanent use of the Standardised Approach for this exposure class.

EU CR6: IRB - Geographical breakdown of exposure-weighted average LGD and PD by exposure classes
2020

PD Scale	Europe	Netherlands	Belgium & Luxembourg	Germany	UK	France	Spain	Poland	Italy	Other Europe	America	Africa	Asia	Australia
Central Governments and Central Banks														
Average PD	0.16%	0.05%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.17%	0.06%	12.04%	0.19%	0.01%
Average LGD	31.70%	26.02%	20.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	32.69%	29.98%	3.77%	29.52%	30.14%
Institutions														
Average PD	1.18%	8.03%	0.19%	0.12%	0.16%	0.05%	0.20%	0.26%	0.43%	0.93%	0.42%	1.19%	0.25%	0.07%
Average LGD	21.53%	22.60%	20.44%	16.34%	26.39%	21.76%	33.47%	31.82%	37.53%	15.65%	12.62%	45.65%	36.38%	32.34%
Corporate														
Average PD	2.99%	3.21%	5.67%	2.29%	2.01%	1.17%	2.23%	5.15%	1.39%	1.39%	1.84%	7.99%	2.88%	2.10%
Average LGD	21.46%	15.60%	28.42%	28.52%	22.20%	21.38%	34.88%	27.77%	27.28%	17.28%	11.28%	25.38%	22.04%	23.14%
Of Which: Specialised lending														
Average PD	2.12%	2.35%	1.01%	0.57%	2.69%	0.74%	3.06%	4.92%	0.94%	2.45%	4.38%	6.88%	3.48%	2.84%
Average LGD	17.90%	8.58%	25.64%	12.07%	24.47%	19.39%	22.14%	19.72%	15.56%	22.22%	23.04%	34.89%	20.32%	18.73%
Of Which: SME														
Average PD	6.06%	5.92%	6.44%	4.86%	3.97%	13.57%	12.82%	4.10%	1.32%	7.69%	20.49%	0.73%	0.76%	0.00%
Average LGD	24.36%	22.09%	24.92%	31.27%	39.97%	20.53%	58.51%	24.78%	58.58%	35.43%	37.75%	9.26%	47.07%	0.00%
Retail														
Average PD	2.03%	1.59%	4.80%	1.26%	5.89%	5.66%	0.66%	14.98%	2.98%	7.95%	3.54%	4.12%	3.19%	2.65%
Average LGD	29.49%	20.67%	18.59%	45.49%	14.17%	17.94%	38.84%	14.42%	28.82%	18.60%	20.02%	15.43%	15.83%	22.54%
Secured by real estate property														
Average PD	1.82%	1.50%	4.57%	0.90%	6.93%	4.52%	0.66%	3.19%	2.98%	8.87%	2.75%	3.43%	3.24%	2.65%
Average LGD	21.43%	27.22%	13.90%	39.23%	14.64%	12.31%	38.80%	11.99%	28.71%	11.36%	16.47%	6.60%	13.13%	22.50%
Other retail														
Average PD	3.39%	2.26%	5.19%	3.27%	2.07%	8.49%	6.61%	6.25%	10.20%	4.70%	12.30%	6.34%	2.74%	1.15%
Average LGD	70.31%	62.85%	48.44%	80.16%	12.63%	49.03%	63.77%	61.74%	47.83%	45.20%	60.38%	54.61%	46.32%	71.51%

EU CR6: IRB - Geographical breakdown of exposure-weighted average LGD and PD by exposure classes									
2019	Europe	Netherlands	Belgium & Luxembourg	Germany	Other Europe	America	Africa	Asia	Australia
Central governments or central banks									
Average PD	0.04%	0.01%	0.03%	0.01%	0.03%	0.03%	0.10%	0.09%	0.21%
Average LGD	29.13%	29.80%	27.86%	27.89%	19.96%	29.60%	30.01%	30.01%	45.03%
Institutions									
Average PD	1.34%	9.65%	0.39%	0.18%	0.37%	0.37%	0.55%	0.12%	0.06%
Average LGD	20.81%	24.49%	22.29%	23.45%	18.92%	15.20%	48.56%	33.87%	33.31%
Corporates									
Average PD	2.62%	3.38%	4.21%	1.19%	1.77%	1.61%	3.99%	0.94%	5.22%
Average LGD	21.64%	16.67%	30.73%	24.14%	20.28%	11.77%	31.03%	21.29%	23.68%
Of Which: Specialised lending									
Average PD	2.08%	3.01%	1.73%	0.61%	1.89%	2.52%	1.17%	1.33%	3.98%
Average LGD	21.58%	10.66%	29.13%	14.51%	24.04%	22.31%	40.80%	23.64%	21.96%
Of Which: SME									
Average PD	5.72%	5.35%	5.87%	1.13%	5.98%	5.76%	0.33%		
Average LGD	31.12%	26.31%	35.23%	31.08%	28.85%	36.69%	27.19%		
Retail									
Average PD	1.83%	1.44%	4.01%	1.26%	1.33%	2.56%	3.16%	2.23%	1.37%
Average LGD	21.98%	13.46%	15.86%	34.86%	31.93%	15.90%	14.60%	14.18%	12.45%
Secured by real estate property									
Average PD	1.63%	1.31%	3.86%	0.94%	1.22%	2.90%	3.34%	2.15%	1.37%
Average LGD	18.33%	27.48%	12.77%	26.56%	31.11%	15.08%	7.87%	10.95%	12.43%
Other retail									
Average PD	3.01%	2.31%	4.11%	2.98%	4.23%	1.27%	2.58%	3.09%	1.58%
Average LGD	69.75%	62.83%	45.92%	80.23%	31.32%	19.72%	25.43%	47.37%	68.62%

Over the year, PDs for most geographical areas and sectors deteriorated, in line with current economic environment due to COVID-19. For the calculation of the average LGD, in 2020 they slightly improved, this was mainly due to the asset size impact, exposure decreased faster than the decrease in cover value causing the average LGD to go down.

Backtesting of model parameters

ING has dedicated AIRB credit risk models per business line and geography. The performance and predictive power of the models is monitored by Model Development, that is part of the Financial Risk department. Moreover an independent Model Risk Management department periodically reviews all AIRB models. All models are backtested when possible by both the Model development and the independent Model Risk Management departments.

If a model is considered not to be robust or backtesting indicates insufficient performance, then the model is either re-calibrated or re-developed. All model recommendations from the Model Risk Management department are tracked via an internal database that management uses to track issues detected by the Internal Audit department, incidents and non-financial risk issues. All significant model changes are submitted to the ECB and implemented after regulatory approval.

PD backtesting

The PD backtesting is performed per exposure class and PD-range, corresponding to the internal rating scales 1 to 19, which are then mapped to comparable rating grades from Standard & Poor's. Securitisations and Equity exposures are not included in these tables.

The average PD as of 30 September 2020 per portfolio is split per exposure class and rating grade. Both the number and the amount-weighted predicted PD figures are shown for the performing portfolios. The number weighted predicted PD is also referred to as the arithmetic weighted PD, and the amount weighted PD is referred to as the EAD-weighted PD.

The Annual Average historical default rate is calculated over the last 6 years, from 2015 until 2020. The performing clients at the end of each year were followed through the following year (12 months) and their into-default moments were flagged each month. In case a client went into-default more than once within the 12-month observation period, the last (i.e. most recent) observed into-default moment was used. The annual average observed default rate represents the average of the 6 years observed number weighted default rates.

EU CR9: IRB – Backtesting of probability of default (PD) per exposure class

2020

PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors End of 2019	Number of obligors End of 2020	Defaulted obligors in the year	Average historical annual default
Central Governments and Central Banks							
0.00 - 0.01	AAA	0.01%	0.01%	400			
0.01 - 0.03	AA	0.02%	0.02%	256			
0.03 - 0.04	AA	0.03%	0.03%	112			
0.04 - 0.05	AA	0.04%	0.04%	126			
0.05 - 0.06	A	0.05%	0.05%	73			
0.06 - 0.08	A	0.06%	0.06%	12			
0.08 - 0.11	A	0.09%	0.09%	25			
0.11 - 0.17	BBB	0.14%	0.14%	4			
0.17 - 0.26	BBB	0.21%	0.21%	27			
0.26 - 0.37	BBB	0.31%	0.31%	39			
0.37 - 0.58	BB	0.44%	0.44%	17			
0.58 - 1.00	BB	0.76%	0.76%	3			
1.00 - 1.77	BB	1.32%	1.32%	14			
1.77 - 3.23	B	2.38%	2.41%	14			
3.23 - 6.05	B	4.39%	4.40%	23			
6.05 - 11.67	B	8.35%	8.36%	14			
11.67 - 20.20	CCC	16.32%	16.32%	4			

EU CR9: IRB – Backtesting of probability of default (PD) per exposure class
2020

PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors End of 2019	Number of obligors End of 2020	Defaulted obligors in the year	Average historical annual default
Corporates							
0.00 - 0.01	AAA	0.01%	0.01%	291	10		0.00%
0.01 - 0.03	AA	0.02%	0.02%	13	16		0.00%
0.03 - 0.04	AA	0.03%	0.03%	75	52		0.17%
0.04 - 0.05	AA	0.04%	0.04%	65	59		0.04%
0.05 - 0.06	A	0.05%	0.05%	2,907	1,813	12	0.18%
0.06 - 0.08	A	0.06%	0.07%	1,392	1,086	2	0.12%
0.08 - 0.11	A	0.09%	0.10%	1,931	2,158	12	0.22%
0.11 - 0.17	BBB	0.14%	0.14%	10,444	11,134	68	0.35%
0.17 - 0.26	BBB	0.21%	0.21%	7,910	7,794	56	0.34%
0.26 - 0.37	BBB	0.31%	0.30%	12,392	11,617	99	0.45%
0.37 - 0.58	BB	0.44%	0.44%	14,738	12,846	153	0.57%
0.58 - 1.00	BB	0.75%	0.76%	14,233	13,932	180	1.01%
1.00 - 1.77	BB	1.31%	1.34%	13,643	14,406	254	1.55%
1.77 - 3.23	B	2.36%	2.39%	11,008	10,091	328	2.69%
3.23 - 6.05	B	4.38%	4.34%	7,982	8,378	351	4.10%
6.05 - 11.67	B	8.33%	8.35%	2,883	3,021	248	8.69%
11.67 - 20.20	CCC	15.60%	15.37%	2,244	2,867	202	11.71%
20.20 - 29.58	CC-	24.50%	24.30%	1,210	982	163	17.54%
29.58 - 100.00	C-	36.77%	40.18%	874	975	227	28.51%

EU CR9: IRB – Backtesting of probability of default (PD) per exposure class
2020

PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors End of 2019	Number of obligors End of 2020	Defaulted obligors in the year	Average historical annual default
Institutions							
0.00 - 0.01	AAA	0.01%	0.01%	48	43		0.00%
0.01 - 0.03	AA	0.02%	0.02%	25	28		0.00%
0.03 - 0.04	AA	0.03%	0.03%	112	98	1	0.34%
0.04 - 0.05	AA	0.04%	0.04%	231	177		0.00%
0.05 - 0.06	A	0.05%	0.05%	1,411	1,437	2	0.10%
0.06 - 0.08	A	0.06%	0.06%	803	780		0.02%
0.08 - 0.11	A	0.09%	0.09%	340	345	2	0.08%
0.11 - 0.17	BBB	0.14%	0.14%	603	586	5	0.21%
0.17 - 0.26	BBB	0.21%	0.21%	525	478	12	0.42%
0.26 - 0.37	BBB	0.31%	0.31%	622	720	1	0.21%
0.37 - 0.58	BB	0.44%	0.44%	487	455	6	0.40%
0.58 - 1.00	BB	0.76%	0.76%	436	400	5	0.63%
1.00 - 1.77	BB	1.32%	1.33%	340	377	4	0.74%
1.77 - 3.23	B	2.38%	2.41%	355	349	9	2.51%
3.23 - 6.05	B	4.20%	4.32%	241	209	11	2.09%
6.05 - 11.67	B	8.35%	8.32%	131	121	4	3.22%
11.67 - 20.20	CCC	16.09%	16.13%	77	85	4	5.16%
20.20 - 29.58	CC-	25.00%	24.96%	21	15	11	21.27%
29.58 - 100.00	C-	33.99%	41.53%	7	13	2	13.29%

EU CR9: IRB – Backtesting of probability of default (PD) per exposure class

2020							
PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors End of 2019	Number of obligors End of 2020	Defaulted obligors in the year	Average historical annual default
Retail							
0.00 - 0.01	AAA	0.01%	0.01%	1,796,865	2,046,626	2,756	0.05%
0.01 - 0.03	AA	0.02%	0.02%	866,019	917,882	2,259	0.09%
0.03 - 0.04	AA	0.03%	0.03%	131,022	133,242	253	0.08%
0.04 - 0.05	AA	0.04%	0.04%	686,208	689,022	1,555	0.07%
0.05 - 0.06	A	0.05%	0.05%	55,598	59,975	92	0.06%
0.06 - 0.08	A	0.06%	0.06%	120,013	122,863	136	0.08%
0.08 - 0.11	A	0.10%	0.10%	437,829	469,817	924	0.12%
0.11 - 0.17	BBB	0.14%	0.13%	1,228,536	1,231,080	5,016	0.16%
0.17 - 0.26	BBB	0.18%	0.21%	772,358	757,416	2,449	0.18%
0.26 - 0.37	BBB	0.29%	0.31%	596,409	544,811	4,399	0.37%
0.37 - 0.58	BB	0.46%	0.48%	619,970	545,250	32,179	1.14%
0.58 - 1.00	BB	0.79%	0.76%	456,434	412,968	4,853	0.72%
1.00 - 1.77	BB	1.34%	1.45%	663,318	580,515	19,758	1.54%
1.77 - 3.23	B	2.53%	2.55%	627,864	486,537	16,185	1.78%
3.23 - 6.05	B	4.80%	4.14%	165,497	130,740	9,615	4.51%
6.05 - 11.67	B	8.13%	8.08%	127,898	117,099	13,453	7.77%
11.67 - 20.20	CCC	16.17%	16.38%	60,691	59,144	9,544	11.37%
20.20 - 29.58	CC-	24.23%	25.60%	8,507	6,141	2,701	22.77%
29.58 - 100.00	C-	39.85%	35.94%	36,508	29,439	12,393	32.45%

It should be noted that some of the observed values related to low number of observations (in particular for Sovereigns), hence the numbers should be interpreted with care. For some of the ratings, in particular for the Corporate exposures class, some of the observed values fall above the range of estimation. Until the models have been redeveloped and approved in the context of incorporating new regulations, this has been compensated by add-ons or other prudential measures. Overall, the EL backtest (see EU CR9) does not exhibit underestimations.

EL backtesting

The table below gives insight in the Expected Loss rate and the Observed Loss rate. The expected loss as of 31 December 2019 for the performing portfolio is split per exposure class. The 31 December 2019 portfolio is followed through 2020 to determine the defaulted exposures. The models are based on long series of historical data. In the comparison, the expected loss rate is calculated by dividing the expected loss of the performing portfolio as of 31 December 2019 by the READ of the performing portfolio of the same period. The Observed Loss rate is a result of multiplying the observed defaulted exposures by its EAD. This backtest is only representative of the year end 2020 portfolio and can be influenced by small sample sizes or incidents. Nonetheless, backtesting gives a comparison of the Expected Loss rate versus the observed Loss rate.

Expected loss rate under the Advanced IRB approach versus the observed loss rate per exposure class

2020	Sovereigns	Institutions	Corporate	Secured by Res. Mortgage	Other retail	Total
Expected Loss Rate 2019*	0.06%	0.06%	0.26%	0.11%	1.13%	0.22%
Observed Loss Rate 2020	0.00%	0.00%	0.26%	0.21%	0.79%	0.23%

Includes the AIRB portfolio only; excludes securitisations, equities and ONCOA.

* Expected loss rate 2019 includes performing loans only.

Simple risk weight method

A small part of the equity exposure of ING's portfolio is subject to the simple risk weight method for calculating the regulatory capital.
The table below shows more details on the equity exposure for which the simple risk weight method is used.

EU CR10: IRB (specialised lending and equities) - Equities under the simple risk-weighted approach

	On balance sheet amount		RW	Exposure amount		RWA		Capital requirements	
	2020	2019		2020	2019	2020	2019	2020	2019
Exchange traded equity exposures	113	33	290%	113	33	329	94	26	8
Private equity exposures	444	574	190%	444	574	844	1,091	68	87
Other equity exposures			370%						
Total	**558**	**607**	**0%**	**558**	**607**	**1,173**	**1,185**	**94**	**95**

In 2020, the total value of ING Group equity investments reported under simple risk weighted approach decreased by EUR 49 million to EUR 558 million (2019: EUR 607 million). As a result, the total value of RWA under simple risk weight method and the total value of regulatory capital decreased by EUR 12 million and EUR 1 million respectively. The decrease in total value of ING equity exposure is mainly observed in assets under the 190% risk weight category (-EUR 130 million). This was largely (-EUR 113 million) caused by the partial conversion of shares previously marked as unlisted to the listed category, and partial reclassification of shares to debt securities. The listed shares moved to the 290% risk weight category, while the debt securities are out of scope for this section. The assets under 290% risk weight category increased by EUR 81 million in 2020. This was largely (+EUR 71 million) caused by aforementioned inflow of assets moving out of the 190% risk weight category.

Standardised Approach

Exposures before and after risk mitigation for the SA portfolio

The table below shows how credit risk mitigation (CRM) in the SA portfolio is distributed over the exposure classes. ING's exposure value is shown before and after credit risk mitigation. There are three principal methods for reducing or mitigating Credit Risk: i) by reduction of credit risk through the acceptance of pledged financial assets as collateral or mitigation or shifting of credit risks to a lower risk weighting group, ii) by accepting guarantees from unrelated third parties, or iii) secured by mortgages. ING uses these methods to take CRM effects into account. For financial markets collateral, ING uses the Financial Collateral Comprehensive Method to allow for mitigation effects.

The table below illustrates the effect of all CRM techniques applied in accordance with the Part Three, Title II, Chapter 4 of Regulation (EU) 575/2013 on the standardised approach capital requirements' calculations.

EU CR4: Standardised approach - credit risk exposure and Credit Risk Mitigation (CRM) effects

2020	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
Exposure classes	On-Balance Sheet amount	Off-Balance Sheet amount	On-Balance Sheet amount	Off-Balance Sheet amount	RWA	RWA density
Central governments or central banks	180,489	151,837	180,543	2,694	1,829	1%
Regional governments or local authorities	104	43	103	2	86	83%
Multilateral development banks	3,892	3,606	4,249	12		0%
International organisations	1,544	10,186	1,544			0%
Institutions	303	131	3,312	71	820	24%
Corporates	4,532	4,920	4,663	668	4,910	92%
Retail	13,162	5,064	10,521	1,475	8,443	70%
Secured by mortgages on immovable property	18,695	1,744	18,597	644	9,660	50%
Exposure in default	1,617	102	714	5	913	127%
High Risk Items	133	33	121	15	204	150%
Total	**224,472**	**177,667**	**224,367**	**5,587**	**26,865**	**12%**

EU CR4: Standardised approach - credit risk exposure and Credit Risk Mitigation (CRM) effects

2019	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
Exposure classes	On-Balance Sheet amount	Off-Balance Sheet amount	On-Balance Sheet amount	Off-Balance Sheet amount	RWA	RWA density
Central governments or central banks	1,920	2,326	2,001	4	1,395	70%
Regional governments or local authorities	150	7	146		129	89%
Public sector entities		21		11	11	100%
Multilateral development banks				4		0%
Institutions	406	356	2,371	16	652	27%
Corporates	4,787	5,716	4,684	727	5,281	98%
Retail	13,581	5,180	11,404	1,390	9,205	72%
Secured by mortgages on immovable property	17,954	2,006	17,889	706	9,417	51%
Exposure in default	1,386	85	661	7	830	124%
Total	**40,184**	**15,697**	**39,156**	**2,864**	**26,919**	**64%**

The total SA exposure before CCF and CRM increased by EUR 184.3 billion compared to December 2019, mainly in central governments or central banks. This is driven by the Permanent Partial Use (PPU), which ECB has granted ING approval.

Risk weights per exposure class

The table below presents the breakdown, post conversion factor and post risk mitigation techniques, of exposures under the Standardised approach by exposure class and risk weight (corresponding to the riskiness attributed to the exposure according to SA approach). The risk weights presented encompass all those assigned to each credit quality step in Article 113 to Article 134 in Part Three, Title II, Chapter 2 of Regulation (EU) 575/2013.

EU CR5: Standardised approach Post-CCF and Post-CRM Techniques

2020	Risk weight							Total
Exposure classes	0%	20%	35%	50%	75%	100%	150%	
Central governments or central banks	181,138			549		1,540	10	183,236
Regional governments or local authorities		9		21		74		104
Multilateral development banks	4,261							4,261
International organisations	1,544							1,544
Institutions		2,989		343		50	1	3,383
Corporates		240		115		4,964	14	5,332
Retail			504		11,492			11,996
Secured by mortgages on immovable property			11,278	4,157		3,807		19,241
Exposure in default						334	386	720
High Risk Items							136	136
Total	**186,943**	**3,238**	**11,782**	**5,185**	**11,492**	**10,768**	**546**	**229,954**

Excludes Counterparty Credit Risk exposures.

EU CR5: Standardised approach Post-CCF and Post-CRM Techniques								
2019	Risk weight							Total
Exposure classes	0%	20%	35%	50%	75%	100%	150%	
Central governments or central banks	610					1,395		2,005
Regional governments or local authorities		4		28		115		146
Public sector entities						11		11
Multilateral development banks	4							4
Institutions		2,147		35		205		2,387
Corporates		17		12		5,383		5,411
Retail					12,795			12,795
Secured by mortgages on immovable property			10,616	4,415		3,564		18,595
Exposure in default						342	325	667
Total	**614**	**2,167**	**10,616**	**4,490**	**12,795**	**11,014**	**325**	**42,021**

Excludes Counterparty Credit Risk exposures.

Also here, the exposure of the SA portfolio increased mainly in 0% risk weight of the central governments or central banks exposure class from EUR 2 billion to EUR 183 billion.

Counterparty Credit Risk

The main activities that qualify under counterparty credit risk are derivatives trading activities and securities financing. To mitigate the credit risk of these transactions, ING enters into master agreements such as ISDA master agreements and Global Master Repurchase Agreements (GMRAs) that ensures netting of the outstanding positions. To further eliminate the risk on the netted positions, both ING Bank and its counterparties may agree to pledge additional collateral to each other. Additionally ING started to exchange initial margin amounts with its trading partners in 2017. The actual amount that ING may be required to pledge varies based on ING's portfolio composition of both derivatives and securities pledged in securities financing transactions, market circumstances, the number of downgrade notches as well as the terms and conditions of future CSAs or other similar agreements.

CCR risk approach

Analysis of the counterparty credit risk exposure by approach

The main purpose of the derivatives portfolio of ING is to facilitate the hedging of the mortgage lending portfolio as well as hedging for clients. The portfolio consists mainly plain vanilla interest rate and foreign exchange derivatives. It must also be noted that - in line with regulatory requirement - ING novated the bulk of its new trades via qualifying central counterparties (CCPs), which compresses the exposure via the use of the large netting pool of a CCP.

In the table below, ING counterparty credit risk portfolio is presented. Under Pillar 1 ING uses the Current Exposure Method (Mark to Market method, in line with CRR art. 274), which is a standard approach prescribed by the regulation. There are no exposures under the advanced, Internal Model Method (IMM) under Pillar1. Under Pillar 2 however, for FX and interest rate derivatives, ING uses a risk sensitive approach based on Monte Carlo simulations.

For the calculation of the collateral and securities financing transactions (SFT) exposures, ING uses the financial collateral comprehensive method. There is no contractual cross product netting applied.

Under Pillar 1, according to the Current Exposure Method, the regulatory exposure at default (READ) measure consists of an MTM part and a regulatory prescribed add-on to reflect the potential future credit exposure of the trade. The exposure at default is calculated on a daily basis to take into account the changes in the MTM value due to market movements and changes in the portfolio composition. This calculation is done on:

- Gross basis (ignoring any collateral received and ignoring any netting between trades).
- Net basis (ignoring any collateral received, but applying netting between trades with a positive and negative MTM in case there is a legally enforceable netting agreement in place).
- Net basis after collateral (subtracting any post haircut value of collateral received, and applying netting between trades with a positive and negative MTM in case there is a legally enforceable netting agreement in place).

READ also takes into account the credit valuation adjustment (CVA) recognised as an incurred write-down in line with art. 273(6) CRR.

EU CCR1: Analysis of the counterparty credit risk (CCR) exposure by approach

2020	Replacement cost (floored MtM)	Potential future exposure	EAD post-CRM	RWA
Mark to market (Derivatives)	17,790	17,378	30,361	9,095
Financial collateral comprehensive method (for SFTs)			11,501	1,471
Total				**10,566**

Excluding exposure class Securitizations

EU CCR1: Analysis of the counterparty credit risk (CCR) exposure by approach

2019	Replacement cost (floored MtM)	Potential future exposure	EAD post-CRM	RWA
Mark to market (Derivatives)	12,993	18,594	26,700	6,927
Financial collateral comprehensive method (for SFTs)			8,939	1,421
Total				**8,348**

Excluding exposure class Securitizations

There was a significant increase in counterparty credit risk RWA in 2020 (Eur 2,217 billion). The increase is predominantly driven by MtM and EAD increases for interest rate, equity and FX derivatives respectively. For interest rate derivatives, the MtM and EAD increase is mostly with corporate counterparties, which amplifies the RWA increase as they typically have a higher regulatory risk weight.

Standardised approach – CCR exposures by regulatory portfolio and risk

The following table presents the CCR exposures that are calculated according the Standardised approach (SA), which is only an insignificant part of ING's portfolio.

EU CCR3: Standardised approach CCR exposures by regulatory portfolio and risk												
2020	Risk Weight											
Exposure Class	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	**Total**
Central Governments and Central Banks	1,692					15			205			**1,913**
Multilateral development banks	1,109											**1,109**
International organisations	75											**75**
Institutions		131			1	16			6			**154**
Corporates					1				156	1		**157**
Retail								2				**2**
Total	**2,876**	**131**			**2**	**31**		**2**	**367**	**1**		**3,410**

EU CCR3: Standardised approach CCR exposures by regulatory portfolio and risk												
2019	Risk Weight											
Exposure Class	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	**Total**
Regional governments or local authorities					3							**3**
Institutions					3	22			125			**150**
Corporates									167	2		**169**
Total					**6**	**22**			**292**	**2**		**322**

During 2020, ING got approval to move the majority of the Sovereign portfolio under the PPU. This allows the capital for central banks and multilateral development banks to be calculated under the Standardized Approach, instead of the IRB approach.

The 100% risk weight exposures contain mainly FX swaps with central monetary institutions, and interest rate swaps with corporate non-profit organisations.

IRB – CCR exposures by portfolio and PD scale

The following table shows all relevant parameters used for the calculation of CCR capital requirements for IRB models.

EU CCR4: IRB-CCR exposures by portfolio and PD scale

2020

PD Scale	READ	Average PD	Number of obligors	Average LGD	Average maturity	RWA	RWA density
Corporates							
0.00 to < 0.15	6,101	0.11%	1,209	30.76%	2	1,260	21%
0.15 to < 0.25	1,858	0.21%	1,187	42.37%	3	901	49%
0.25 to < 0.50	3,129	0.38%	2,486	47.31%	3	2,268	72%
0.50 to < 0.75	5	0.59%	128	48.61%	1	3	64%
0.75 to < 2.50	1,291	1.15%	2,248	48.24%	3	1,445	112%
2.50 to < 10.00	448	4.36%	829	48.32%	2	693	155%
10.00 to < 100.00	95	21.65%	456	48.52%	2	254	267%
default	21	100.00%	125	40.69%	3	108	520%
sub-total	**12,948**	**0.76%**	**8,655**	**38.93%**	**2**	**6,931**	**54%**
Institutions							
0.00 to < 0.15	29,564	0.07%	1,181	28.72%	2	2,295	8%
0.15 to < 0.25	1,902	0.21%	121	16.88%	0	264	14%
0.25 to < 0.50	1,179	0.32%	294	23.32%	2	238	20%
0.75 to < 2.50	300	1.25%	616	29.61%	0	167	56%
2.50 to < 10.00	18	4.98%	187	41.34%	0	26	142%
10.00 to < 100.00	73	16.40%	136	37.71%	4	8	11%
default	1	100.00%	7	45.62%	3	5	590%
sub-total	**33,036**	**0.14%**	**2,542**	**27.88%**	**2**	**3,002**	**9%**
Retail							
0.00 to < 0.15	7	0.05%	189	68.38%	2	1	11%
0.15 to < 0.25	2	0.19%	106	70.84%	1	1	33%
0.25 to < 0.50	1	0.34%	239	61.47%	1	0	37%
0.50 to < 0.75	3	0.57%	43	67.24%	2	2	56%
0.75 to < 2.50	1	1.14%	236	59.78%	1	1	70%
2.50 to < 10.00	2	3.11%	68	50.71%	1	1	87%
10.00 to < 100.00	0	18.44%	128	49.90%	2	0	116%
default	0	0.00%	8	0.00%	0	0	0%
sub-total	**15**	**0.97%**	**1,017**	**65.10%**	**2**	**6**	**38%**
Total	**46,000**	**0.31%**	**12,214**	**31.00%**	**2**	**9,939**	**22%**

Excluding exposure class Securitisations. All figures are in EUR millions, except for the number of obligors.
RWA density is the average risk weight.

EU CCR4: IRB-CCR exposures by portfolio and PD scale

2019

PD Scale	READ	Average PD	Number of obligors	Average LGD	Average maturity	RWA	RWA density
Central Governments and Central Banks							
0.00 to < 0.15	2,085	0.03%	99	27%	4	57	3%
0.15 to < 0.25	59	0.21%	10	43%	3	29	49%
0.25 to < 0.50	1	0.31%	6	46%	1	1	42%
0.75 to < 2.50		0.76%	2	31%	4	0	77%
2.50 to < 10.00		0.00%	1	0%	0	0	0%
10.00 to < 100.00		0.00%	5	0%	0	0	0%
sub-total	**2,145**	**0.03%**	**123**	**28%**	**4**	**87**	**4%**
Corporates							
0.00 to < 0.15	6,112	0.09%	1,324	26%	2	103	17%
0.15 to < 0.25	1,152	0.21%	925	41%	3	598	52%
0.25 to < 0.50	2,611	0.37%	2,517	45%	2	1,699	65%
0.50 to < 0.75	1	0.58%	120	53%	2	1	71%
0.75 to < 2.50	1,204	1.27%	348	45%	3	1,297	108%
2.50 to < 10.00	203	5.35%	532	34%	4	262	129%
10.00 to < 100.00	28	20.83%	637	48%	3	76	267%
default	17	100.00%	144	37%	3	83	502%
sub-total	**11,328**	**0.59%**	**9,667**	**34%**	**2**	**5,046**	**45%**
Institutions							
0.00 to < 0.15	27,792	0.07%	1,198	27%	2	2,154	8%
0.15 to < 0.25	2,101	0.21%	117	18%	0	342	16%
0.25 to < 0.50	1,766	0.31%	338	16%	1	221	13%
0.75 to < 2.50	173	1.22%	607	37%	1	114	66%
2.50 to < 10.00	8	4.55%	200	43%	0	12	139%
10.00 to < 100.00	14	16.32%	245	29%	1	23	164%
default	1	100.00%	6	36%	1	4	449%
sub-total	**31,855**	**0.11%**	**2,711**	**26%**	**2**	**2,870**	**9%**
Retail							
0.00 to < 0.15	6	0.06%	181	69%	2	1	10%
0.15 to < 0.25	2	0.19%	71	62%	1	0	24%
0.25 to < 0.50	1	0.34%	102	65%	1	0	36%
0.50 to < 0.75	1	0.55%	62	70%	1	1	55%
0.75 to < 2.50	4	1.27%	477	55%	2	2	60%

2.50 to < 10.00	1	3.56%	113	65%	1	1	85%
10.00 to < 100.00	1	16.37%	211	65%	1	2	123%
default	0	0.00%	5	0%	0	0	0%
sub-total	**16**	**1.87%**	**1,222**	**64%**	**2**	**7**	**41%**
Total	**45,344**	**0.23%**	**13,724**	**28%**	**2**	**8,009**	**18%**

Excluding exposure class Securitisations. All figures are in EUR millions, except for the number of obligors.
RWA density is the average risk weight.

Derivatives by product type

The table below shows the derivatives exposure by product type, where the exposure measure is based on the regulatory exposure at default (READ).

Derivatives by product type in READ

					2020	2019
	Sovereigns	Institutions	Corporate	Other retail	Total	Total
Interest Rate Derivatives	951	13,107	5,635	1	20,791	19,943
FX Derivative	390	1,815	1,441	5	3,723	3,577
Equity Derivative		220	2,144	10	2,375	748
Exchange Traded Products		1,481			1,482	1,384
Commodity Derivative	6	68	970		1,044	795
Credit Derivative		538	121		659	559
Derivatives Other		57	237		294	73
Total	**1,348**	**17,286**	**10,548**	**17**	**30,368**	**27,079**

The 2020 equity derivative portfolio incorporates specific WWR trades.

Over-the-counter and exchange traded derivatives

This section quantifies the size of the derivatives exposure in terms of notional value. It also shows whether derivatives are traded over-the-counter (OTC) or traded on recognised exchanges (ETD). Where the derivatives are OTC, the table shows how much is cleared by central counterparties.

Credit risk from derivative transactions

	2020	2019
	Notional	Notional
CCP	2,473,483	2,557,483
Non-CCP	1,146,357	1,274,244
ETD derivatives	24,926	25,885
Total	**3,644,766**	**3,857,612**

Securities financing by product type

The exposures in this table are calculated based on the Financial Collateral Comprehensive Method as described in CRR art. 223, where regulatory haircuts are used for exposure and collateral and where netting is applied whenever there is a master netting agreement in place with a positive legal netting opinion.

Securities financing by product type in READ

				2020	2019
	Sovereigns	Institutions	Corporate	Total	Total
Bond Financing Given	502	8,712	655	9,870	8,524
Equity Financing Given	-	4,349	1,307	5,655	7,045
Bond Financing Taken	62	1,432	190	1,699	1,854
Equity Financing Taken	-	1,411	405	1,816	1,164
Total (ALL)	**565**	**15,904**	**2,557**	**19,041**	**18,587**

Includes both AIRB and SA portfolios; excludes Securitisations, equities and ONCOA.

Impact of netting and collateral held on exposure values

Impact of netting

It is common practice in OTC derivatives trading to sign master agreements that allow for close-out netting in the event that one of the parties defaults. When ING has signed such a master agreement and a positive legal netting opinion is in place, the agreement is deemed to be legally enforceable. For trades done under such a legally enforceable netting agreement, it is possible to calculate the exposure on a net basis.

EU CCR5-A: Impact of netting and collateral held on regulatory exposure values					
2020	Gross positive fair value	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives by underlying	125,119	86,621	38,498	8,137	30,361
Securities Financing Transactions	38,245	19,410	18,835	7,334	11,501
Total	**163,364**	**106,031**	**57,333**	**15,471**	**41,862**

Excluding exposure class securitization

EU CCR5-A: Impact of netting and collateral held on regulatory exposure values					
2019	Gross positive fair value	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives by underlying	119,946	84,777	35,169	8,469	26,700
Securities Financing Transactions	49,951	31,201	18,750	9,811	8,939
Total	**169,898**	**115,979**	**53,919**	**18,280**	**35,639**

Excluding exposure class securitization

Collateral

The change in the actual amount that ING had to pledge can be observed in the following table.

EU CCR5-B: Composition of collateral for exposures to counterparty credit risk							
		Collateral used in derivative transactions				Collateral used in SFT's	
		Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
2020		Segregated	Un-Segregated	Segregated	Un-segregated		
	Cash	3,408	6,232	-3,685	-6,495		
	Securities	2,016	1,005	-2,131	-2,133	101,125	-113,121
	Total	**5,424**	**7,237**	**-5,816**	**-8,628**	**101,125**	**-113,121**
2019	**Total**	**5,337**	**9,714**	**-9,517**	**-9,823**	**112,610**	**-114,431**

The bulk of collateral posted/received is in government bonds both for OTC derivatives and SFT. ING's key drivers of the changes to the collateralised derivatives portfolio are Interest- and Foreign Exchange Risk. A one notch rating downgrade will not lead to a material outflow of collateral. Additional outflows are taken into account in the Liquidity Coverage Ratio if ING would be downgraded by three notches.

Central Counterparties

In line with EMIR regulation - for standard products - the use of Central Clearing Parties (CCPs) is mandatory and thus an increasing part of the portfolio is shifting from bilateral trades to CCPs.

The table below presents the exposures to central counterparties, broken down by qualified (QCCP) and non-qualified CCPs:

EU CCR8: Exposures to central counterparties	2020		2019	
	EAD (post-CRM)	RWA	EAD (post-CRM)	RWA
Exposures to QCCPs (total)				
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	11,016	220	10,802	216
(i) OTC derivatives	9,937	199	9,287	186
(ii) Exchange-traded derivatives	132	3	866	17
(iii) Securities financing transactions	948	19	649	13
Pre-funded default fund contributions	300	152	247	183

Notes:
(1) By definition segregated initial margin does not contribute to exposure
(2)The status "qualified" is based on the European Securities and Markets Authority (ESMA) qualification.

Note: ING reports CCPs as "qualified" CCPs (QCCPs) if they have files for the European Securities and Markets Authority (ESMA) approval, that enables credit institutions to calculate capital in a preferential way. Due to Brexit ING is moving its CCP portfolio from the UK to other locations.

Voluntary and mandatory clearing has a large impact on the development of EAD and RWA. From an EAD perspective many trades are concentrated in one netting set (per CCP service), compared to bilateral trading, where trades are in various netting sets. Novating a bilateral traded contract to a CCP therefore typically reduces the amount of EAD. From an RWA perspective, the novation reduces the amount of RWA even more, due to the fact that the risk weight is only 2% (for QCCP exposure).

CVA risk

The CRR/CRD IV introduced a regulatory capital charge for material increases in the Credit Valuation Adjustment (CVA), the market price of the counterparty credit risk of derivatives. In particular, as credit spreads of ING's counterparties increase, CVA will increase as well and ING will incur a loss.

ING follows the standardised approach for calculating the own fund requirement for CVA Risk. The scope of products and counterparties follows the European regulations (CRR and EMIR).

EU CCR2: CVA capital charge

	2020		2019	
	Exposure value	RWAs	Exposure value	RWAs
All portfolios subject to the standardised method	4,905	579	5,487	550
Total subject to the CVA capital charge	**4,905**	**579**	**5,487**	**550**

In 2020 ING continued to hedge CVA risk that kept the capital requirement on low level. The exposure value decreased due to a lower exposure in interest rate derivatives with Financial Corporations.

Credit default swaps

ING participates in the credit risk derivative trading market, as a net purchaser of credit risk protection from other counterparties.

EU CCR6: Credit derivatives exposures

	2020			2019		
	Credit derivative hedges		Other credit derivatives	Credit derivative hedges		Other credit derivatives
	Protection bought	Protection sold		Protection bought	Protection sold	
Notionals						
Single-name credit default swaps	-10,813	9,726		-14,905	12,897	
Index credit default swaps	-1,300	577		-1,670	245	
Total return swaps		2,358			2,145	
Total notionals	**-12,113**	**12,661**		**-16,575**	**15,288**	
Fair values	-151	114		-259	149	
Positive fair value (asset)	43	150		48	192	
Negative fair value (liability)	-195	-36		-307	-43	

For ING's credit derivative positions as of 31 December 2020, the largest notional is under single-name credit default swap (CDS), and a small notional is under Index CDS (IXCDS).

Securitisations

The following is prepared taking into account the 'Industry Good Practice Guidelines on Pillar 3 disclosure requirements for securitisations' issued by the European Banking Federation and other industry associations on 31 January 2010 and the CRR/CRD IV disclosure requirements. It includes qualitative and quantitative disclosures addressing both the exposure securitised as well as securitisations positions held. While quantitative disclosures are limited to those securitisations that are used for the purpose of calculating the regulatory capital requirements under the CRR/CRD IV, qualitative information have a broader scope and give a view on ING's entire securitisation activity.

Depending on ING's role as investor, originator, or sponsor, the objectives, the involvement and the rules applied may be different. ING is primarily engaged in securitisation transactions in the role of investor (in securitisations arranged by others). To a lesser extent, ING is also an originator or sponsor of securitisations that are usually traded in the public markets. ING does not re-securitise its securitisations exposure and even though ING hedges its securitisation positions, such instruments are not recognised as credit risk mitigation for regulatory capital purposes. ING does not engage in securitisation of any impaired assets from its own balance. Furthermore, ING does not have any securitisation position in its trading book.

Exposures associated with Securitisations (Asset Backed Financing, Commercial / Residential Mortgage Backed Securities) are shown separately because of their specific treatment. These amounts also relate to the amount invested prior to any impairment or mark-to-market adjustments. These amounts are also considered to be 'Credit Risk outstanding'.

Valuation and accounting policies

ING's activities regarding securitisations are described in Note 48 'Structured entities' in the annual accounts. The applicable accounting policies are included in Note 1 'Basis of preparation and accounting policies' in the ING Group Financial Statements. The most relevant accounting policies for ING's own originated securitisation programmes are 'Derecognition of financial assets' and 'Consolidation'. Where ING acts as investor in securitisation positions, the most relevant accounting policy is 'Classification and measurement of financial instruments'.

Regulatory capital methodology and Rating Agencies

ING has implemented SEC-IRB, SEC-SA, SEC-ERBA and SEC-IAA in line with of Regulation 2017/2401. This regulation became effective for securitisations originated as of 1 January 2019 and as of 1 January 2020 for all securitisation positions.

For securitisations originated before 1 January 2019, ING continued to use the AIRB approach for credit risk. For these positions ING uses the Rating Based Approach (RBA) for investments in tranches of asset-backed securities (ABS) and mortgage-backed securities (MBS) which have been rated by external rating agencies. Rating agencies which are used by ING under the RBA include Standard & Poor's, Fitch and Moody's. The securitisation exposure for which each rating agency is used is given in the following table. In case of multiple ratings, the worst rating is applied.

ING uses the Internal Assessment Approach (IAA) for the support facilities it provides to Asset Backed Commercial Paper (ABCP) conduit Mont Blanc Capital Corp., based on externally published rating agency methodologies. Under the IAA approach, the unrated position is assigned by the institution to an internal rating grade, which is estimated using an ING developed model. The individual liquidity facilities are then attributed a derived rating by mapping the internal rating grade to an externally published credit assessment corresponding to that rating grade.

Securitisation exposure per rating agency used

	S&P	Fitch	Moody's	IAA approach	Other	2020 Total	2019 Total
Asset Backed Securities	1,133	343	123		127	1,727	2,594
Residential Mortgage Backed Securities					2,264	2,339	2,724
Securitisation Liquidity					2,824	2,824	1,655
Interest Rate Derivatives					394	394	345
Other		2	33		2,732	2,768	691
Total	**1,133**	**345**	**156**		**8,342**	**10,053**	**8,010**

Under the RBA, RWA are determined by multiplying the amount of the exposure by the appropriate regulatory risk weights, which depend on: the external rating or an available inferred rating, the seniority of the position and the granularity of the position.

For securitisations originated after 1 January 2019, ING applies the hierarchy of methods as introduced in Regulation 2017/2401. Following the prescribed hierarchy securitisation positions are reported under SEC-IRB, SEC-SA, SEC-ERBA or SEC-IAA. As of 1-1-2020 all securitisation positions will be reported under the SEC-IRB, SEC-SA, SEC-ERBA or SEC-IAA approach based on the regulatory hierarchy of methods.

Under all approaches in the hierarchy, the risk weight for STS-compliant securitizations is subject to a floor of 10% for senior tranches and 15% for non-senior tranches.

Due to all these changes, the RWA is expected to increase by EUR 1.7 billion when the whole portfolio is reported under Regulation 2017/2401.

Securitisations: credit risk disclosure in READ

	2020	2019	Delta %
Geography	**10,053**	**8,010**	**26%**
America	2,739	1,325	107%
Asia	164	114	43%
Australia	5	4	20%
Europe	7,145	6,567	9%
Europe	**7,145**	**6,567**	**9%**
Germany	3,472	4,486	-23%
Netherlands	658	692	-5%
Spain	1	5	-87%
United Kingdom	660	664	-1%
Rest of Europe	2,355	720	227%
Product Type	**10,053**	**8,010**	**26%**
Asset Backed Securities	1,926	2,678	-28%
Residential Mortgage Backed Securities	2,339	2,724	-14%
Securitisation Liquidity[1]	2,824	1,655	71%
Interest Rate Derivatives	394	345	14%
Other	2,569	607	323%
Exposure Class[2]	**10,053**	**8,010**	**26%**
Securitisation Originator	2,269	2,541	-11%
Securitisation Investor	3,740	2,865	31%
Securitisation Sponsor	4,043	2,604	55%

Excludes equities and ONCOA.

1 These are structured financing transactions by ING for clients by assisting them in obtaining sources of liquidity by selling the clients' receivables or other financial assets to an SPV.

2 Securitisation benefits are excluded. Own originated securitisations are explained in a separate section.

During 2020, the exposure to securitisations increased to EUR 10.0 billion. All securitisation positions are performing.

Investor securitisations

ING's goal is to maintain a portfolio of high quality liquid assets that meets the regulatory requirements of CRR/CRD IV and the Delegated Act of October 2014 regarding liquidity. ING invests in high quality Asset Backed Securities (ABS) keeping close track of the securitisation investment positions via monthly monitoring reports and weekly update calls. Additionally, ING may invest in securitisation positions in order to facilitate client business from Wholesale Banking Securitisation department.

Sponsor securitisations

In the normal course of business, ING structures financing transactions for its clients by assisting them in obtaining sources of liquidity by selling the clients' receivables or other financial assets to a Special Purpose Vehicle (SPV). The senior positions in these transactions are funded by the ING administered multi seller Asset Backed Commercial Paper (ABCP) conduit Mont Blanc Capital Corp. (rated A-1/P-1). Mont Blanc Capital Corp. funds itself externally in the ABCP markets.

In its role as administrative agent, ING facilitates these transactions by acting as administrative agent, swap counterparty and liquidity provider to Mont Blanc. ING also provides support facilities (liquidity) backing the transactions funded by the conduit. The types of asset currently in the Mont Blanc conduit include trade receivables, consumer finance receivables and car leases.

ING supports the commercial paper programmes by providing Mont Blanc Capital Corp. with short-term liquidity facilities. Once drawn these facilities bear normal credit risk.

The standby liquidity facilities are reported under irrevocable facilities. All facilities, which vary in risk profile, are granted to the SPE subject to normal ING credit and liquidity risk analysis procedures. The fees received for services provided and for facilities are charged subject to market conditions. Mont Blanc is consolidated by ING. These transactions are therefore on-balance sheet arrangements.

In line with the Internal Assessment Approach, which has been approved for use by ECB for ING in relation to the ING sponsored ABCP conduit, Mont Blanc Capital Corp, the credit quality of the positions are internally assessed by following publicly available assessment methodology of external rating agencies. This includes differing stress factors for different asset classes as outlined by rating agencies as well as assessing the entire structure of the transaction including additional quantitative and qualitative features. This will result in the calculation of a certain credit enhancement. Other protections in a transaction (eligibility criteria, early amortization triggers, commingling protections etc.) are factored in and that then results in an internal rating. This rating is then directly mapped to an external rating, which is used to determine the RWA for the liquidity facilities provided by ING to support the transactions and is outlined in a defined approach. Any changes to rating agency methodology is tracked annually with a procedure in place with the credit risk measurement department verifying that any changes are captured in an update to the approach.

The credit approval process for individual transactions follows ING's standard credit approval procedures. At inception, initial data is required to be received outlining the historical performance of the assets. Due diligence is carried out on the underlying asset pool. Following ING policy, each transaction is reviewed (including reassessing the internal assessment approach analysis for that transaction) on a regular basis. The performance of each transaction is closely monitored on an ongoing basis through a.o. detailed transaction reports.

Originator securitisations

ING originates own securitisation transactions for economic and regulatory capital purposes, as well as liquidity and funding purposes.

The senior tranches in securitisations are used to obtain funding and/or provide contingent liquidity. To be eligible as collateral for central banks securitised exposures must be sold to a Special Purpose Vehicle (SPV) which, in turn, issues securitisation notes ('traditional securitisations') in two tranches, one subordinated tranche and one senior tranche, rated AAA by a rating agency. The AAA tranche can then be used by ING as (stand-by) collateral in the money market for secured borrowings. The assets awaiting securitisations are originated from a banking book and are valued in line with the respective accounting framework. In principle, loans that are securitised are valued at cost.

As long as the securitisation exposures created are not transferred to third parties, the regulatory capital remains unchanged. These are not detailed hereunder. Apart from the structuring and administration costs of these securitisations, these securitisations are profit / loss neutral.

Securitisaton Exposure

In the table below, the securitisations are given, broken down by underlying exposure.

Template EU-SEC1: Securitisation exposures in the non-trading book

	Institution acts as originator							Institution acts as sponsor				Institution acts as investor			
	Traditional				Synthetic			Traditional				Traditional			
	STS		Non-STS				Sub-total	STS	Non-STS	Synthetic	Sub-total	STS	Non-STS	Synthetic	Sub-total
		of which SRT		of which SRT		of which SRT									
Total exposures					**2,269**	**2,269**	**2,269**	**1,029**	**3,000**		**4,043**	**1,789**	**1,951**		**3,740**
Retail (total)					2,269	2,269	2,269	144	2,493		2,651	670	1,754		2,424
residential mortgage					2,269	2,269	2,269	144	321		465	70			70
credit card									361		361				
other retail exposures									1,811		1,825	600	1,754		2,354
Wholesale (total)								885	507		1,392	1,119	198		1,316
commercial mortgage									18		18				
lease and receivables								885	489		1,374	1,119	166		1,285
other wholesale													32		32

Due to the implementation of the New Securitisation Framework in 2020, ING has decided to anticipatively implement the new EBA templates for securitisations that are supposed to be applicable as of June 2021. Therefore, the numbers are not comparable with 2019. The total position of our securitisations in 2020 is EUR 10.0 billion. The underlying exposures are residential mortgages and Lease and receivables.

The following tables provides the breakdown of current exposures by risk weight bands. The amount of securitisation positions is based on the regulatory exposure values calculated according to the CRR/CRD IV after consideration of credit conversion factors (CCFs) where applicable as used for the purpose of Pillar 1, but prior to the application of credit risk mitigates on securitisation positions. Given the focus on high quality securitisations the portfolio composition is shifting to the lower risk band.

Template EU-SEC4: Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor

2020	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWEA (by regulatory approach)				Capital charge after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
Total exposures	**3,581**	**140**		**19**			**1,639**	**2,101**			**167**	**432**			**13**	**35**	
Traditional securitisation	3,581	140		19			1,639	2,101			167	432			13	35	
Securitisation	3,581	140		19			1,639	2,101			167	432			13	35	
Retail underlying	2,269	137		19			612	1,812			63	389			5	31	
Of which STS	670						600	70			60	7			5	1	
Wholesale	1,313	4					1,027	290			104	43			8	3	
Of which STS	1,119						1,023	96			102	14			8	1	

Template EU-SEC3: Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor

2020	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWEA (by regulatory approach)				Capital charge after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
Total exposures	**3,096**	**581**		**11**	**14**	**2,269**	**266**	**1,152**	**14**	**352**	**87**	**230**	**181**	**28**	**7**	**18**	**14**
Traditional securitisation	902	505		11			266	1,152			87	230			7	18	
Securitisation	902	505		11			266	1,152			87	230			7	18	
Retail underlying	384	425					227	583			57	148			5	12	
Of which STS	144							144				15				1	
Wholesale	518	80		11			39	570			30	82			2	7	
Of which STS	215						15	200			2	20			0	2	
Synthetic securitisation	2,194	76				2,269				352				28			
Securitisation	2,194	76				2,269				352				28			
Retail underlying	2,194	76				2,269				352				28			

ING does not have any re-securitisation in its books.

Compared to EU-SEC 1, ABCP Transaction (EUR 2,566 million) and ABCP Programme (EUR 44 million) are not included.

Market Risk

Prudent Valuation Adjustments

The fair valued instruments of ING portfolio are subject to valuation adjustments, supported by a bank-wide valuation policy framework meeting IFRS and CRR requirements. Based on IFRS rules, the fair value adjustments booked through P&L or OCI reflect the fair exit price. Additionally, based on CRR Article 105 and Article 34, the Additional Valuation Adjustment (AVA) that captures the 90% confidence prudency in the fair value are deducted from the Common Equity Tier 1 capital. During 2020, triggered by the pandemic impact on global financial markets, a major review of the valuation framework and methodology has taken place, leading to an increase of AVA, as shown in Table below.

EU PV1: Prudent valuation adjustments (PVA)

amounts in EUR thousands	Risk Category					Category level AVA - Valuation uncertainty		2020			2019		
	Equity	Interest Rates	Foreign exchange	Credit	Commodities	Unearned credit spreads AVA	Investment and funding costs AVA	Total category level post-diversification	Of which: Total core approach in the trading book	Of which: Total core approach in the banking book	Total	Of which: in the trading book	Of which: in the banking book
Market price uncertainty		12,397	763	125,701		5,759		110,239	20,039	90,200			
Close-out cost	9,171	4,024	266	4,029	2,549	3,501	644	22,032	20,704	1,328			
Concentrated positions	10,883	8,118		5,235				24,236	5,238	18,999	16,777	16,642	135
Model risk	8,341	7,648	21	16,476	1,254	38,893		61,594	52,391	9,203			
Future administrative costs				103				103	103				
Total Additional Valuation Adjustments (AVAs)								**484,377**	**98,475**	**119,729**	**16,777**	**16,642**	**135**

The difference between the total AVA and the sum of the underlying components (internal models) is the fall-back approach.

As of 31 December 2020, the total Additional Valuation Adjustments (AVAs) is EUR 484.4 million (before tax) mainly driven by the market price uncertainty and model risk. This total amount contains EUR 266.2 million of portfolio under fall-back approach. On a quarterly basis the fair value adjustments and prudent valuation AVA are discussed and approved in the Global Pricing and Impairment Committee (GP&IC), who oversees the bank-wide valuation framework.

Market RWA under the internal model approach (IMA)

The table below explains the changes in Market RWA under the Internal Model Approach (IMA) during 2020 and provides additional information by linking the impact of changes in portfolio composition, model changes, and shifts in the risk environment on Market RWA.

EU MR2-B: RWA flow statements of market risk exposures under the IMA

						2020		2019	
		VaR	SVaR	IRC	Other	Total RWA	Total Capital Requirements	Total RWA	Total Capital Requirements
1	**RWA at previous year end**	**1,261**	**3,011**	**1,278**		**5,550**	**444**	**5,378**	**430**
1a	Regulatory adjustment	857	2,109	479		3,445	276	2,636	211
1b	RWA at previous year-end (end of the day)	404	902	799		2,105	168	2,742	219
2	Movement in risk levels	340	134	314		788	63	636	51
3	Model updates/changes				180	180	14		
8a	RWAs at the end of the reporting period (end of the day)	744	1,036	1,113	180	3,073	246	2,105	168
8b	Regulatory adjustment	2,470	3,383		–	5,852	468	3,445	276
8	**RWA at the end of the reporting period**	**3,214**	**4,419**	**1,113**	**180**	**8,925**	**714**	**5,550**	**444**

*It is required to fill in Rows 1a/1b and 8a/8b when the RWA/capital requirement for any of the columns (VaR, SVaR, IRC) is the 60-day average (for VaR and SVaR) or the 12-week average measure (for IRC) and not the RWA/capital requirement at the end of the period. According to regulatory guidelines the values in rows 1a/8b are calculated as differences between values in rows 1 and 1b and 8 and 8a, respectively.

**Movement in risk levels: Changes due to position changes between end-of-day values for two reporting periods in question.

Key changes

The ING Bank Market RWA under Internal Model Approach increased to EUR 8.9 bln in 2020 from EUR 5.5 bln in 2019 (EUR +3.4 bln). The main components of the change are 10D HVaR (EUR +1.9 bln) and 10D SVaR (EUR +1.4 bln). They went up due to the increased market volatility as a result of the Covid-19 pandemic.

Funding & Liquidity Risk

Funding and liquidity risk is the risk that ING Group or one of its subsidiaries cannot meet its financial liabilities when they come due, at reasonable cost and in a timely manner. ING ensures that long term obligations are adequately met with a diversity of stable funding instruments under both normal and stressed conditions. For more information, please refer to the Risk management paragraph of the ING Group Annual Report.

Asset encumbrance

As part of the liquidity buffer management, ING Group monitors the existing asset encumbrance. Encumbered assets represent the on- and off-balance sheet assets that are pledged or used as collateral for ING Group's liabilities. The presented templates of ING Group's encumbered and unencumbered assets are based on the CRR (Part Eight) and the Regulatory Technical Standards (RTS) for disclosure of encumbered and unencumbered assets.

In 2020, the median asset encumbrance ratio for ING Group is 21%.

Encumbered and unencumbered assets

2020	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
median in EUR million		Of which notionally eligible EHQLA and HQLA		Of which notionally eligible EHQLA and HQLA		Of which EHQLA and HQLA		Of which EHQLA and HQLA
Assets	**135,036**	**27,134**			**830,505**	**131,526**		
Equity instruments	3,077	1,714	3,077	1,714	5,016	1,761	5,016	1,685
Debt securities	29,229	24,181	29,504	23,285	65,925	28,291	66,986	28,080
of which: covered bonds	3,126	3,070	3,139	3,089	5,141	3,317	5,182	3,330
of which: asset-backed securities	503	273	288	273	3,514	2,805	3,983	2,805
of which: issued by general governments	15,766	15,016	16,435	15,204	52,248	16,050	52,629	15,819
of which: issued by financial corporations	12,018	8,204	12,024	8,229	10,080	8,765	10,301	8,829
of which: issued by non-financial corporations	726	582	730	585	456	385	454	385
Other assets	91,360	941			759,728	104,051		
of which: loans on demand	1,427				109,730	81,523		
of which: loans and advances other than on demand	88,998				610,539	58		
of which: mortgage loans	69,483				300,449			

Encumbered and unencumbered assets

2019 median in EUR million	Carrying amount of encumbered assets	Of which notionally eligible EHQLA and HQLA	Fair value of encumbered assets	Of which notionally eligible EHQLA and HQLA	Carrying amount of unencumbered assets	Of which EHQLA and HQLA	Fair value of unencumbered assets	Of which EHQLA and HQLA
Assets	**102,285**	**11,607**			**807,651**	**103,965**		
Equity instruments	5,324	3,379	5,324	3,051	6,560	2,587	6,560	2,587
Debt securities	12,863	9,033	12,868	9,032	72,990	54,121	73,756	54,633
of which: covered bonds	394	379	383	373	8,720	8,458	9,169	8,456
of which: asset-backed securities	1,635	19	1,635	19	3,682	2,966	3,756	2,966
of which: issued by general governments	5,659	5,566	5,745	5,566	52,303	37,111	52,585	37,252
of which: issued by financial corporations	6,830	2,267	6,836	2,266	15,965	13,575	16,199	13,806
of which: issued by non-financial corporations	639	560	639	560	1,107	600	1,128	600
Other assets	84,602	933			726,858	47,905		
of which: loans on demand	1,348				51,889	38,241		
of which: loans and advances other than on demand	82,440				628,656	351		
of which: mortgage loans	65,168				303,455			

Collateral received

2020 median in EUR million	Fair value of encumbered collateral received or own debt securities issued	Of which notionally eligible EHQLA and HQLA	Fair value of collateral received or own debt securities issued available for encumbrance	Of which EHQLA and HQLA
Collateral received	**87,728**	**63,366**	**24,486**	**22,529**
Equity instruments	16,374	5,162	3,713	2,555
Debt securities	71,948	58,852	21,142	19,671
of which: covered bonds	304	294	279	168
of which: asset-backed securities	5,759	5,759	2	1
of which: issued by general governments	53,632	47,383	13,386	12,532
of which: issued by financial corporations	14,690	7,750	3,515	2,179
of which: issued by non-financial corporations	1,978	1,339	2,076	1,534
Own covered bonds and asset-backed securities issued and not yet pledged			**46,374**	
TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED	**222,983**	**90,501**		

Collateral received

2019 median in EUR million	Fair value of encumbered collateral received or own debt securities issued	Of which notionally eligible EHQLA and HQLA	Fair value of collateral received or own debt securities issued available for encumbrance	Of which EHQLA and HQLA
Collateral received	**91,340**	**75,980**	**35,002**	**26,885**
Equity instruments	13,572	7,112	1,192	725
Debt securities	78,064	69,594	33,619	26,793
of which: covered bonds	740	726	567	487
of which: asset-backed securities	308		1,448	
of which: issued by general governments	64,631	64,291	20,876	19,899
of which: issued by financial corporations	10,959	6,454	7,095	2,467
of which: issued by non-financial corporations	3,193	1,714	2,084	1,201
Own covered bonds and asset-backed securities issued and not yet pledged			**45,540**	
TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED	**192,852**	**87,587**		

Information on importance of encumbrance

ING manages it balance sheet prudently whereby a variety of funding sources is readily available. Given this situation, the level of encumbrance of our balance sheet is relatively low.

The amounts are presented as the median of the four quarter end values of the reporting year. The median is calculated as the average of the two values in the middle of the order of four quarter end values.

Encumbered assets on our balance sheet comprise to a large extent mortgages and other loans which are used as cover pool for covered bond programs issued by subsidiaries in the Netherlands, Belgium and Germany, as well as external securitisations and other types of collateralised deposits. Of the total encumbered assets, EUR 90 billion are loans and advances, mostly mortgages, that serve as collateral for these type of liabilities. The cover pool assets are not considered encumbered when the securities are retained within ING. The issued securitisations and especially the covered bonds have over collateralisation, meaning that the assets in the cover pool are higher than the issuance.

Encumbered assets/collateral received and associated liabilities

	2020		2019	
median in EUR million	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	**146,665**	**198,946**	**129,658**	**165,200**
of which: derivatives	12,795	9,941	14,728	10,575
of which: repurchase agreements	53,198	96,569	58,497	83,539
of which: collateralised deposits excl. repurchase agreements	47,135	37,250	23,789	27,074
of which: covered bonds	28,667	38,475	29,739	39,338
of which: asset-backed securities	3,713	3,369	2,943	4,414

Furthermore, assets are encumbered as a result of the repo- and securities lending business and cash and securities collateral posted for derivative and clearing transactions in which pledging collateral is a requirement. As part of its normal securities financing and derivatives trading activities ING enters into standard master agreements such as ISDA and Global Master Repurchase Agreements (GMRA), which contain Credit Support Annexes (CSA) or other similar clauses. Under the terms of these contracts ING could be required to provide additional collateral in the event ING is downgraded by one of the established rating agencies. Refer to the paragraph Counterparty Credit Risk.
To optimise the usage of collateral between the entities, ING conducts transactions between ING entities, which result in intragroup encumbrance.

Liquidity coverage ratio

To protect ING and its depositors against liquidity risks, ING maintains a liquidity buffer based on the Delegated Act Liquidity coverage ratio (LCR). ALCO Bank ensures that sufficient liquidity is maintained, in accordance with Bank and regulatory rules and standards, including a buffer of unencumbered, high quality liquid assets.

EU LIQ1 LCR disclosure template

		31 December 2020		30 September 2020		30 June 2020		31 March 2020		31 December 2019	
		Total unweighted value	Total weighted value	Total unweighted value	Total weighted value	Total unweighted value	Total weighted value	Total unweighted value	Total weighted value	Total unweighted value	Total weighted value
Number of data points used in the calculation of averages		12	12	12	12	12	12	12	12	12	12
HIGH-QUALITY LIQUID ASSETS											
1	Total high-quality liquid assets (HQLA)		149,061		141,052		137,578		135,662		133,980
CASH-OUTFLOWS											
2	Retail deposits and deposits from small business customers, of which:	445,202	31,473	434,538	30,956	424,859	30,500	416,854	30,153	412,876	30,030
3	*Stable deposits*	329,268	16,463	321,734	16,087	314,957	15,748	309,173	15,459	303,993	15,200
4	*Less stable deposits*	102,491	13,056	101,449	12,958	100,287	12,805	99,940	12,741	101,055	12,865
5	Unsecured wholesale funding	353,561	118,733	352,804	119,177	353,078	120,795	352,224	121,981	346,877	120,128
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*	260,014	64,802	256,191	63,855	252,803	63,013	249,805	62,250	245,800	61,226
7	*Non-operational deposits (all counterparties)*	87,432	47,816	90,514	49,223	94,574	52,082	96,923	54,236	94,982	52,807
8	*Unsecured debt*	6,115	6,115	6,099	6,099	5,700	5,700	5,495	5,495	6,096	6,096
9	Secured wholesale funding		11,532		12,043		13,022		13,519		13,388
10	Additional requirements	111,661	24,566	111,037	24,290	110,049	23,723	108,939	23,233	107,478	22,909
11	*Outflows related to derivative exposures and other collateral requirements*	9,705	9,705	9,272	9,272	8,978	8,978	8,772	8,772	8,783	8,783
12	*Outflows related to loss of funding on debt products*	800	800	765	765	497	497	440	441	355	355
13	*Credit and liquidity facilities*	101,156	14,062	101,001	14,253	100,573	14,248	99,726	14,020	98,341	13,771
14	Other contractual funding obligations	4,999	4,255	5,549	4,781	6,237	5,444	7,339	6,520	7,728	6,883
15	Other contingent funding obligations	128,186	5,263	130,109	5,132	131,688	5,090	133,678	5,206	134,366	5,191
16	**TOTAL CASH OUTFLOWS**		**195,823**		**196,377**		**198,575**		**200,612**		**198,528**
CASH-INFLOWS											
17	Secured lending (e.g. reverse repos)	72,723	14,453	76,045	16,081	78,683	17,242	78,552	16,870	79,320	16,618
18	Inflows from fully performing exposures	34,360	26,083	35,152	26,667	36,495	27,804	37,975	29,247	38,159	29,501
19	Other cash inflows	223,437	46,593	226,278	47,021	228,274	47,324	229,275	47,357	226,103	46,639

20	**TOTAL CASH INFLOWS**	330,520	87,129	337,475	89,769	343,452	92,371	345,802	93,474	343,582	92,758
EU-20c	***Inflows Subject to 75% Cap***	323,566	87,129	329,079	89,769	334,045	92,371	335,790	93,474	333,945	92,758
			TOTAL ADJUSTED VALUE		**TOTAL ADJUSTED VALUE**		**TOTAL ADJUSTED VALUE**		**TOTAL ADJUSTED VALUE**		**TOTAL ADJUSTED VALUE**
21	**LIQUIDITY BUFFER**		**149,061**		**141,052**		**137,578**		**135,662**		**133,980**
22	**TOTAL NET CASH OUTFLOWS**		**108,693**		**106,607**		**106,204**		**107,138**		**105,771**
23	**LIQUIDITY COVERAGE RATIO (%)**		**137%**		**132%**		**130%**		**127%**		**127%**

Additional Information on importance of LCR process
ING has centralized liquidity management, which provides agility and ability to remain liquid during turbulent times. The central buffer held at the Group level allows ING to redirect liquidity towards the entities in need with maximum efficiency. To comply with local LCR requirements, material legal entities hold liquidity buffer at the local level, and can transfer the remaining liquidity to central buffer if required. Hence, the actual liquidity levels at the consolidated level are (even) higher as not all can be included in the LCR calculations. ALCO Bank is responsible for setting the minimum buffer requirements for the Group as well as material legal entities. Local ALCOs are mandated to add additional buffer requirements if necessary. The consolidated and the local LCRs are reported to ALCO Bank on a monthly basis.
ING's funding and liquidity sources are diversified in such a way that it's able to fund its commercial activities both under normal and stressed market circumstances across various geographies, currencies and tenors. The bank's funding mix is reviewed on a monthly basis by ALCO and managed by Group Treasury. The table 'funding mix' in the Risk Management section of the Annual Report provides detailed insight.
ING employs a Collateral Funding framework, where expected Collateral exposures are long term funded via the Matched Funding framework. The expected collateral exposures are generated using a statistical model, and the resulting profiles are rebalancing on a monthly basis. Potential collateral calls, from unexpected exposures, are taken into account in LCR via the 24 month historical look-back approach (HLBA). The Funding & Liquidity RAS provides for additional LCR buffer to cover unexpected collateral outflow.
ING measures and monitors LCR on aggregated basis per (significant) currency and currencies of significant branches in order to manages any undue currency mismatches.
The LCR disclosure template only presents the consolidated LCR. However, ING also manages and reports LCR for subsidiaries, for material currencies, for foreign currencies of material branches and for liquidity subgroups.

Other risks

Non-financial risk

The table below shows the distribution of the gross loss amount for non-financial risk events by the Basel risk categories. The Basel risk categories (i.e. Basel event type classifications) include the risk areas set out in the Non-Financial Risk chapter. The event loss is presented in the year of discovery of the individual events.

Distribution of gross loss by risk category[1]		
	2020	2019[2]
Business disruption and systems failures	–	1
Clients, products and business practices	5	42
Damage to physical assets	11	1
Employment practices and workplace safety	4	2
Execution, delivery and process management	17	71
External fraud	56	45
Internal fraud	4	3
Total	**97**	**165**

1 Loss amounts for events with an individual loss ≥ EUR 5,000.

2 Due to recoveries and the development of loss amounts over time, the figures of previous years can be subject to change.

Losses to operational internal events in 2020 are lower than in the previous year. The losses were mainly in the categories External fraud (57%), Execution, Delivery and Process management (18%) and Damage to Physical Assets (11%).

In 2019, the losses were mainly in the categories Execution, Delivery and Process management (43%), External fraud (28%) and Clients, Products and Business practices (26%).

Compliance risk

Whistleblower

ING deems it important that any employee can report, anonymously or not, alleged irregularities ('Concerns') regarding accounting or auditing matters, as well as Concerns of a general, operational and financial nature within the company, in accordance with its Whistleblower Policy. ING exercises the utmost care with regard to the confidentiality of such a report or the anonymity of the employee, within the limits as defined by applicable laws and regulations. ING will not discharge, demote, suspend, threaten, harass or in any other way harm the employment status of a whistle-blower who has reported a Concern in good faith or of an employee who participates or has participated in an investigation following a reported Concern.

Concerns are recorded in accordance with specific categories, as represented in the table. These are limited to concerns reported through the dedicated whistle-blower channels as alternative to standard reporting and escalation channels. The Concerns are reported periodically (in numbers and on content, if necessary) via the Head of Compliance up to the level of the Supervisory Board.

Whistleblower concerns	
Number of cases reported	2020
Discrimination	5
Harassment	**3**
Bullying	**2**
Work pressure / non-realistic targets	13
Other undesirable behaviour	**8**
Accounting, internal accounting controls or auditing matters	2
Financial Economic Crime	**5**
Fraud / Theft	5
Breach of data privacy or (client/employee) confidentiality	5
Bribery / Corruption	**2**
Conflicts of Interest	3
Other breach of any external law / regulation or any ING policy	5
Total	**58**

Due to a refinement (from 14 to 19) in the categorisation of Concerns starting 1 January 2020, there are no comparative numbers for 2019 for the categories used in 2020. The numbers for 2019 are presented separately in the next table, using the previous categories.

Whistleblower concerns

Number of cases reported	2019
Accounting, internal accounting controls or auditing matters	
Anti-trust / competition law	
Breach of ING values or unethical behaviour	52
Breach of confidentiality and data privacy	3
Bribery / Corruption	
Customer suitability	
Discrimination	2
Financial Economic Crime	8
Fraud / Theft	4
Harassment / Bullying / Sexual intimidation	8
Market abuse / Insider trading	1
Other unethical behaviour (e.g. aggression, violence)	6
Other breach of any external law / regulation or any ING policy	18
Retaliation	
Total	**102**

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		Own funds	On the corporate website ing.com
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Disclaimer

Certain of the statements contained herein are not historical facts, including, without limitation, certain statements made of future expectations and other forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. Actual results, performance or events may differ materially from those in such statements due to a number of factors, including, without limitation: (1) changes in general economic conditions, in particular economic conditions in ING's core markets, including changes affecting currency exchange rates (2) the effects of the Covid-19 pandemic and related response measures, including lockdowns and travel restrictions, on economic conditions in countries in which ING operates, on ING's business and operations and on ING's employees, customers and counterparties (3) changes affecting interest rate levels (4) any default of a major market participant and related market disruption (5) changes in performance of financial markets, including in Europe and developing markets (6) political instability and fiscal uncertainty in Europe and the United States (7) discontinuation of or changes in 'benchmark' indices (8) inflation and deflation in our principal markets (9) changes in conditions in the credit and capital markets generally, including changes in borrower and counterparty creditworthiness (10) failures of banks falling under the scope of state compensation schemes (11) non-compliance with or changes in laws and regulations, including those financial services and tax laws, and the interpretation and application thereof (12) geopolitical risks, political instabilities and policies and actions of governmental and regulatory authorities (13) legal and regulatory risks in certain countries with less developed legal and regulatory frameworks (14) prudential supervision and regulations, including in relation to stress tests and regulatory restrictions on dividends and distributions, (also among members of the group) (15) regulatory consequences of the United Kingdom's withdrawal from the European Union, including authorizations and equivalence decisions (16) ING's ability to meet minimum capital and other prudential regulatory requirements (17) changes in regulation of US commodities and derivatives businesses of ING and its customers (18) application of bank recovery and resolution regimes, including write-down and conversion powers in relation to our securities (19) outcome of current and future litigation, enforcement proceedings, investigations or other regulatory actions, including claims by customers who feel mislead and other conduct issues (20) changes in tax laws and regulations and risks of non-compliance or investigation in connection with tax laws, including FATCA (21) operational risks, such as system disruptions or failures, breaches of security, cyber-attacks, human error, changes in operational practices or inadequate controls including in respect of third parties with which we do business (22) risks and challenges related to cybercrime including the effects of cyber-attacks and changes in legislation and regulation related to cybersecurity and data privacy (23) changes in general competitive factors, including ability to increase or maintain market share (24) the inability to protect our intellectual property and infringement claims by third parties (25) inability of counterparties to meet financial obligations or ability to enforce rights against such counterparties (26) changes in credit ratings (27) business, operational, regulatory, reputation and other risks and challenges in connection with climate change (28) inability to attract and retain key personnel (29) future liabilities under defined benefit retirement plans (30) failure to manage business risks, including in connection with use of models, use of derivatives, or maintaining appropriate policies and guidelines (31) changes in capital and credit markets, including interbank funding, as well as customer deposits, which provide the liquidity and capital required to fund our operations, and (32) the other risks and uncertainties detailed in the most recent annual report of ING Groep N.V. (including the Risk Factors contained therein) and ING's more recent disclosures, including press releases, which are available on www.ING.com. This annual report contains inactive textual addresses to internet websites operated by us and third parties. Reference to such websites is made for information purposes only, and information found at such websites is not incorporated by reference into this annual report. ING does not make any representation or warranty with respect to the accuracy or completeness of, or take any responsibility for, any information found at any websites operated by third parties. ING specifically disclaims any liability with respect to any information found at websites operated by third parties. ING cannot guarantee that websites operated by third parties remain available following the filing of this annual report or that any information found at such websites will not change following the filing of this annual report. Many of those factors are beyond ING's control.

Any forward looking statements made by or on behalf of ING speak only as of the date they are made, and ING assumes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information or for any other reason.

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