ING Bank
Additional Pillar III Report 2017

Additional Pillar III Report

amounts in millions of euros, unless stated otherwise

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Introduction

Basis of disclosure

The information in this report relates to ING Bank N.V. and all of its subsidiaries (hereafter ING Bank). 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 'Accounting policies', Note 44 'Principal subsidiaries' and Note 45 'Structured entities'.

Assurance/validity

The Pillar III disclosures have been subject to the ING's internal control assessments and validation mechanisms, to ensure compliance with laws and regulations. The Disclosure Committee (DC), responsible for all ING 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'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.

The Basel Committee's framework is based on three pillars. The Pillar I on minimum capital requirements, which defines the rules for the calculation of credit, market and operational risk. Pillar II, for risks not included in Pillar I, 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 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 prepares the Pillar III report in accordance with the CRR and CRD IV as required by the supervisory authority. The ING'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 and non-financial risk disclosures. Furthermore, the report will discuss regulatory exposures and risk weighted assets. For more information on these topics, we refer you to the Risk Management and Capital Management sections as part of the Annual Report, which present a comprehensive discussion on both topics.

The Pillar III report is published on an annual basis. However, some capital requirements as laid down in Article 438 as well as information on risk exposure or other items prone to rapid change rapidly 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.

Developments in disclosure requirements

BCBS Revised Pillar III framework (RPF)

With respect to market information disclosures, the Basel Committee on Banking Supervision (BCBS) announced in 2014 its ambition to revise and consolidate the Pillar III disclosure requirements. It started as a two-phase programme but was extended with a third phase in 2017 to include disclosure requirements arising from the Committee's ongoing finalisation of the Basel III reforms.

The first phase was introduced in January 2015 (BCBS 309) and focussed on Overview of risk management and RWA, linkages between financial statements and regulatory exposures, credit risk, counterparty credit risk, securitisation and market risk. The report of the second phase was issued in March 2017 (BCBS 400) and covered a revision of the first phase, the integration of ongoing reforms in the regulatory environment and consolidation of other BCBS disclosure requirements into the Pillar III framework. Subsequently to the issuance of this report, BCBS announced that it has commenced a third phase in its review of Pillar III with the objective to develop disclosure requirements for standardised approach RWA to benchmark internally modelled capital requirements, for asset encumbrance, for operational risk and other disclosure requirements arising from ongoing policy reforms which have yet to be finalised.

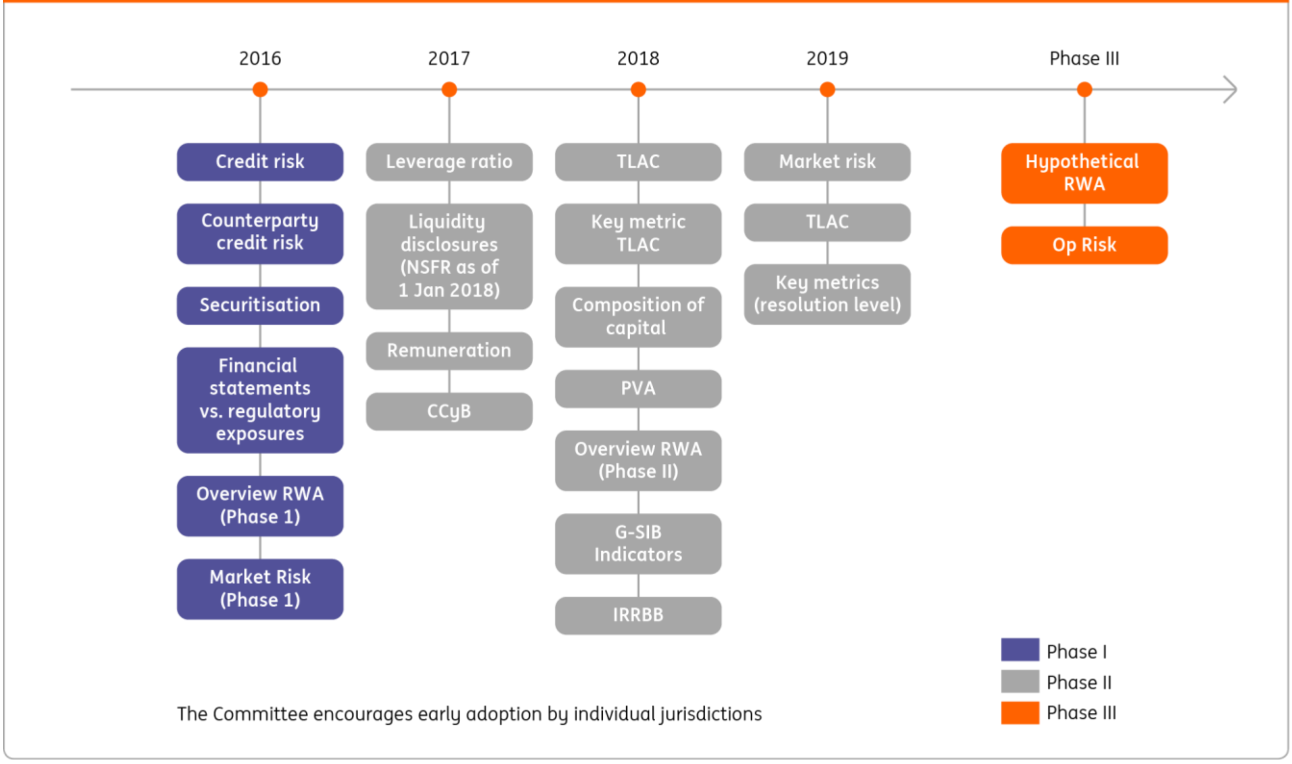
The revised Pillar III framework (RPF) is the result of an extensive review of Pillar III reports, in which the existing Pillar III disclosure requirements are superseded. The result applies to internationally active banks at the highest consolidated level.

Key goal is to improve comparability and consistency of disclosures by introducing harmonised templates. There are two type of templates/tables:

- Prescriptive fixed format (template) for quantitative information that is considered essential for the analysis of a bank's regulatory capital requirements, and
- Flexible format (table) for information considered meaningful to the market but not central to the analysis of a bank's regulatory capital adequacy.

The implementation timeline, as displayed in the total overview of the RPF below, is highly dependent upon the finalisation of the underlying regulatory standards.

BCBS revised Pillar III disclosures – overview



European Regulation

CRR/CRD IV review

On 23 November 2016, the European Commission (EC) published proposals amending major European regulations among others the Capital Requirements Directive and Capital Requirements Regulation (CRD IV and CRR) essential to further reinforce banks' ability to withstand potential shocks. For the disclosure requirements, the Commission proposed targeted amendments to ensure better alignment with international standards. In particular, new disclosure requirements are proposed for TLAC, counterparty credit risk, market risk and liquidity requirements. On 25 October 2017, it was announced that the European Parliament, the Council and the Commission agreed on elements of the review of the CRR and CRD proposed in November 2016. The first consolidated CRR text with the amendments to the initial Commission's Proposal has been shared with the delegations.

Further, the European Banking Authority (EBA) is mandated to develop uniform disclosure formats to enhance comparability, and the management is required to verify and sign-off on compliance with disclosure requirements and adherence to internal policies on disclosure.

EBA guidelines on disclosure requirements under Part Eight of Regulation (EU) 575/2013 (EBA/GL/2016/11)

In order to be legally binding, the RPF templates needed to be transposed for European institutions into EU requirements by EBA. Therefore, in December 2016, EBA issued a final paper (EBA guidelines 2016/11) on the guidelines on CRR disclosure requirements in order to allow EU institutions to implement the RPF in a way that is compliant with the requirements of Part Eight of the CRR. A second version was issued on 9 June 2017 with some slight amendments to reflect legislation updates.

Within the Guidelines, the EBA adjusted the Revised Pillar III templates to include EU specificities, for instance in terms of exposure classes or concepts used, to fit the CRR requirements and to eliminate redundancy between the RPF and the CRR requirements. The EBA guidelines should therefore be seen as specifications of the existing CRR disclosure requirements, rather than a completely new set of requirements.

Furthermore, the EBA guidelines are applicable from 31 December 2017, contrary to year-end 2016 as proposed by BCBS. However, G-SIBs were encouraged to disclose a subset composed of the amounts on risk exposures and minimum capital requirements per year-end 2016, which ING fulfilled. Further, EBA explicitly refers to and makes use of COREP and FINREP to populate the fixed and variable disclosure templates to ease the implementation. As part of the review of the Pillar III framework, EBA also requests to publish a compilation of the quantitative information in an editable format/ MS Excel file. The EBA guidelines templates are disclosed on the corporate website ing.com. http://www.ing.com/About-us/Annual-Reporting-Suite.htm

The scope of the EBA guidelines and format of the disclosures correspond almost fully with the RPF, focusing on general disclosure requirements for risk management, credit risk, counterparty credit risk and market risk. Securitisation (although in the scope of the RPF) was left out at this stage and so were other requirements in Part Eight of the CRR for which there are already delegated or implementing regulations or guidelines (such as own funds and leverage ratio).

The table below “disclosure index EBA guidelines” indicates where the templates from the EBA guidelines 2016/11 are located in the Pillar III report and/or the annual report:

Disclosure index EBA guidelines

Type	ID	EBA description	Pages
Capital requirements	EU OV1	Regulatory capital requirements	8
	EU CR10	IRB (specialised lending and equities)	51
Credit risk and general information on CRM	EU CR8	RWA flow statement of credit risk exposures under the IRB approach	16
	EU CRB-B	Total and average net amount of exposures	18
	EU CRB-C	Geographical breakdown of exposures	19
	EU CRB-D	Concentration of exposures by industry or counterparty types	20
	EU CRB-E	Maturity of exposures	22
	EU CR1-A	Credit quality of exposures by exposure class and instrument	31
	EU CR1-B	Credit quality of exposures by industry or counterparty types	33
	EU CR1-C	Credit quality of exposures by geography	35
	EU CR1-D	Ageing of past-due exposures	37
	EU CR1-E	Non-performing and forborne exposures	36
	EU CR3	Credit risk mitigation techniques – overview	47
Credit risk and CRM in the standardised approach	EU CR4	Standardised approach – Credit risk exposure and CRM effects	29
	EU CR5	Standardised approach - Post-CCF and Post-CRM Techniques	29
Credit risk and CRM in the IRB approach	EU CR6	IRB approach – Credit risk exposures by exposure class and PD range	24
	EU CR6	IRB– Geographical breakdown of exposure-weighted average LGD and PD by exposure classes	25
	EU CR9	IRB approach – Backtesting of PD per exposure class	26-27
CCR	EU CCR1	Analysis of CCR exposure by approach	39
	EU CCR2	CVA capital charge	45
	EU CCR8	Exposures to CCPs	46
	EU CCR3	Standardised approach – CCR exposures by regulatory portfolio and risk	39
	EU CCR4	IRB approach – CCR exposures by portfolio and PD scale	41
	EU CCR5-A	Impact of netting and collateral held on exposure values	44
	EU CCR5-B	Composition of collateral for exposures to CCR	44
	EU CCR6	Credit derivatives exposures	46
	EU CCR8	Exposures to central counterparties	45
Market risk	EU MR1	Market risk under the standardised approach	187 of the ING Bank annual report 2017
	EU MR2-A	Market risk under the IMA	187 of the ING Bank annual report 2017
	EU MR2-B	RWA flow statements of market risk exposures under an IMA	52
	EU MR3	IMA values for trading portfolios	186 of the ING Bank annual report 2017

EU Commission adopted RTS for asset encumbrance (AE) disclosure

The EBA published a final draft RTS on disclosure of encumbered and unencumbered assets under Article 443 of the CRR in march 2017. It is introducing additional items to the current disclosure of AE being (i) additional information on the asset type (article 1) and (ii) inclusion of EHQLA/HQLA as an asset quality indicator (article 2). The EBA believes that disclosure by institutions about encumbrance is vitally important as it allows market participants to better understand and analyse the liquidity and solvency profiles of institutions.

On 13 December 2017, the EU Commission adopted a Delegated Regulation supplementing the Capital Requirements Regulation (CRR) with regard to this RTS. Based on the RTS and building on the EBA disclosure guidelines, the Delegated Regulation sets out the data required for asset encumbrance disclosure. The Delegated Regulation entered into force on 2 January 2018 replacing the current EBA Guidelines on disclosure of encumbered and unencumbered assets. However, the application of additional disclosure requirements concerning asset quality indicators (article 2) has been deferred by one year so that institutions can develop necessary IT systems.

EBA guidelines on IFRS 9

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. The aim of these Guidelines is to ensure consistency and comparability of the data disclosed by institutions during the transition to the full implementation of the new accounting standard and to foster market discipline. 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.

ING has decided not to apply the CRR transitional arrangements for mitigating the impact of the introduction of IFRS 9 impairment on own funds. The capital and leverage ratios published as from reporting period 1 January 2018 will therefore fully reflect the impact of impairment requirements resulting from IFRS 9. More information on the implementation and impact of the adoption of IFRS 9 by ING is available in Note 1 'accounting policies' part of the Consolidated annual accounts.

EBA guidelines on LCR disclosure to complement the disclosure of liquidity risk management under Article 435 of Regulation (EU) No 575/2013

The EBA has developed these guidelines (GL) to harmonise and specify the disclosures required under the general principles on liquidity and, in particular, on the LCR in the CRR. These GL apply to the institutions that are subject to the EBA guidelines 2016/11 on harmonised disclosure formats, as long as they are credit institutions, which are the only institutions within the scope of the LCR Delegated Act, and at the same level of their LCR requirements in the case of consolidated disclosures. This will provide essential information on the liquidity risk management of the relevant institution. The guidelines entered into force from 31 December 2017 and ING has implemented it in this report.

Public disclosure of return on assets

The CRD IV requires ING Bank to disclose information on its return on assets. ING has decided to calculate ROA based on underlying results and average assets derived from quarter-end assets to align it with the other indicators. The underlying ROA represents profit as a percentage of average total assets. In 2017, the underlying ROA remained stable at 0.58% (in 2016: 0.58%).

Capital requirement

Capital Adequacy Rules – CRR/CRD IV

The rules for required Regulatory Capital or Capital adequacy are based on the guidelines developed by the Basel Committee on Banking Supervision (The Basel Committee) and the European Union Regulation and Directives, as implemented by the European Central Bank and the Dutch Central Bank for supervisory purposes.

The rules express the regulators' and legislators' opinions of how much capital a bank and other regulated credit institutions must retain in relation to the size and the type of risk 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 2017 per type of risk and method of calculation. The largest part of the RWA is related to credit risk (82%) and mainly to the portfolio with calculations based on the Advanced Internal Ratings Based (AIRB) approach. More information on credit RWA is given in the following chapter "Credit risk".

EU OV1: ING Bank Regulatory capital requirements

	RWA		Minimum capital requirements
	2017	2016	2017
Credit risk (excluding counterparty credit risk) (CCR)	**242,100**	**239,435**	**19,368**
Of which standardised approach (SA)	26,122	24,731	2,090
Of which internal rating-based (IRB) approach	212,084	211,541	16,967
Of which Equity IRB under the simple risk-weight or the internal models approach	3,894	3,163	311
Counterparty credit risk (CCR)	**12,338**	**14,732**	**987**
Of which Marked to market	8,753	10,338	700
of which standardised approach for counterparty credit risk	454	534	37
Of which risk exposure amount for contributions to the default fund of a CCP	376	279	30
Of which CVA	2,754	3,581	220
Settlement risk			
Securitisation exposures in banking book (after cap)	**628**	**842**	**50**
Of which IRB approach (RBA)	628	842	50
Market risk	**4,752**	**6,660**	**380**
Of which standardised approach (SA)	1,148	1,081	92
Of which internal model approaches (IMA)	3,604	5,579	288
Large exposures			
Operational risk	**40,093**	**40,527**	**3,207**
Of which Advanced Measurement Approach	40,093	40,527	3,207
Amounts below the thresholds for deduction (subject to 250% risk weight)	**9,376**	**9,890**	**750**
Floor adjustment			
Total	**309,287**	**312,087**	**24,743**

The decline in CRR/CRDIV required regulatory capital was mainly caused by a decrease in capital requirements for counterparty credit risk and market risk partly offset by increase in credit risk capital requirements.

ING Bank Regulatory Capital flow statement		2017		2016
	CRR/CRD IV phased-in	CRR/CRD IV fully loaded	CRR/CRD IV phased-in	CRR/CRD IV fully loaded
Common Equity Tier 1 capital				
Opening amount	39,262	39,375	36,753	36,834
Profit included in CET1 capital	2,416	2,416	2,265	2,265
Adjustment prudential filters own credit risk	83	104	23	31
Change in goodwill and intangibles	-425	-154	-279	58
Change in revaluation reserves	500	-384	732	-87
Change in minority interests, counting as Common Equity Tier 1 capital	-104	-59	20	20
Other	-1,130	-723	-253	254
Closing amount	**40,602**	**40,576**	**39,262**	**39,375**
Additional Tier 1 capital				
Opening amount	5,698	6,496	5,968	7,249
Change in AT 1 instruments	-1,507	-1,507	-752	-752
CRR/CRD IV phased-in adjustments (excl. significant investments in FIs)	371		482	
Change in minority interests, counting as Additional Tier 1 capital	53	53		
Closing amount	**4,615**	**5,042**	**5,698**	**6,496**
Tier 2 capital				
Opening amount	9,403	9,597	8,331	8,671
Change in T 2 instruments	1,598	1,598	918	918
CRR/CRD IV phased-in adjustments (excl. significant investments in FIs)	100		146	
Change in minority interests, counting as Tier 2 capital	-59	-61	7	7
Closing amount	**11,042**	**11,133**	**9,403**	**9,597**
Total Regulatory Capital	**56,259**	**56,751**	**54,362**	**55,467**

Capital position

As at 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.

The capital position table reflects own funds according to the CRR/CRD IV rules. As CRD IV is phased in gradually until 2019, the table shows the CRD IV positions both according to the 2019 end-state rules and the 2017 rules. This makes clear which items phase in directly, which phase in gradually.

ING Bank's capital consists of Tier 1 capital and Tier 2 capital net after deductions. Tier 1 capital consists of both Common Equity Tier 1 capital and other Tier 1 capital, also referred to as hybrid capital. Tier 2 capital consists mostly of subordinated loans.

ING Bank Capital position

	2017		2016	
	2017 rules (CRR/CRD IV phased in)	2019 rules[4] (CRR/CRD IV fully loaded)	2016 rules (CRR/CRD IV phased in)	2019 rules[4] (CRR/CRD IV fully loaded)
Shareholders' equity	**43,662**	**43,662**	**43,540**	**43,540**
Regulatory adjustments:				
Minority interests, counting as Common equity Tier 1	221	267	326	326
Goodwill and intangibles deducted from Tier 1[1]	-1,331	-1,664	-906	-1,509
Provision shortfall[2]	-754	-942	-583	-972
Revaluation reserve debt securities	-195		-470	
Revaluation reserve equity securities	-495		-1,063	
Revaluation reserve real estate	-40		-80	
Revaluation reserve cash flow hedge	-263	-263	-777	-777
Prudent valuation adjustment	-13	-13	-21	-21
Position in own shares	-14	-14	-8	-8
Prudential filters:				
Own credit risk	186	186	127	127
Defined benefit remeasurement (IAS19R)	160		223	
Net defined benefit pension fund assets	-362	-453	-297	-495
Deferred tax assets	-106	-132	-95	-159
Own credit risk adjustments to derivatives (DVA)	-12	-15	-36	-60
Interim profit not included in CET1 capital	-44	-44	-617	-617
Available capital - Common equity Tier 1	**40,602**	**40,576**	**39,262**	**39,375**
Subordinated loans qualifying as Tier 1 capital[3]	4,989	4,989	6,496	6,496
Deduction of goodwill and other intangibles[1]	-333		-604	
Provision shortfall[2]	-94		-194	
Minority interests, counting as Additional Tier 1 capital	53	53		
Available capital - Tier 1	**45,217**	**45,618**	**44,960**	**45,871**
Supplementary capital - Tier 2[3]	11,086	11,086	9,488	9,488
Provision shortfall[2]	-94		-194	
Minority interests, counting as Tier 2 capital	50	47	109	109
BIS capital	**56,259**	**56,751**	**54,362**	**55,467**
Risk-weighted assets	**309,287**	**309,287**	**312,087**	**312,087**
Common Equity Tier 1 ratio	**13.13%**	**13.12%**	**12.58%**	**12.62%**
Tier 1 ratio	**14.62%**	**14.75%**	**14.41%**	**14.70%**
Total capital ratio	**18.19%**	**18.35%**	**17.42%**	**17.77%**

1 Intangibles: mainly capitalised software.
2 In CRR/CRD IV the provision shortfall is deducted fully from Common Equity Tier 1. During the phase-in period (until 2017), the part of the shortfall that is not deducted from CET1 Capital is substracted 50%/50% from additional Tier 1 and Tier 2 Capital.
3 Assuming that non CRR/CRD IV eligible Tier 1 and Tier 2 capital will be replaced by CRR/CRD IV eligible equivalents before they stop to meet the CRR/CRD IV grandfathering conditions. Future Tier 2 instruments will be issued by ING Group.
4 Excluding impact after adoption of IFRS 9.

Own funds

The CRR requires ING Bank 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 on the corporate website ing.com.
http://www.ing.com/About-us/Annual-Reporting-Suite.htm

Countercyclical buffer

As only a few countries had set a countercyclical buffer rate larger than zero and ING Bank's exposures in these countries relatively is small, the resulting countercyclical buffer is also small: 0.02% in 2017. See below an overview of the exposure distribution for the most relevant countries (having either a share larger than 1% or a positive countercyclical buffer rate).

Countercyclical buffer

	General credit exposures		Trading book exposures	Securitisation exposures	Own fund requirements					
2017	Exposure value for SA	Exposure value for IRB	Value of trading book exposures for internal models	Exposure value for IRB	of which: General credit exposures	of which: Trading book exposures	of which: Securitisation exposures	Total	Own funds requirements weights	Countercyclical capital buffer rate
Netherlands	3,327	184,175	83	935	3,812	1	6	**3,818**	22.361%	
Belgium	939	85,442			2,503			**2,503**	14.660%	
Germany	301	95,438	14	1,149	1,961	1	7	**1,969**	11.529%	
United States	9	37,076		2,095	1,373		17	**1,390**	8.137%	
Poland	10,083	12,894	7		984	2		**985**	5.771%	
Turkey	8,241	3,063	107		606	30		**636**	3.725%	
Spain	2,541	18,304	34	566	509	2	4	**515**	3.014%	
Italy	1,570	17,101	31		505			**505**	2.956%	
France	641	13,748		157	490		2	**492**	2.879%	
United Kingdom	110	13,319	25	268	482	2	2	**485**	2.842%	
Australia	2,775	36,428	12	8	402			**402**	2.353%	
Luxembourg	197	13,898	50	1,063	346	1	9	**356**	2.086%	
Switzerland		8,773			233			**233**	1.362%	
Russian Federation	4	3,646	240		217	9		**227**	1.329%	
Romania	2,767	2,130	4		209			**209**	1.221%	
Singapore		7,773	23		182			**182**	1.066%	
Hong Kong	44	5,632	56		104	1		**105**	0.614%	1.250%
Sweden		1,705	2		53			**53**	0.310%	2.000%
Norway		2,324	11	15	43			**44**	0.258%	2.000%
Czechia	4	1,128			36			**36**	0.208%	0.500%
Slovakia		867			25			**25**	0.149%	0.500%
Iceland		22			1			**1**	0.007%	1.250%
Other countries	388	52,911	496	219	1,858	44	5	**1,906**	11.161%	
total	**33,941**	**617,797**	**1,196**	**6,476**	**16,933**	**93**	**50**	**17,076**	**100.000%**	**0.021%**

Amount of institution-specific CCyB

	2017
Total RWA	309,213
Weighted countercyclical buffer rate	0.021%
Countercyclical buffer requirement	**64.6**

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 Bank 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. The fully loaded leverage ratio of ING Bank based on the Delegated Act, and with notional cash pooling grossed is 4.2% at 31 December 2017.

Summary reconciliation of accounting assets and leverage ratio exposures

		2017 CRR/CRD IV phased in	2017 CRR/CRD IV fully loaded	2016 CRR/CRD IV phased in	2016 CRR/CRD IV fully loaded
		Applicable amounts	Applicable amounts	Applicable amounts	Applicable amounts
1	Total assets as per published financial statements	846,318	846,318	843,919	843,919
4	Adjustments for derivative financial instruments[1]	-890	-890	568	568
5	Adjustments for securities financing transactions 'SFTs'	3,493	3,493	3,661	3,661
6	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	72,898	72,898	71,219	71,219
7	Other adjustments[1]	159,531	159,887	172,317	173,228
8	**Total leverage ratio exposure**	**1,081,351**	**1,081,707**	**1,091,685**	**1,092,596**

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

Bank leverage ratio common disclosure

		2017 CRR/CRD IV phased in	2017 CRR/CRD IV fully loaded	2016 CRR/CRD IV phased in	2016 CRR/CRD IV fully loaded
		CRR leverage ratio exposures	CRR leverage ratio exposures	CRR leverage ratio exposures	CRR leverage ratio exposures
On-balance sheet exposures (excluding derivatives and SFTs)					
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	916,217	916,217	929,000	929,000
2	(Asset amounts deducted in determining Tier 1 capital)	-3,665	-3,309	-4,785	-3,874
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)**	**912,551**	**912,907**	**924,215**	**925,126**
Derivative exposures					
4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	7,784	7,784	11,726	11,726
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	19,336	19,336	27,042	27,042
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-10,621	-10,621	-10,579	-10,579
9	Adjusted effective notional amount of written credit derivatives	13,472	13,472	15,656	15,656
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-11,854	-11,854	-13,316	-13,316
11	**Total derivative exposures**	**18,117**	**18,117**	**30,529**	**30,529**
Securities financing transaction exposures					
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	88,974	88,974	81,569	81,569
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-14,684	-14,684	-19,509	-19,509
14	Counterparty credit risk exposure for SFT assets	3,493	3,493	3,661	3,661
16	**Total securities financing transaction exposures**	**77,784**	**77,784**	**65,722**	**65,722**
Other off-balance sheet exposures					
17	Off-balance sheet exposures at gross notional amount	220,317	220,317	217,538	217,538
18	(Adjustments for conversion to credit equivalent amounts)	-147,419	-147,419	-146,320	-146,320
19	**Other off-balance sheet exposures (sum of lines 17 to 18)**	**72,898**	**72,898**	**71,219**	**71,219**
Capital and total exposures					
20	Tier 1 capital[1]	45,217	45,618	44,960	45,871
21	**Total leverage ratio exposures**	**1,081,351**	**1,081,707**	**1,091,685**	**1,092,596**
Leverage ratio					
22	**Leverage ratio**	**4.2%**	**4.2%**	**4.1%**	**4.2%**
Choice on transitional arrangements and amount of derecognised fiduciary items					
EU-23	Choice on transitional arrangements for the definition of the capital measure	Transitional	Fully phased in	Transitional	Fully phased in

1 Please note that Tier 1 Capital per December 2017 includes grandfathered hybrids to an amount of EUR 1,866 million (2016: EUR 2,954 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 decisions.
2	Description of the factors that had an impact on the leverage ratio during the period to which the disclosed leverage ratio refers	The change in leverage ratio was mainly due to the decrease of qualifying Tier 1 capital as result of (a) AT1 redemption and (b) changes in the revaluations reserves, partly offset by (c) the inclusion of the profit for 2017 in CET1 capital.

Economic and Regulatory Capital

EC and Regulatory Capital (RC) are the main sources of capital allocation within ING Bank. 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 Bank 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 Bank's portfolio mix and general market developments. ING Bank continuously recalibrates the underlying assumptions behind its economic capital model which may have an impact on the values of EC going forward.

EC is defined as the amount of capital that a transaction or business unit requires in order to support the economic risks it takes. In general, EC is measured as the unexpected loss above the expected loss at a given confidence level. This economic capital definition is in line with the net market value (or surplus) definition. The EC calculation is used as part of the CRR/CRD IV Pillar II Internal Capital Adequacy Assessment Process (ICAAP) and 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 99.95% 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 based on proper analysis of statistical data.;
- The EC calculation is based on fair value principles. Where complete and efficient markets exist, fair value is equal to market value;
- 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 accounting and solvency 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.

Specific measurement by risk type is described in greater detail in the separate risk type sections.

The tables below provide ING Bank's EC and RC by risk type and business line. For 2017, both the total RC and EC decreased compared to 2016. For EC, the increase in market risk is mainly driven by increase of Capital Investments EC of EUR 1.2 billion, the inclusion of Customer Behaviour Risk EC of EUR 1.0 billion (from Business Risk to Market Risk), and inclusion of the Pension risk EC of EUR 0.7 billion. Both are well below the total amounts of available capital of EUR 57,410 million based on CRR/CRD IV phased-in rules. Details regarding the available capital can be found in the table "ING Bank Regulatory Capital flow statement".

ING Bank: Economic and Regulatory Capital by risk type

	Economic capital		Regulatory capital	
	2017	2016	2017	2016
Credit risk	18,219	18,820	21,155	21,192
Market risk	10,455	7,965	380	533
Business risk	894	3,160		
Operational risk	4,490	4,465	3,207	3,242
Total	**34,058**	**34,410**	**24,743**	**24,967**

ING Bank: Economic and Regulatory Capital by business line combination

	Economic capital		Regulatory capital	
	2017	2016	2017	2016
Wholesale Banking	13,022	11,937	11,954	12,305
Retail Benelux	7,703	8,642	6,670	6,663
Retail Challengers & Growth Markets	8,808	10,620	5,941	5,820
Corporate Line[1]	4,525	3,210	178	179
Total	**34,058**	**34,410**	**24,743**	**24,967**

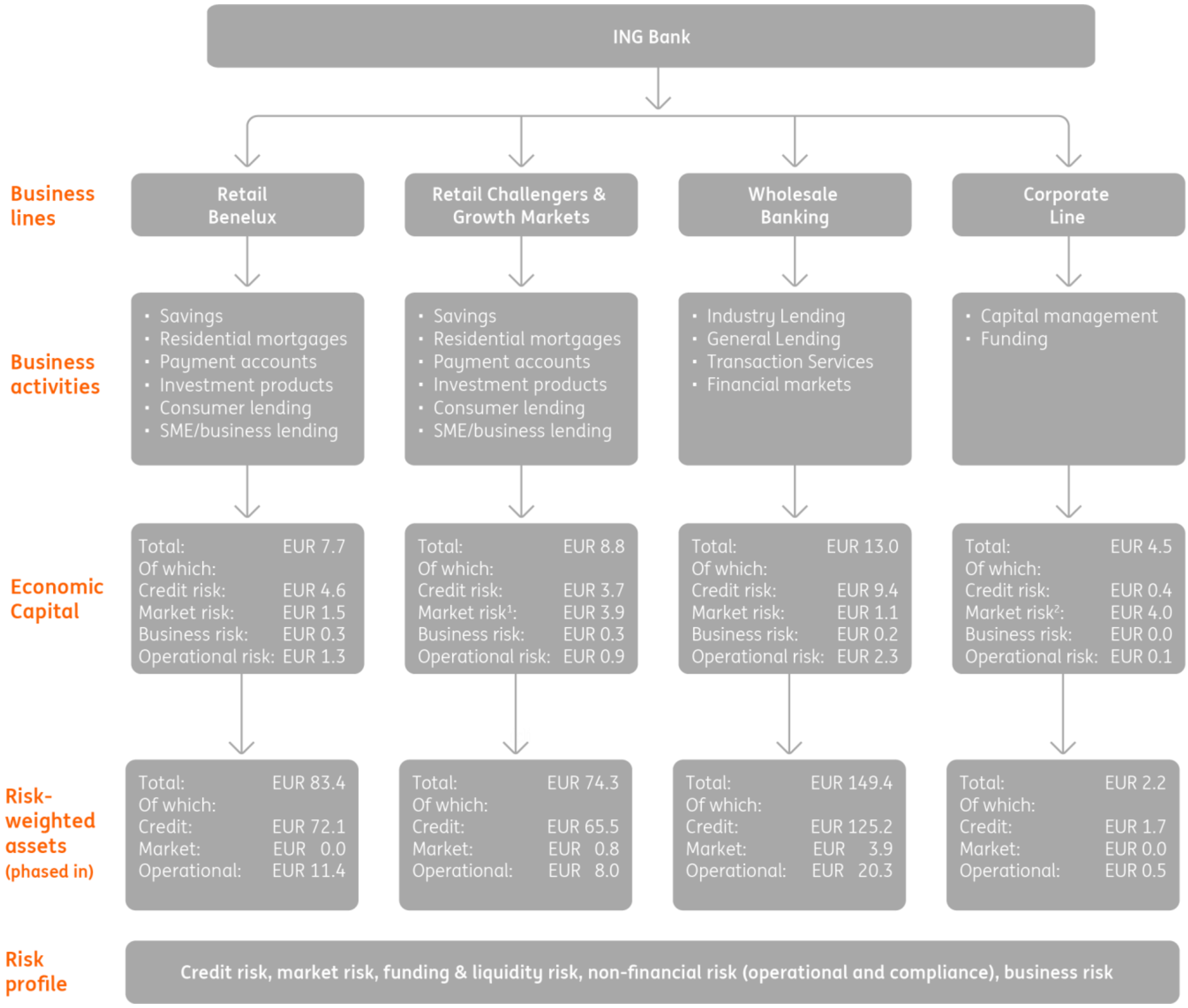
1 Corporate Line includes funding activities at ING Bank level, internal transactions between business units and the Corporate Line.

The main changes in and differences between ING Bank's economic capital and regulatory capital are:

- The capital adequacy assessment in this section disregards any inter-risk diversification in the EC calculation, in accordance with the final EBA guidelines on common procedures and methodologies for the SREP. However, ING Bank is of the opinion that applying diversification across different risk types reflects economic reality. In case diversification was taken into account, the total EC would decrease with EUR 4.9 billion to EUR 29.1 billion. Note that for RC diversification was never taken into account;
- Apart from the below described risk specific differences, the EC numbers are based on a 99.95% confidence level, while the confidence level is 99.9% for RC. The EC figures include business risk, while there is no business risk defined for RC;
- The credit risk EC methodology includes internally calibrated asset correlations and excludes conservative floors otherwise present in the credit risk RC calculations. Furthermore, credit risk EC includes transfer risk while RC does not. Economic capital for credit risk decreased in 2017, mainly due to a credit quality improvement, besides a decrease of credit valuation adjustment (CVA) exposure and Other Non-Credit Obligation Assets (ONCOA).
- The market risk EC is higher than the RC primarily due to the inclusion of the interest rate risk in the banking books and the equity stakes in EC. In RC, only market risk in trading books and FX risk of the banking book are in scope. Furthermore, for Equity Investments the EC figures are reported under market risk, while the RC figures are reported under credit risk. During 2017, market risk economic capital increased from EUR 8.0 billion to EUR 10.4 billion. The move is primarily driven by the increase of Capital Investments EC of EUR 1.2 billion (mainly caused by investments done to more gradually spread the maturity profile of the capital investment), the inclusion of Customer Behaviour Risk EC of EUR 1.0 billion (from Business Risk to Market Risk), and inclusion of the Pension risk EC of EUR 0.7 billion in 2017.
- For operational risk, the EC calculations are done using the same methodology as for RC apart from the application of a 99.95% confidence level.

EC and RC do not cover liquidity risk: the risk that ING Bank or one of its subsidiaries cannot meet its financial liabilities, at reasonable cost and in a timely manner, when they come due. ING Bank has a separate liquidity management framework in place to manage this risk, which is described in the 'funding and liquidity risk' section of the Risk Management section part of the Annual Accounts.

The chart below provides, in EUR billion, high level information on the risks arising from our business activities. The RWAs illustrate the relative size of the risks incurred in respect of each business from a regulatory perspective.



1 EC market risk: Mainly held for the price risk embedded in equity investments;
2 EC market risk: Mainly held for the interest rate risk embedded in the long-term investment of ING's capital (investment of own funds). In this overview the replication of capital is presented in line with the regulatory prudential approach and therefore capital itself is classified as an overnight interest rate position.

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 outstandings'. 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 outstandings' but they contribute to total exposure and READ.

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 outstandings'.

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 Bank Regulatory capital requirements" up to the level at which the combined significant investments are less than or equal to 10% of the CET1 capital of ING Bank. 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.

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

		2017
	RWA amounts	Capital requirements
RWAs at the end of the previous reporting period	**200,045**	**16,004**
Asset size	12,488	999
Asset quality	-10,199	-816
Model updates	3,427	274
Methodology and policy	-1,588	-127
Foreign exchange movements	-6,777	-542
Other	943	75
RWAs at the end of the reporting period	**198,339**	**15,867**

Over the year 2017 the credit RWA in the IRB portfolio declined by EUR 1.7 billion to EUR 198.3 billion.

- **Asset size:** Growth in the asset size of the portfolio led to an increase of RWA by EUR 12.5 billion, mainly observed in the Wholesale Banking and Challenger & Growth portfolios. The growth in the Challengers & Growth portfolios was observed mainly in the Germany mortgage portfolio. The asset size of the Wholesale Banking portfolio grew in the C & FI Lending portfolio in Poland, France, China and Austria. In the Market Leaders portfolio the asset size declined in the Netherlands due to repayments in the residential mortgages portfolio and due to the transfer of mortgages from Westland Utrecht to NN Bank. The decline in the Netherlands was offset by growth in the retail portfolios of Belgium and Luxembourg.
- **Asset Quality:** The quality of the portfolio improved, resulting in a reduction of EUR 10.2 billion RWA. The largest decrease was related to an improved risk profile in the Netherlands retail portfolio decreasing RWA by EUR 3.8 billion, driven by improved economic conditions especially reflected in the increased house prices. Other risk profile improvements were

observed for Structured Finance, Financial Markets, Real Estate Finance and C&FI Lending. Furthermore, increased provisions for the defaulted clients in the business segment led to a reduction of RWA by EUR 2.0 billion.

- **Model Updates:** Updates in the Dutch Mortgages PD and LGD models resulted in an increase of RWA by EUR 3.9 billion. On the other hand, the PD and LGD models of the ING Germany and ING Italy portfolio were refined resulting in a decrease of EUR 1.2 billion RWA and EUR 0.3 billion RWA, respectively. Additionally the redevelopment of the NL unsecured PD and EAD models further increased the RWA by EUR 0.4 billion.
- **Methodology and policy:** During 2017, portfolio shifts from AIRB to the SA approach led to a decrease of EUR 1.5 billion RWA. Additionally, as a result of policy changes, some LC related products changed from off balance to on balance products increasing RWA by EUR 0.2 billion.
- **Foreign exchange movements:** A decrease of the RWA by EUR 6.8 billion can be allocated to favourable movements in foreign exchange rates during 2017. This was mainly caused by the depreciation of the US Dollar (-12.2%).
- **Other:** The remaining increase of EUR 0.9 billion RWA was mainly due to a cover update of the ING Geneva portfolio, leading to an increase of EUR 0.5 billion.

Overall, RWA management has a high priority throughout ING 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

This section is to be read in conjunction with the Risk Management paragraph of the Annual Report.

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.

The AIRB and SA approaches are explained in more detail in the credit risk measurement section of the Risk Management paragraph. An analysis on the AIRB and SA portfolios and accompanying tables is provided in the SA and AIRB Approach sections.

CRR/CRD IV introduced an additional 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 SA for calculation of the capital charge to cover CVA Risk (CVA capital) in accordance with the CRR/CRD IV. The scope of the products and counterparties that the CVA capital charge is applied to also follows those regulations.

ING uses the AIRB and the Internal Assessment Approach (IAA) for liquidity lines provided to Asset Backed Commercial Paper programmes and this is explained in more detail in the securitisation section.

ING does not use the Basel Foundation IRB Approach (FIRB) for any of its portfolios.

Credit risk exposure

Credit risk exposure excluding Counterparty Credit Risk

In this credit risk section the tables shown represent the net 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 (within the Risk Management paragraph these are named Pre-Settlement exposures), Securitisations, Equity positions, CVA RWA, default fund contribution (DFC) and ONCOA items. As per 2017 the DFC is excluded from the credit risk tables as this is strongly related to the Pre-settlement portfolio and therefore reported in the pre-settlement tables in the Counterparty Credit risk section.

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 2016 and as per end of 2017 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 2017.

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

AIRB Approach	Net carrying value[1] of exposures at the end of 2017	Average net exposures over the period	Net carrying value of exposures at the end of 2016
Central governments or central banks	231,353	232,172	225,826
Institutions	102,315	21,922	100,954
Corporates	412,761	409,769	409,510
Of Which: Specialised lending	144,998	142,200	142,754
Of Which: SME	35,634	34,424	34,060
Retail	325,702	325,970	325,737
Secured by real estate property	295,503	295,690	296,084
SMEs	11,630	11,189	10,916
Non-SMEs	283,873	284,502	285,168
Other Retail	30,199	30,280	29,653
SMEs	5,381	5,840	5,907
Non-SMEs	24,818	24,440	23,745
Total AIRB approach	**1,072,131**	1,068,882	**1,062,027**
SA approach			
Central governments or central banks	3,830	3,818	3,801
Regional governments or local authorities	246	257	274
Institutions	4,110	3,276	2,281
Corporates	12,392	12,960	12,468
of which: SMEs	2,853	3,049	2,865
Retail	16,436	15,809	14,831
of which: SMEs	4,623	4,704	4,492
Secured by mortgages on immovable property	18,147	17,330	15,991
of which: SMEs	2,809	2,977	2,960
Exposures in default	471	485	481
Total SA approach	55,632	53,935	**50,127**
Total	**1,127,763**	1,122,817	**1,112,154**

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

In 2017, the total net carrying value of the AIRB portfolio increased by EUR 10.1 billion. The growth in the Central governments or central banks exposure class relates to investment limits and bond investments, and the growth in the Corporates exposure class was observed in term loans, commercial property finance, revolvers and overdrafts.

The SA portfolio increased EUR 5.5 billion in 2017, mainly caused by increased nostro balances at institutions and volume increase of loans in the residential mortgages.

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[1]									
2017	Europe	Netherlands	Belgium & Luxembourg	Germany	Other Europe	America	Africa	Asia	Australia	Total
Central governments or central banks	200,196	41,189	47,901	67,205	43,902	13,767	616	8,781	7,993	231,353
Institutions	56,744	5,774	11,764	2,962	36,245	11,125	550	28,887	5,008	102,315
Corporates	277,065	66,592	63,989	15,888	130,596	65,488	4,660	60,887	4,662	412,761
Retail	293,069	134,486	49,186	86,080	23,316	234	53	194	32,152	325,702
Total AIRB approach	**827,075**	**248,041**	**172,840**	**172,135**	**234,059**	**90,614**	**5,879**	**98,748**	**49,816**	**1,072,131**
Central governments or central banks	3,800	1			3,799			30		3,830
Regional governments or local authorities	246	32	4		210					246
Institutions	4,065	3,769	92	4	200	28		11	6	4,110
Corporates	11,947	828	963	346	9,811	10	2	394	39	12,392
Retail	16,333	46	105	1	16,181	4	3		96	16,436
Secured by mortgages on immovable property	15,284	3,073	4	1	12,206	1		44	2,819	18,147
Exposures in default	467	25	133		309				4	471
Total SA approach	**52,141**	**7,773**	**1,300**	**352**	**42,715**	**43**	**5**	**479**	**2,964**	**55,632**
Total	**879,216**	**255,814**	**174,140**	**172,487**	**276,774**	**90,657**	**5,884**	**99,227**	**52,779**	**1,127,763**

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

EU CRB-C: Geographical breakdown of exposures

	Net carrying value									
2016	Europe	Netherlands	Belgium & Luxembourg	Germany	Other Europe	America	Africa	Asia	Australia	Total
Central governments or central banks	202,241	44,146	45,040	70,937	42,118	10,194	586	8,748	4,057	225,826
Institutions	54,573	5,132	10,748	2,210	36,483	11,908	1,234	27,738	5,501	100,954
Corporates	272,448	68,230	59,972	12,991	131,255	64,620	4,309	63,924	4,209	409,510
Retail	292,647	140,662	46,784	83,435	21,766	178	58	127	32,728	325,737
Total AIRB approach	**821,909**	**258,170**	**162,544**	**169,573**	**231,622**	**86,900**	**6,187**	**100,537**	**46,494**	**1,062,027**
Central governments or central banks	3,801	2			3,799					3,801
Regional governments or local authorities	274	1	4		269					274
Institutions	2,229	2,060	36	2	132	43	1	6	2	2,281
Corporates	12,069	995	817	350	9,907	1		391	7	12,468
Retail	14,825	140	114	1	14,569	3	3			14,831
Secured by mortgages on immovable property	14,473	3,247		2	11,224			45	1,473	15,991
Exposures in default	474	41	129		305				7	481
Total SA approach	**48,145**	**6,486**	**1,101**	**354**	**40,204**	**48**	**4**	**442**	**1,489**	**50,127**
Total	**870,054**	**264,656**	**163,645**	**169,928**	**271,826**	**86,947**	**6,191**	**100,979**	**47,983**	**1,112,154**

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

During 2017, net carrying value increased by EUR 9.2 billion in Europe. One of the main drivers of this fluctuation is on one hand an exposure decrease in the Netherlands due to repayments in the residential mortgages portfolio and the transfer of mortgages from Westland Utrecht to NN Bank. On the other hand there was growth in Belgium, Germany and Spain mainly in residential mortgages, bond investments and term loans.

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[2] 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

	Net carrying value[1]						
2017	Activities of households as employers and own use	Wholesale and retail trade	Financial and insurance activities	Public administration and defence, compulsory social security	Manufac turing	Other Services	Total
Central governments or central banks			81,481	146,373		3,499	231,353
Institutions			90,618	7,290	48	4,359	102,315
Corporates		82,175	46,069	9	89,862	194,593	412,761
Retail	270,324	5,796	1,716	13,344	9,008	25,514	325,702
Total AIRB approach	**270,378**	**87,971**	**219,884**	**167,016**	**98,917**	**227,965**	**1,072,131**
Central governments or central banks			2,729	1,100		1	3,830
Regional governments or local authorities				213		33	246
Institutions			4,110				4,110
Corporates	283	3,588	396		4,635	3,490	12,392
Retail	7,268	2,230	316	864	1,899	3,859	16,436
Secured by mortgages on immovable property	9,524	1,195	75	12	1,316	6,024	18,147
Exposures in default	224	81	3	3	64	96	471
Total SA approach	**17,300**	**7,094**	**7,629**	**2,192**	**7,913**	**13,504**	**55,632**
Total	**287,677**	**95,065**	**227,513**	**169,208**	**106,831**	**241,469**	**1,127,763**

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

[2] NACE is the regulatory requirement for this table. At ING in general the NAICS industry codes are used, for example in the Risk Industry Concentration section in the Risk Management Paragraph.

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

	Net carrying value[1]						
2016	Activities of households as employers and own use	Wholesale and retail trade	Financial and insurance activities	Public administration and defence, compulsory social security	Manufac turing	Other Services	Total
Central governments or central banks			85,935	136,268		3,623	225,826
Institutions			89,080	8,666	20	3,189	100,954
Corporates	74	81,424	49,995		85,703	192,313	409,510
Retail	273,566	5,598	1,548	12,989	8,252	23,783	325,737
Total AIRB approach	**273,640**	**87,022**	**226,558**	**157,923**	**93,975**	**222,908**	**1,062,027**
Central governments or central banks			2,699	1,100		2	3,801
Regional governments or local authorities				271		3	274
Institutions			2,281				2,281
Corporates	283	3,449	406		4,968	3,361	12,468
Retail	5,727	2,241	305	915	1,878	3,765	14,831
Secured by mortgages on immovable property	6,415	1,281	104	64	1,525	6,602	15,991
Exposures in default	263	74	2	3	50	90	481
Total SA approach	**12,687**	**7,045**	**5,797**	**2,353**	**8,422**	**13,824**	**50,127**
Total	**286,328**	**94,067**	**232,355**	**160,275**	**102,397**	**236,732**	**1,112,154**

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 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 79% of the exposure in 2017. 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 Financing activities in the Institutions and Sovereign exposure classes.
The exposure in the Public Administration and Defence industry increased due to government bonds and investment limits in United States of America and Australia.
The increase in the Manufacturing industry is related to revolvers in Asia and term loans, revolvers and guarantees in Europe.

Within the SA portfolio, most exposures are mainly reserved in Activities of Households as Employers industry. These were mostly residential mortgages in Australia and Poland which resulted in net carrying value increase.

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

2017	Net carrying value[1] <= 1 year	> 1 year < 5 years	>= 5 years	Total
Central governments or central banks	102,987	64,308	64,058	231,353
Institutions	62,845	24,576	14,894	102,315
Corporates	156,713	178,071	77,976	412,761
Retail	11,893	25,810	288,000	325,702
Total AIRB approach	**334,438**	**292,765**	**444,929**	**1,072,131**
Central governments or central banks	2,800	1,018	11	3,830
Regional governments or local authorities	4	68	174	246
Institutions	3,922	79	109	4,110
Corporates	4,994	5,786	1,612	12,392
Retail	4,925	6,975	4,535	16,436
Secured by mortgages on immovable property	2,375	3,936	11,836	18,147
Exposures in default	262	31	178	471
Total SA approach	**19,284**	**17,893**	**18,455**	**55,632**
Total	**353,721**	**310,658**	**463,384**	**1,127,763**

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

EU CRB-E: Maturity of exposures

2016	Net carrying value[1] <= 1 year	> 1 year < 5 years	>= 5 years	Total
Central governments or central banks	110,087	62,072	53,668	225,826
Institutions	66,600	19,726	14,628	100,954
Corporates	163,364	168,364	77,781	409,510
Retail	14,552	38,019	273,165	325,737
Total AIRB approach	**354,603**	**288,181**	**419,243**	**1,062,027**
Central governments or central banks	3,136	628	37	3,801
Regional governments or local authorities	2	245	27	274
Institutions	2,170	108	3	2,281
Corporates	4,859	6,356	1,252	12,468
Retail	5,422	6,772	2,637	14,831
Secured by mortgages on immovable property	2,330	3,677	9,985	15,991
Exposures in default	266	29	187	481
Total SA approach	**18,186**	**17,814**	**14,127**	**50,127**
Total	**372,789**	**305,996**	**433,370**	**1,112,154**

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 largest part of the exposure is in the > 5 years maturity bucket. This bucket comprises residential mortgages, which typically have longer maturities. The lower maturity buckets for Central Governments or Central Banks are mostly in money market deposits and regulatory reserve deposits and to a lesser extent 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.

For the SA portfolio, most exposures within both the retail and corporate exposure classes can be found in the first two maturity buckets.

In the AIRB portfolio, the exposure increased mainly in the Central Governments or central banks exposure class, related to governmental bonds, which typically have maturities longer than 5 years. The retail portfolio exposure increased in the > 5 years bucket indicating that new mortgages have been closed. The same is observed in the SA portfolio in the retail and secured by mortgages on immovable properties categories.

Advanced Internal Rating Based approach (AIRB)

The AIRB approach has five main elements that drive the CRR/CRD IV 'risk-based approach' for the determination of RWA and EL. The elements include: Exposure Class, Probability of Default (PD), Regulatory Exposure at Default (READ), Loss Given Default (LGD) and maturity (M). For further details on these elements please see the 'Risk Management' part of the consolidated annual accounts.

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. The 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 (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's percentages are applied on product or transaction level and are regulatory driven.

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

	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	82,507	142,263	6%	90,522	0.0%	1,145	30%	3	3,844	4%	4	-2
Central Governments and Central Banks	0.15 to < 0.25	478	385	28%	585	0.2%	19	35%	2	150	26%		
Central Governments and Central Banks	0.25 to < 0.50	2,190	2,735	8%	2,398	0.3%	57	42%	2	1,095	46%	3	-1
Central Governments and Central Banks	0.50 to <0.75												
Central Governments and Central Banks	0.75 to < 2.50	93	101	90%	184	2.0%	38	39%	5	256	139%	2	
Central Governments and Central Banks	2.50 to < 10.00	253	246	89%	473	5.5%	42	12%	4	217	46%	5	-3
Central Governments and Central Banks	10.00 to < 100.00	56	51	74%	94	16.5%	52	3%	5	16	17%		
Central Governments and Central Banks	default			50%		100%	3	31%	1		118%		
Central Governments and Central Banks	**subtotal**	**85,577**	**145,782**	**6%**	**94,256**	**0.1%**	**1,351**	**30%**	**3**	**5,577**	**6%**	**15**	**-6**
Institutions	0.00 to < 0.15	30,372	49,562	7%	33,974	0.1%	2,905	25%	2	4,711	14%	5	-2
Institutions	0.15 to < 0.25	1,585	2,823	18%	2,090	0.2%	505	26%	2	499	24%	1	
Institutions	0.25 to < 0.50	5,291	5,418	12%	5,958	0.4%	961	23%	2	2,216	37%	6	-3
Institutions	0.50 to <0.75	6		88%	6	0.7%	11		5	2	34%		
Institutions	0.75 to < 2.50	2,167	3,766	15%	2,720	1.1%	609	20%	2	1,458	54%	7	-3
Institutions	2.50 to < 10.00	15	246	10%	41	6.6%	163	16%	2	33	80%	1	
Institutions	10.00 to < 100.00	23	719	8%	79	16.8%	2,733	33%	2	177	224%	5	-1
Institutions	default	314	19	10%	316	100%	155	1%	5	4	1%	3	-3
Institutions	**subtotal**	**39,774**	**62,553**	**9%**	**45,184**	**0.9%**	**8,019**	**24%**	**2**	**9,099**	**20%**	**28**	**-12**
Corporate	0.00 to < 0.15	39,139	74,975	35%	65,133	0.1%	16,767	32%	3	13,148	20%	19	-5
Corporate	0.15 to < 0.25	25,474	31,439	34%	36,285	0.2%	8,044	26%	3	9,708	27%	19	-8
Corporate	0.25 to < 0.50	67,994	54,014	36%	87,521	0.4%	24,966	24%	3	31,776	36%	78	-28
Corporate	0.50 to <0.75	1,352	528	50%	1,617	0.6%	2,228	29%	3	792	49%	3	-1
Corporate	0.75 to < 2.50	60,275	31,937	40%	73,036	1.3%	35,066	25%	3	45,037	62%	233	-92
Corporate	2.50 to < 10.00	9,721	4,240	39%	11,385	5.6%	11,217	26%	3	10,658	94%	161	-61
Corporate	10.00 to < 100.00	4,544	2,254	28%	5,167	22.3%	19,972	22%	3	6,619	128%	253	-112
Corporate	default	6,585	1,007	51%	7,096	100%	5,943	30%	2	9,600	135%	2,401	-2,401
Corporate	**subtotal**	**215,085**	**200,395**	**36%**	**287,241**	**3.6%**	**122,387**	**26%**	**3**	**127,338**	**44%**	**3,166**	**-2,705**
Retail	0.00 to < 0.15	82,567	16,015	73%	94,183	0.1%	4,625,499	21%	5	4,203	4%	14	-5
Retail	0.15 to < 0.25	53,612	3,102	62%	55,541	0.2%	603,095	20%	5	4,642	8%	20	-8
Retail	0.25 to < 0.50	100,143	3,427	74%	102,666	0.3%	1,332,334	18%	5	12,042	12%	64	-21
Retail	0.50 to < 0.75	20,799	1,264	61%	21,566	0.6%	349,458	27%	5	5,036	23%	32	-14
Retail	0.75 to < 2.50	23,131	2,542	79%	25,147	1.3%	1,225,528	31%	4	10,201	41%	106	-48
Retail	2.50 to < 10.00	9,703	666	75%	10,200	4.9%	430,192	28%	5	7,549	74%	135	-53
Retail	10.00 to < 100.00	5,617	193	91%	5,794	22.4%	163,399	25%	4	6,249	108%	321	-132
Retail	default	4,126	53	153%	4,207	100%	93,002	34%	4	6,402	152%	978	-978
Retail	**subtotal**	**299,698**	**27,262**	**72%**	**319,305**	**2.2%**	**8,639,080**	**22%**	**5**	**56,325**	**18%**	**1,669**	**-1,258**
Total (all portfolios)	**Total**	**640,134**	**435,992**	**24%**	**745,987**	**2.4%**	**8,770,734**	**25%**	**4**	**198,339**	**27%**	**4,878**	**-3,981**

All figures are in millions of EUR, except for the number of obligors. All cells that are left blank have minimal values.

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, for instance in the Central Banks and Institutions exposure classes where loans are 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.

In 2017, the RWA generally increased within each rating scale. The Central Governments and Central Banks exposure consists of uncommitted limits and bond investments issued by European sovereigns. The majority of the exposure resides in the 0.00 – 0.15 PD scale and the RWA density of this bucket remained stable at 4%. However, a minor increase in the higher PD scales contributed to a slight increase of 1% from 5% to 6% in the total RWA density of this exposure class.

The decrease of RWA in the Corporates exposures class resides mainly in the 0.10 – 1.00 PD and default buckets. Regarding the retail exposure class, the PD buckets 0.50 to < 0.75 and 0.75 to < 2.50 PD drive the decrease in the RWA.

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

2017	Europe	Netherlands	Belgium & Luxembourg	Germany	Other Europe	America	Africa	Asia	Australia
Central governments or central banks									
Average PD	0.05%	0.01%	0.03%	0.02%	0.13%	0.06%	5.77%	0.07%	0.02%
Average LGD	30.22%	29.64%	29.16%	30.09%	31.77%	29.33%	11.96%	29.88%	30.16%
Institutions									
Average PD	1.33%	11.06%	0.13%	0.29%	0.30%	0.31%	1.06%	0.11%	0.05%
Average LGD	23.97%	20.90%	26.50%	27.35%	21.39%	11.58%	50.63%	41.47%	27.30%
Corporates									
Average PD	4.10%	5.50%	3.84%	0.92%	3.84%	2.74%	6.44%	1.30%	4.03%
Average LGD	25.59%	19.95%	25.90%	26.19%	28.56%	27.33%	32.73%	29.67%	21.37%
Retail									
Average PD	2.29%	2.00%	4.21%	1.43%	3.04%	2.51%	4.12%	1.92%	1.26%
Average LGD	22.83%	15.91%	15.25%	34.94%	33.58%	17.58%	16.37%	16.19%	10.12%

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. On average, 81% of the AIRB credit risk models in the validation cycle have had 'No to Remote' (44%) and 'Minor' (37%) model deficiencies.

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 results are presented per exposure class, each in an individual table, and display the performing portfolios as per end of 2017.

The analysis is based on the 31 December 2017 portfolio. The average PD as of 31 December 2017 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 2012 until 2017. 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

Exposure class	PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: End of 2015	Number of obligors: End of 2016	Average historical annual default
Central Governments	0.00 - 0.01	AAA	0.010%	0.010%	93	94	
Central Governments	0.01 - 0.03	AA	0.021%	0.021%	532	487	
Central Governments	0.03 - 0.04	AA	0.031%	0.031%	267	262	
Central Governments	0.04 - 0.05	AA	0.041%	0.041%	161	152	
Central Governments	0.05 - 0.06	A	0.052%	0.052%	39	81	
Central Governments	0.06 - 0.08	A	0.062%	0.062%	74	38	
Central Governments	0.08 - 0.11	A	0.092%	0.092%	37	33	
Central Governments	0.11 - 0.17	BBB	0.139%	0.139%	22	11	0.210%
Central Governments	0.17 - 0.26	BBB	0.213%	0.213%	26	18	
Central Governments	0.26 - 0.37	BBB	0.307%	0.306%	25	48	
Central Governments	0.37 - 0.58	BB	0.444%	0.445%	21	17	
Central Governments	0.58 - 1.00	BB	0.756%	0.756%	9	11	
Central Governments	1.00 - 1.77	BB	1.330%	1.335%	11	9	
Central Governments	1.77 - 3.23	B	2.477%	2.441%	23	26	
Central Governments	3.23 - 6.05	B	4.409%	4.410%	18	21	0.794%
Central Governments	6.05 - 11.67	B	8.349%	8.349%	23	22	
Central Governments	11.67 - 20.20	CCC	16.324%	16.324%	8	4	

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

Exposure class	PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: End of 2015	Number of obligors: End of 2016	Defaulted obligors in the year	Average historical annual default
Corporates	0.00 - 0.01	AAA	0.010%	0.010%	13	11		
Corporates	0.01 - 0.03	AA	0.021%	0.021%	315	296		
Corporates	0.03 - 0.04	AA	0.031%	0.031%	96	85		
Corporates	0.04 - 0.05	AA	0.041%	0.041%	158	72		0.064%
Corporates	0.05 - 0.06	A	0.051%	0.047%	2,960	3,314	2	0.091%
Corporates	0.06 - 0.08	A	0.062%	0.066%	1,320	1,457		0.136%
Corporates	0.08 - 0.11	A	0.092%	0.102%	1,577	1,607	1	0.123%
Corporates	0.11 - 0.17	BBB	0.139%	0.135%	10,030	10,331	23	0.290%
Corporates	0.17 - 0.26	BBB	0.213%	0.214%	6,782	7,154	11	0.315%
Corporates	0.26 - 0.37	BBB	0.306%	0.297%	11,279	11,274	46	0.442%
Corporates	0.37 - 0.58	BB	0.444%	0.444%	14,191	14,231	47	0.668%
Corporates	0.58 - 1.00	BB	0.755%	0.760%	13,807	13,898	95	1.139%
Corporates	1.00 - 1.77	BB	1.315%	1.345%	13,583	13,551	179	1.628%
Corporates	1.77 - 3.23	B	2.357%	2.390%	9,837	10,126	268	2.906%
Corporates	3.23 - 6.05	B	4.365%	4.343%	7,432	7,448	240	4.455%
Corporates	6.05 - 11.67	B	8.309%	8.328%	3,221	3,229	222	9.921%
Corporates	11.67 - 20.20	CCC	15.730%	15.482%	3,271	2,266	326	9.425%
Corporates	20.20 - 29.58	CC-	24.745%	24.631%	1,414	1,178	252	16.711%
Corporates	29.58 - 100.00	C-	37.461%	40.512%	1,104	898	292	27.097%

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

Exposure class	PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors End of 2015	Number of obligors End of 2016	Defaulted obligors in the year	Average historical annual default
Institutions	0.00 - 0.01	AAA	0.010%	0.010%	52	48		
Institutions	0.01 - 0.03	AA	0.021%	0.021%	33	34		
Institutions	0.03 - 0.04	AA	0.031%	0.031%	80	67		0.132%
Institutions	0.04 - 0.05	AA	0.041%	0.041%	1,006	243		
Institutions	0.05 - 0.06	A	0.051%	0.051%	526	1,323		0.055%
Institutions	0.06 - 0.08	A	0.062%	0.062%	646	743		0.000%
Institutions	0.08 - 0.11	A	0.092%	0.092%	451	444		0.062%
Institutions	0.11 - 0.17	BBB	0.139%	0.139%	775	635		0.115%
Institutions	0.17 - 0.26	BBB	0.212%	0.213%	528	573		0.020%
Institutions	0.26 - 0.37	BBB	0.307%	0.305%	377	502	1	0.068%
Institutions	0.37 - 0.58	BB	0.444%	0.444%	643	671	1	0.040%
Institutions	0.58 - 1.00	BB	0.756%	0.760%	471	501		0.036%
Institutions	1.00 - 1.77	BB	1.322%	1.336%	321	323	3	0.384%
Institutions	1.77 - 3.23	B	2.414%	2.419%	275	302	2	1.008%
Institutions	3.23 - 6.05	B	4.372%	4.318%	150	162	2	0.653%
Institutions	6.05 - 11.67	B	8.357%	8.317%	62	59	2	1.396%
Institutions	11.67 - 20.20	CCC	16.295%	16.230%	126	42		2.980%
Institutions	20.20 - 29.58	CC-	24.896%	24.881%	10	22		4.131%
Institutions	29.58 - 100.00	C-	34.274%	36.127%	10	7	2	6.810%

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

Exposure class	PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors End of 2015	Number of obligors End of 2016	Defaulted obligors in the year	Average historical annual default
Retail	0.00 - 0.01	AAA	0.004%	0.007%	1,984,312	1,463,121	533	0.031%
Retail	0.01 - 0.03	AA	0.017%	0.021%	86,022	817,115	66	0.075%
Retail	0.03 - 0.04	AA	0.032%	0.032%	97,544	119,109	55	0.085%
Retail	0.04 - 0.05	AA	0.043%	0.042%	677,469	680,750	259	0.048%
Retail	0.05 - 0.06	A	0.054%	0.055%	46,746	30,026	18	0.032%
Retail	0.06 - 0.08	A	0.063%	0.063%	51,231	143,194	56	0.069%
Retail	0.08 - 0.11	A	0.102%	0.102%	948,013	364,871	930	0.104%
Retail	0.11 - 0.17	BBB	0.138%	0.129%	556,142	1,158,036	457	0.134%
Retail	0.17 - 0.26	BBB	0.183%	0.209%	681,394	683,092	854	0.209%
Retail	0.26 - 0.37	BBB	0.287%	0.314%	570,611	601,667	1,345	0.370%
Retail	0.37 - 0.58	BB	0.455%	0.475%	615,365	682,504	2,335	0.570%
Retail	0.58 - 1.00	BB	0.771%	0.754%	653,326	422,388	3,181	1.446%
Retail	1.00 - 1.77	BB	1.330%	1.429%	455,802	612,471	5,509	1.601%
Retail	1.77 - 3.23	B	2.543%	2.548%	470,410	533,235	5,813	2.191%
Retail	3.23 - 6.05	B	4.897%	4.159%	190,078	162,454	6,986	5.977%
Retail	6.05 - 11.67	B	8.256%	8.134%	182,624	171,546	11,292	7.469%
Retail	11.67 - 20.20	CCC	16.349%	16.541%	75,683	59,671	8,290	12.538%
Retail	20.20 - 29.58	CC-	24.696%	25.764%	10,885	10,360	2,326	20.366%
Retail	29.58 - 100.00	C-	39.593%	38.641%	34,283	26,107	9,525	27.300%

The performance of AIRB PD models is statistically back-tested on a regular basis at model level. There are currently no known major issues of PD underestimation. Compared to last year, results are stable. The observed number of defaults in 2017 are within our statistical range. Note that for the Corporate exposure class the bulk of the exposure is linked to our internal rating scale (Masterscale) which has been calibrated on 2005-2015 data, which will result in deviations compared to the 2012-2017 average observed default rates.

EL backtesting
The table below gives insight in the Expected Loss rate and the Observed Loss rate. The expected loss as of 31 December 2016 for the performing portfolio is split per exposure class. The 31 December 2016 portfolio is followed through 2017 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 2016 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 LGD. This backtest is only representative of the year end 2017 portfolio and can be influenced by small sample sizes or incidents. Nonetheless, backtesting gives a comparison of the Expected Loss rate PD versus the observed Loss rate.

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

2017	Sovereigns	Institutions	Corporate	Secured by Res. Mortgage	Other retail	Total
Expected loss rate 2016*	0.02%	0.04%	0.30%	0.17%	1.30%	**0.23%**
Observed Loss Rate 2017	0.00%	0.00%	0.21%	0.13%	0.73%	**0.15%**

Includes the AIRB portfolio only; excludes securitisations, equities and ONCOA.
* Expected loss rate 2016 includes performing loans only.

Backtesting observed default rates and observed losses for 2017 show observed results that are below predicted levels for all exposure classes. This can be explained by the improved economic conditions that were experienced in 2017, while models are generally calibrated over longer periods (Through the Cycle). In 2017, no defaults were recorded for Sovereigns while default rates of corporates, institutions, residential mortgages and other retail loans remained stable compared to the previous year and below average compared to the through the cycle estimates. Overall the EL backtest results are very stable compared to last year, except for an increase in Expected Loss for ‘Other Retail’, which is due to the introduction of conservative measures and model recalibrations the year before.

Standardised Approach
A subset of the ING portfolio is treated with the Standardised Approach (SA approach). The SA approach applies fixed risk weights to each exposure class, split into credit quality steps (based on external ratings) as dictated by the Capital Requirement Directive (CRD). The SA approach is the least sophisticated of the CRR/CRD IV methodologies and is not as risk sensitive as the risk-based AIRB Approach.

In order to calculate the regulatory capital requirements under the SA approach, ING uses eligible external ratings from Standard & Poor’s, Moody’s and Fitch Ratings. Ratings are applied to all relevant exposure classes in the SA approach. For the mortgage portfolio, fixed risk weights (based on the LtV) are used.

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 by ii) accepting guarantees from unrelated third parties or iii) secure by mortgages. ING uses both 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

2017	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	1,904	1,927	3,154	21	1,973	62%
Regional governments or local authorities	148	98	148		112	75%
Institutions	3,860	251	4,752	65	1,016	21%
Corporates	6,144	6,264	5,597	856	6,344	98%
Retail	10,701	5,857	9,301	1,525	7,764	72%
Secured by mortgages on immovable property	15,710	2,460	15,263	712	8,386	52%
Exposure in default	962	39	441	5	528	118%
Total	**39,429**	**16,897**	**38,657**	**3,188**	**26,122**	**62%**

Excludes Counterparty Credit Risk exposures.

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

2016	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	2,433	1,369	2,582	3	2,158	84%
Regional governments or local authorities	76	198	76	1	37	48%
Institutions	2,147	135	2,563	11	540	21%
Corporates	5,969	6,521	5,861	893	6,637	98%
Retail	8,528	6,409	7,969	2,020	7,142	71%
Secured by mortgages on immovable property	13,604	2,409	13,426	653	7,667	54%
Exposure in default	878	37	455	10	550	118%
Total	**33,634**	**17,078**	**32,931**	**3,590**	**24,731**	**68%**

Excludes Counterparty Credit Risk exposures.

The SA portfolio mainly contains exposures in Australia, Turkey, Poland, Italy, France and Spain and the RWA in this portfolio grew modestly with EUR 1.4 billion. The main drivers for this increase are overdrafts of institutions, growth in the residential mortgages portfolio and an increase of term loans in the retail portfolio.

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

2017	Risk weight							**Total**
Exposure Classes	0%	20%	35%	50%	75%	100%	150%	
Central governments or central banks	212			1,777		1,186		**3,175**
Regional governments or local authorities		36		16		96		**149**
Institutions		4,705		76		37		**4,817**
Corporates				3		6,420	31	**6,453**
Retail					10,827			**10,827**
Secured by mortgages on immovable property			8,027	4,469		3,478		**15,975**
Exposure in default						283	163	**446**
Total	**212**	**4,741**	**8,027**	**6,341**	**10,827**	**11,501**	**194**	**41,845**

Excludes Counterparty Credit Risk exposures.

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

2016	Risk weight							Total
Exposure Classes	0%	20%	35%	50%	75%	100%	150%	
Central governments or central banks	216			419		1,949		**2,584**
Regional governments or local authorities		5		71				**76**
Institutions		2,537		10		25	2	**2,574**
Corporates				7		6,704	43	**6,754**
Retail					9,989			**9,989**
Secured by mortgages on immovable property			6,968	3,436		3,675		**14,079**
Exposure in default				20		255	191	**466**
Total	**216**	**2,542**	**6,968**	**3,963**	**9,989**	**12,608**	**236**	**36,522**

Excludes Counterparty Credit Risk exposures.

The exposure of the SA portfolio grew by 14.6% to EUR 41.8 billion in terms of READ. The increased concentration in the SA portfolio was caused by a combination of volume growth and portfolio shifts from the AIRB to the SA approach. Categorised in the 50% risk weight bucket and 35% risk weighted are mainly mortgages.

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.

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

	gross carrying values[1]			
2017	defaulted exposures	non-defaulted exposures	specific credit risk adjustments	Net values
Central governments or central banks		231,359	-6	231,353
Institutions	333	101,994	-12	102,315
Corporates	7,593	407,887	-2,719	412,761
of which: specialised lending	3,098	142,743	-843	144,998
of which: SMEs	1,328	34,781	-475	35,634
Retail	4,179	322,781	-1,258	325,702
secured by real estate property	3,473	292,716	-686	295,503
SMEs	544	11,268	-182	11,630
Non-SMEs	2,929	281,448	-504	283,873
Other retail	706	30,065	-572	30,199
SMEs	254	5,322	-194	5,381
Non-SMEs	452	24,743	-377	24,818
Total IRB Approach	**12,105**	**1,064,021**	**-3,995**	**1,072,131**
Central governments or central banks		3,831	-1	3,830
Regional governments or local authorities		246		246
Institutions		4,111	-1	4,110
Corporates		12,409	-17	12,392
of which: SMEs		2,856	-4	2,853
Retail		16,558	-123	16,436
of which: SMEs		4,643	-20	4,623
secured by mortgages on immovable property		18,170	-23	18,147
of which: SMEs		2,815	-6	2,809
Exposures in default	1,001		-530	471
Total SA approach	**1,001**	**55,326**	**-695**	**55,632**
Total	**13,106**	**1,119,347**	**-4,690**	**1,127,763**

Excludes Counterparty Credit Risk, Securitisations, CVA RWA, Equities, DFC and ONCOA.

1 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

2016	gross carrying values[1] defaulted exposures	non-defaulted exposures	specific credit risk adjustments	Net values
Central governments or central banks		225,837	-11	225,826
Institutions	336	100,631	-13	100,954
Corporates	8,179	404,726	-3,395	409,510
of which: specialised lending	2,559	141,166	-971	142,754
of which: SMEs	1,657	32,950	-546	34,060
Retail	4,647	322,450	-1,360	325,737
secured by real estate property	3,893	292,942	-751	296,084
SMEs	611	10,476	-171	10,916
Non-SMEs	3,281	282,466	-580	285,168
Other retail	754	29,507	-609	29,653
SMEs	303	5,839	-235	5,907
Non-SMEs	451	23,669	-374	23,745
Total IRB Approach	**13,161**	**1,053,643**	**-4,778**	**1,062,027**
Central governments or central banks		3,802	-1	3,801
Regional governments or local authorities		274		274
Institutions		2,282	-1	2,281
Corporates		12,489	-22	12,468
of which: SMEs		2,870	-5	2,865
Retail		14,937	-106	14,831
of which: SMEs		4,509	-17	4,492
secured by mortgages on immovable property		16,012	-21	15,991
of which: SMEs		2,967	-7	2,960
Exposures in default	915		-434	481
Total SA approach	**915**	**49,797**	**-585**	**50,127**
Total	**14,077**	**1,103,441**	**-5,363**	**1,112,154**

Excludes Counterparty Credit Risk, Securitisations, CVA RWA, Equities and ONCOA.

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 defaulted exposures in the AIRB portfolio remained relatively stable in 2017, with a decrease of EUR 1.1 billion. The decrease is mostly spread amongst the corporate and retail portfolio. In the corporates portfolio, the decrease was mainly driven by repayments in the Netherlands retail, Netherlands real estate finance REF WB and UK WB portfolio's. In the retail portfolio repayments were also the driver for the decrease in combination with decreased default volume. This was witnessed mainly in the non–SME secured by real estate property exposure class, for an amount of EUR 0.3 billion.

The provisions in the AIRB portfolio decreased EUR 0.8 billion in 2017. The decrease is visible amongst all portfolios and is in line with the portfolio trend of improving credit quality as a result of improved economic conditions.

During 2017, the SA portfolio grew in volume by EUR 5.5 billion, however the increases in the defaulted exposures and provisions were moderate.

EU CR1-B: Credit quality of exposures by industry or counterparty types

2017	gross carrying values[2] defaulted exposures	gross carrying values[2] non-defaulted exposures	specific credit risk adjustments[1]	Net values
Agriculture, Forestry and Fishing	253	4,354	-80	4,528
Mining and Quarrying	1,369	18,412	-211	19,570
Manufacturing	1,436	106,085	-690	106,831
Electricity, Gas, Steam and Air Conditioning Supply	315	22,976	-173	23,118
Water Supply; Sewerage, Waste Management and Remediation Activities	56	3,369	-28	3,397
Construction	1,085	20,099	-480	20,705
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,414	94,244	-594	95,065
Transportation and Storage	980	30,743	-268	31,456
Accommodation and Food Service Activities	110	4,580	-45	4,645
Information and Communication	155	17,818	-88	17,885
Financial and Insurance Activities	409	227,187	-83	227,513
Real Estate Activities	1,267	49,862	-402	50,728
Professional, Scientific, and Technical Activities	459	27,074	-216	27,317
Administrative and Support Service Activities	388	21,211	-127	21,472
Public Administration and Defence; Compulsory Social Security	90	169,170	-52	169,208
Education	18	2,061	-10	2,069
Human Health and Social Work Activities	78	10,491	-44	10,525
Arts, Entertainment, and Recreation	36	1,528	-17	1,546
Other Service Activities	47	2,493	-29	2,511
Activities of Households as Employers; Producing Activities of Households for own use	3,141	285,590	-1,054	287,677
Total	**13,106**	**1,119,347**	**-4,690**	**1,127,763**

Excludes Counterparty Credit Risk exposures, Securitisations, CVA RWA, Equities, DFC and ONCOA.
1 Includes 104 million for contingent liabilities
2 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-B: Credit quality of exposures by industry or counterparty types

2016	gross carrying values[2] defaulted exposures	gross carrying values[2] non-defaulted exposures	specific credit risk adjustments[1]	Net values
Agriculture, Forestry and Fishing	338	4,164	-129	4,373
Mining and Quarrying	732	21,378	-232	21,878
Manufacturing	1,900	101,454	-956	102,397
Electricity, Gas, Steam and Air Conditioning Supply	290	22,633	-127	22,796
Water Supply; Sewerage, Waste Management and Remediation Activities	86	3,540	-37	3,589
Construction	1,237	18,167	-547	18,858
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,240	93,418	-591	94,067
Transportation and Storage	1,195	32,608	-381	33,422
Accommodation and Food Service Activities	115	4,530	-49	4,596
Information and Communication	343	17,898	-107	18,134
Financial and Insurance Activities	421	232,026	-92	232,355
Real Estate Activities	1,474	45,481	-498	46,457
Professional, Scientific, and Technical Activities	512	23,965	-231	24,247
Administrative and Support Service Activities	407	21,121	-126	21,402
Public Administration and Defence; Compulsory Social Security	105	160,226	-56	160,275
Education	15	1,812	-7	1,820
Human Health and Social Work Activities	105	10,852	-47	10,910
Arts, Entertainment, and Recreation	47	1,502	-26	1,523
Other Service Activities	69	2,690	-33	2,727
Activities of Households as Employers; Producing Activities of Households for own use	3,445	283,975	-1,092	286,328
Total	**14,077**	**1,103,441**	**-5,363**	**1,112,154**

Excludes Counterparty Credit Risk exposures, Securitisations, CVA RWA, Equities and ONCOA.
1 Includes EUR 119 million for contingent liabilities
2 The net carrying values correspond to the original exposure (on and off-balance) pre-credit conversion factors corrected for allowances, impairments and provisions.

The defaulted exposures decreased within almost all industries. The biggest exception was the Mining and Quarrying industry, for which an increase of EUR 0.6 billion was observed. The biggest exposure increase in this industry was seen in Netherlands WB by EUR 0.2 billion mainly in Offshore Oil & Gas Drilling Services sector.

Defaulted exposures decreased partly in the Manufacturing industry due to a EUR 0.1 billion write off in Netherlands WB and a EUR 0.2 billion exposure decrease in Ukraine. Another main contributor to the decrease of defaulted exposures is the Activities of Households as Employers industry, related to retail mortgages.

The provisions decreased EUR 0.7 billion, as a result of improving credit quality in the higher risk categories (Watch List, substandard and non-performing) in 2017.

EU CR1-C : Credit quality of exposures by geography

2017	gross carrying values[2] defaulted exposures	gross carrying values[2] non-defaulted exposures	specific credit risk adjustments[1]	Net values
Europe	11,254	872,335	-4,372	879,216
Netherlands	4,075	253,049	-1,310	255,814
Germany	696	172,280	-489	172,487
Belgium & Luxemburg	2,588	172,232	-680	174,140
Other Europe	3,895	274,773	-1,894	276,774
Africa	73	5,819	-9	5,884
America	992	89,848	-184	90,657
Asia	382	98,925	-80	99,227
Australia	405	52,419	-45	52,779
Total	**13,106**	**1,119,347**	**-4,690**	**1,127,763**

Excludes Counterparty Credit Risk exposures, Securitisations, CVA RWA, Equities, DFC and ONCOA.
1 Includes 104 million for contingent liabilities
2 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-C : Credit quality of exposures by geography

2016	gross carrying values[2] defaulted exposures	gross carrying values[2] non-defaulted exposures	specific credit risk adjustments[1]	Net values
Europe	12,740	862,182	-4,867	870,054
Netherlands	5,269	261,185	-1,799	264,656
Germany	780	169,692	-544	169,928
Belgium & Luxemburg	2,677	161,640	-672	163,645
Other Europe	4,014	269,665	-1,853	271,826
Africa	90	6,109	-7	6,191
America	838	86,350	-241	86,947
Asia	254	100,960	-236	100,979
Australia	155	47,840	-12	47,983
Total	**14,077**	**1,103,441**	**-5,363**	**1,112,154**

Excludes Counterparty Credit Risk exposures, Securitisations, CVA RWA, Equities and ONCOA.
1 Includes EUR 119 million for contingent liabilities
2 The net carrying values correspond to the original exposure (on and off-balance) pre-credit conversion factors corrected for allowances, impairments and provisions.

Default exposures decreased by almost EUR 1.0 billion and the biggest decrease was seen in the Netherlands. The main contributor in the decrease of provisions was also in the Netherlands. Both decreases are mainly attributable to improved conditions within the Netherlands Retail portfolio.

Non-performing and forborne exposures

The non-performing exposure table should be read in conjunction with the information and statements made in the Risk Management paragraph of the annual accounts.

EU CR1-E: Non-performing and forborne exposures

2017	Gross carrying amount of performing and non-performing exposures					Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
		Of which performing but past due >30 days and <=90 days	of which performing forborne	Of which non-performing		On performing exposures		On non-performing exposures		On non-performing exposures	of which: forborne exposures[1]
					of which: forborne		of which: forborne		of which: forborne		
Debt Securities	82,192			4	4	-1		-4			
Loans and advances	624,307	1,135	5,693	11,982	5,743	-725	-58	-3,794	-1,372	6,377	8,156
Off-balance sheet exposures	220,673		311	744	163					249	

1 This relates to the Collaterals and financial guarantees received for the total portfolio of forborne exposures

EU CR1-E: Non-performing and forborne exposures

2016	Gross carrying amount of performing and non-performing exposures					Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
		Of which performing but past due >30 days and <=90 days	of which performing forborne	Of which non-performing		On performing exposures		On non-performing exposures		On non-performing exposures	of which: forborne exposures[1]
					of which: forborne		of which: forborne		of which: forborne		
Debt Securities	91,920			7		-13		-5			
Loans and advances	589,232	601	7,660	13,215	6,733	-814	-91	-4,475	-1,818	6,917	10,144
Off-balance sheet exposures	149,025		687	602	361					153	116

1 This relates to the Collaterals and financial guarantees received for the total portfolio of forborne exposures

While the portfolio of ING grew in 2017, non-performing exposures and forborne exposures decreased significantly. This is in line with the improved performance of the portfolio. An exception is the increased exposure in the ageing bucket performing but past due > 30 days and <=90 days exposures. This deterioration is a result of a changed delivery methodology following the implementation of the IFRS9 and was mainly seen in the 31-60 days bucket and the 61-90 days bucket for the retail portfolio of Germany.

The total ING Bank forborne assets decreased by EUR 3.5 billion to EUR 11.9 billion per December 2017. The material decrease was visible both within Wholesale Banking and Retail Banking. The main drivers for the material decrease where further refinement of the reporting process, as a result of which the recognition of forborne assets has been changed from customer level to facility level, as well as the improved economic environment.

ING implemented its forbearance policy in 2014. In the course of 2016 based on a detailed re-assessment of the relevant standards set by EBA and subsequent regulatory guidance, ING tightened the definitions under its forbearance policy. Key policy revisions that led to an increase in the scope of forbearance relate to the inclusion of concessions where the risk is significantly mitigated by the client and -waivers or -modifications of key financial covenants. As a result of these revisions in definition and scope, performing forborne exposure recognized by ING increased significantly as measures taken (in previous periods) were then recognized as forbearance. Due to further refinement of aforementioned implementation/approach, recognition of forborne assets will shift from client level to facility level as a result of which a further reduction in forborne assets is expected.

Aging of past due exposures

The table below gives an insight into the aging of the Business and Consumer exposures and includes both the performing and non-performing portfolio. The table is broken down into type of instruments (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.

EU CR1-D: Ageing of past-due exposures						
2017	<= 30 days	>30 days <60 days	> 60 days <90 days	>90 days <180 days	>180 days < 1year	> 1year
Loans	609,209	941	2,822	1,151	939	6,743
Debt Securities	82,192					
Total exposures	**691,401**	**941**	**2,822**	**1,151**	**939**	**6,743**

EU CR1-D: Ageing of past-due exposures						
2016	<= 30 days	>30 days <60 days	> 60 days <90 days	>90 days <180 days	>180 days < 1year	> 1year
Loans	587,310	1,019	3,102	1,217	1,169	6,983
Debt Securities	101,098	31	35			
Total exposures	**688,408**	**1,050**	**3,138**	**1,217**	**1,169**	**6,983**

The ageing of the portfolio improved in all buckets, while the total exposure increased. This is in line with the observed trend of improved economic conditions.

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					
			2017		2016
	LTV	READ	net carrying values[1]	LTV	READ
Netherlands	70%	118,376	119,324	78%	124,368
Germany	62%	72,104	74,113	70%	72,671
Belgium, Luxembourg	65%	39,048	38,970	64%	32,395
Australia	61%	33,830	33,589	61%	32,901
Spain	59%	13,097	13,086	62%	11,750
Italy	58%	8,478	8,431	58%	8,220
Poland	61%	6,691	6,873	62%	5,325
Turkey	54%	920	918	57%	1,357
Romania	69%	1,486	1,476	69%	1,173
Total	**67%**	**294,033**	**296,781**	**71%**	**290,161**

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 and the housing market in the most countries improved resulting in an improved LTV, especially in the Netherlands and Germany. In the Netherlands, the average Dutch house price increased to EUR 269,000 in December 2017 from EUR 236,000 in December 2016, which led to an improved LTV through indexation.

Most countries showed an increased READ due to growth in the mortgage portfolios. The decrease in the Netherlands can be explained by repayments which were not compensated by new production and the continued transfer of mortgages from WestlandUtrecht Bank to Nationale Nederlanden Bank.

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

	Central Governments and central banks	Institutions	Corporate	Retail – sec. by imm. property non-SME / on residential prop.	Other retail[1]	2017 Total	2016 Total
Under SA approach	1	24	1,324	335	3,007	4,690	5,456
Under AIRB Approach	4,216	4,696	84,384	11,381	3,057	107,735	107,226
• 0% risk weight	2,974		437	12	1	3,424	421
• >0% - ≤10% risk weight	999	2,027	15,497	8,704	1,001	28,227	29,394
• >10% - ≤20% risk weight	197	292	10,500	1,678	495	13,162	13,172
• >20% - ≤35% risk weight	35	919	21,787	704	402	23,847	23,120
• >35% - ≤50% risk weight		857	12,659	129	453	14,099	17,095
• >50% - ≤75% risk weight		330	12,194	72	391	12,988	12,515
• >75% - ≤100% risk weight	9	100	5,044	35	206	5,393	4,949
• >100% - ≤150% risk weight	2	88	4,528	27	71	4,716	4,572
• >150% - ≤200% risk weight	1	3	1,184	8	22	1,218	1,333
• >200% - <1250% risk weight		80	554	12	15	661	655
• 1250% risk weight							
Total	4,217	4,720	85,708	11,716	6,065	112,425	112,683

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

If all of the unused commitments were called upon at the same time, ING Bank's credit risk (in terms of outstanding) would increase by 14.5%. As part of its EAD models, ING makes an estimate of how much of these unused commitments would be drawn under normal circumstances. The effect is included in the calculation of the RWA, together with a similar effect applied to uncommitted facilities, albeit at a lower rate.

The total undrawn commitments remained stable, however within the exposure classes significant changes can be observed. First there is a EUR 2.9 billion increase in the 0% risk weight of Central Governments and central banks. Within the corporate exposure class a growth of EUR 4.1 billion is observed spread over several risk weight bands, whereas the exposure in risk weight band 35-50% decreased with EUR 2.9 billion. This increase is related to the growth in mainly revolving loans of EUR 9.2 billion, while the actual outstanding grew with EUR 6.9 billion. A significant decrease of EUR 7.6 billion can be observed in the Other retail exposure class, mainly in the 0 – 10% risk weight band. This decrease is related to a reclassification of credit card limits and revolving loans from committed to uncommitted.

Counterparty credit risk (CCR)

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

In the table below ING counterparty credit risk portfolio is presented according to the regulatory approach. Under Pillar 1 ING uses the Current Exposure Method (Mark to Market + add on) method as described in the 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 ING uses the IMM for FX and interest rate derivatives, which is 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 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, by applying (max(MTM,0) for each trade).
- 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).

Under Pillar 1, collateral is taken into account in the LGD parameter when ING calculates the own fund requirement.

The READ together with the other building blocks (PD, LGD and maturity), allows ING to classify a large part of its derivatives exposures under the AIRB approach. READ also takes into account the sum of 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

2017	Replacement cost (floored MtM)	Potential future exposure	EAD post-CRM[1]	RWA
Mark to market (Derivatives)	12,361	19,012	26,586	8,114
Financial collateral comprehensive method (for SFT's)			8,281	1,144
Total			**34,867**	**9,258**

Excluding exposure class Securitizations
1 Regulatory exposure after credit risk mitigation

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

2016	Replacement cost (floored MtM)	Potential future exposure	EAD post-CRM	RWA
Mark to market (Derivatives)	16,051	26,542	37,855	9,718
Financial collateral comprehensive method (for SFT's)			7,619	1,146
Total			**45,474**	**10,863**

Excluding exposure class Securitizations.
Note: The reported figures for 2016 have been adjusted compared to the Annual Report 2016

The EAD of the ING counterparty credit risk portfolio decreased by 23%, RWA dropped by 14.8% during the year. The main reasons behind these changes are exposure compression via increased use of central clearing, better credit quality of clients and the use of EMIR compliant margining.

As interest rates started to increase in Q4 2017, MtM dropped by 23% which also contributed to lower exposure.
In line with regulatory requirement ING novated more trades via qualifying central counterparties (CCPs), which compresses the exposure via the use of the large netting pool of a CCP as well as requiring a lower risk weight. Moreover, for the centrally cleared derivative portfolio, ING adjusted the calculation of the potential future exposure that also contributed to the lower READ and RWA.

Standardised approach – CCR exposures by regulatory portfolio and risk

The following table presents the CCR exposures that are calculated according the Standardised approach (SA):

EU CCR3: Standardised approach - CCR exposures by regulatory portfolio and risk

2017	Risk weight					**Total**
Exposure Class	20%	50%	75%	100%	150%	
Regional governments or local authorities	4					**4**
Institutions	13	410		4		**427**
Corporates				237	3	**249**
Retail			1			**0**
Total	**17**	**410**	**1**	**241**	**3**	**672**

Excluding exposure class Securitizations

EU CCR3: Standardised approach - CCR exposures by regulatory portfolio and risk						
2016	Risk weight					Total
Exposure Class	20%	50%	75%	100%	150%	
Regional governments or local authorities						**564**
Institutions	9	554		1		**250**
Corporates				242	8	**1**
Retail			1			
Total	**9**	**554**	**1**	**243**	**8**	**815**

Excluding exposure class Securitizations

The 100% risk weight exposures contain mainly FX forwards in the ING Turkey portfolio as well as interest rate swaps related to the Dutch healthcare portfolio. The latter portfolio moved to the Standardised approach in 2016.

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								
2017	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	3,097	0.03%	124	25%	3	152	5%
Central Governments and Central Banks	0.15 to < 0.25	38	0.21%	7	38%	3	17	43%
Central Governments and Central Banks	0.25 to < 0.50	71	0.31%	10	45%	5	58	82%
Central Governments and Central Banks	0.75 to < 2.50	0	0.76%	2	46%	0	0	57%
Central Governments and Central Banks	2.50 to < 10.00	4	8.35%	2	100%	1	15	384%
Central Governments and Central Banks	10.00 to < 100.00	0	16.32%	3	31%	5	1	181%
Central Governments and Central Banks	**sub-total**	**3,211**	**0.05%**	**148**	**26%**	**3**	**242**	**8%**
Corporates	0.00 to < 0.15	5,701	0.09%	1,331	24%	2	846	15%
Corporates	0.15 to < 0.25	1,238	0.21%	784	38%	3	551	45%
Corporates	0.25 to < 0.50	2,430	0.37%	2,922	39%	2	1,310	54%
Corporates	0.50 to < 0.75	2	0.59%	201	49%	1	1	65%
Corporates	0.75 to < 2.50	1,646	1.20%	2,629	44%	3	1,616	98%
Corporates	2.50 to < 10.00	132	5.61%	478	34%	3	162	123%
Corporates	10.00 to < 100.00	52	22.69%	460	42%	4	130	247%
Corporates	default	19	100.00%	143	43%	3	108	563%
Corporates	**sub-total**	**11,220**	**0.67%**	**8,945**	**33%**	**2**	**4,724**	**42%**
Institutions	0.00 to < 0.15	27,481	0.07%	1,234	30%	3	2.642	10%
Institutions	0.15 to < 0.25	3,258	0.21%	143	25%	1	576	18%
Institutions	0.25 to < 0.50	540	0.38%	342	35%	2	236	44%
Institutions	0.75 to < 2.50	376	0.93%	615	25%	2	208	55%
Institutions	2.50 to < 10.00	21	5.13%	110	23%	1	25	119%
Institutions	10.00 to < 100.00	31	16.32%	109	38%	4	80	261%
Institutions	**sub-total**	**31,706**	**0.12%**	**2,553**	**30%**	**2**	**3,767**	**12%**
Retail	0.00 to < 0.15	8	0.07%	213	51%	1	1	9%
Retail	0.15 to < 0.25	3	0.16%	66	54%	1	1	21%
Retail	0.25 to < 0.50	3	0.37%	191	56%	2	1	29%
Retail	0.50 to < 0.75	1	0.57%	68	50%	1	1	41%
Retail	0.75 to < 2.50	2	1.36%	169	41%	3	1	42%
Retail	2.50 to < 10.00	1	4.78%	54	42%	1	1	64%
Retail	10.00 to < 100.00	12	16.40%	132	55%	4	15	117%
Retail	default	0	100.00%	13	56%	2	1	757%
Retail	**sub-total**	**31**	**7.31%**	**906**	**52%**	**2**	**20**	**74%**
Total Portfolio		**46,168**	**0.25%**	**12,552**	**31%**	**2**	**8,753**	**16%**

Excluding exposure class Securitisations. All figures are in EUR millions, except for the number of obligors.

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

2016	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	2,377	0.03%	128	26%	3.6	184	8%
Central Governments and Central Banks	0.15 to < 0.25	25	0.21%	3	45%	2.3	12	47%
Central Governments and Central Banks	0.25 to < 0.50	33	0.31%	12	45%	3.8	24	73%
Central Governments and Central Banks	2.50 to < 10.00		8.35%	3	31%	4.9	1	181%
Central Governments and Central Banks	10.00 to < 100.00	14	16.32%	2	100%	1.5	55	397%
Central Governments and Central Banks	**sub-total**	**2,450**	**0.09%**	**150**	**27%**	**3.6**	**277**	**11%**
Corporates	0.00 to < 0.15	7,311	0.08%	1,318	28%	1.9	1,154	16%
Corporates	0.15 to < 0.25	1,232	0.21%	820	39%	2.9	567	46%
Corporates	0.25 to < 0.50	3,037	0.36%	2,891	37%	2.4	1,582	52%
Corporates	0.50 to < 0.75	2	0.62%	186	52%	1.8	2	78%
Corporates	0.75 to < 2.50	2,154	1.13%	2,717	43%	2.4	1,920	89%
Corporates	2.50 to < 10.00	192	5.34%	520	40%	3.5	283	147%
Corporates	10.00 to < 100.00	79	26.90%	522	37%	2.9	180	228%
Corporates	default	19	100.00%	147	46%	2.8	108	581%
Corporates	**sub-total**	**14,026**	**0.67%**	**9,121**	**34%**	**2.2**	**5,796**	**41%**
Institutions	0.00 to < 0.15	37,510	0.06%	1,294	34%	3.0	3,366	9%
Institutions	0.15 to < 0.25	3,155	0.21%	129	19%	0.5	455	14%
Institutions	0.25 to < 0.50	558	0.36%	365	27%	2.3	193	35%
Institutions	0.75 to < 2.50	391	0.99%	612	22%	1.1	223	57%
Institutions	2.50 to < 10.00	31	4.76%	96	10%	4.1	13	44%
Institutions	10.00 to < 100.00	4	16.32%	105	38%	1.0	4	121%
Institutions	default							
Institutions	**sub-total**	**41,649**	**0.09%**	**2,601**	**33%**	**2.8**	**4,255**	**10%**
Retail	0.00 to < 0.15	8	0.07%	216	53%		1	9%
Retail	0.15 to < 0.25	5	0.17%	84	58%		1	22%
Retail	0.25 to < 0.50	2	0.36%	196	57%		1	34%
Retail	0.50 to < 0.75	2	0.68%	79	67%		1	54%
Retail	0.75 to < 2.50	4	1.11%	160	41%		1	40%
Retail	2.50 to < 10.00	1	3.74%	44	54%		1	79%
Retail	10.00 to < 100.00	2	17.52%	140	60%		2	129%
Retail	default		100.00%	16	61%		2	757%
Retail	**sub-total**	**24**	**2.98%**	**935**	**54%**		**11**	**44%**
Total Portfolio		**58,149**	**0.23%**	**12,801**	**33%**	**2.7**	**10,338**	**18%**

Excluding exposure class Securitisations. All figures are in EUR millions, except for the number of obligors. The maturity is not applicable for the retail exposure class, for all other cells that are left blank, the values are minimal

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) used for counterparty default risk under CRR.

Derivatives by product type in READ

					2017	2016
	Sovereigns	Institutions	Corporate	Other retail	Total	Total
Interest Rate Derivatives	2,409	15,292	4,785	5	22,492	32,439
FX Derivative	590	2,941	2,072	6	5,608	7,588
Equity Derivative	1	1,186	563	20	1,769	1,622
Exchange Traded Products		1,395	1		1,396	1,516
Commodity Derivative		53	1,172		1,225	999
Credit Derivative		337	119		455	443
Derivatives Other		113	13		126	81
Total	**3,000**	**21,317**	**8,724**	**31**	**33,073**	**44,689**

Excluding exposure class Securitisations

The derivatives portfolio of ING facilitates hedging mortgage lending portfolio as well as hedging for clients. Interest rate and foreign exchange derivative products dominate the total derivatives exposure. Their combined weight is 85% of the total.
The large decrease in their regulatory exposure during 2017 is explained by the methodology change applied for centrally cleared derivatives.

Over-the-counter and exchange traded derivatives

This section quantifies the size of the derivatives exposure in terms of notional and mark-to-market 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

	2017	2016
	Notional	Notional
OTC derivatives		
CCP	2,230,063	2,238,106
Non-CCP	1,535,587	1,644,126
ETD derivatives	35,287	45,214
Total	**3,800,937**	**3,927,445**

At the end of 2017, in line with EMIR regulations, almost 60% of the derivatives portfolio (based on notional value) was novated via a central counterparty. 20% of the non-cleared trades were uncollateralized, which mainly relate to corporates with small credit limits and mainly comprise of interest rate derivatives and FX Derivatives.

Among the collateralised, but not cleared trades 86% are under a bilateral CSA. Unilateral CSA agreements relate to agreements that are unilateral against ING and mainly consist of Interest Rate Derivatives with Sovereign counterparties.

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

				2017	2016
	Sovereigns	Institutions	Corporate	Total	Total
Bond Financing Given	69	5,537	508	6,114	6,489
Equity Financing Given		3,442	1,730	5,172	5,009
Bond Financing Taken	146	1,150	469	1,766	1,982
Equity Financing Taken		688	27	715	794
Total (ALL)	**215**	**10,816**	**2,735**	**13,767**	**14,275**

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

The securities financing portfolio decreased slightly in 2017.

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					
2017	Gross positive fair value	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure post collateral
Derivatives	112,186	78,646	33,540	6,953	26,586
Securities Financing Transactions	37,975	24,209	13,767	5,486	8,281
Total	**150,161**	**102,855**	**47,306**	**12,439**	**34,867**

Excluding exposure class securitization

EU CCR5-A: Impact of netting and collateral held on regulatory exposure values					
2016	Gross positive fair value	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure post collateral
Derivatives	136,343	91,328	45,015	7,485	37,530
Securities Financing Transactions	37,208	22,933	14,275	6,657	7,619
Total	**173,551**	**114,261**	**59,290**	**14,142**	**45,149**

Excluding exposure class securitization

As MtM decreased during 2017, collateral held also decreased, but on a slower pace. This is explained by the initial margin received and other factors (e.g. change in the haircut model, overcollateralization by some clients).

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			
2017		Segregated	Un-Segregated	Segregated	Un-segregated	Fair value of collateral received	Fair value of posted collateral
	Cash	1,029	6,221	-4,129	-7,752		
	Securities		847	-828	-403		
	Total	**1,029**	**7,067**	**-4,792**	**-8,155**	**116,780**	**-88,217**
2016	Total	**1,029**	**6,221**	**-4,129**	**-7,752**	**102,612**	**-82,868**

Some numbers in this table have been adjusted compared to the publication in 2016:. Unsegregated numbers for the 'Collateral used in derivative transactions'.

ING's key drivers of the changes to the collateralized 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. Note that the Long Term Credit rating of ING Bank N.V. has recently been upgraded one notch.

Central Counterparties

In line with EMIR regulation - for standard products - the use of Central Clearing Parties (CCPs) is mandatory and as a consequence increasing part of credit risk is shifting from counterparties 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		
2017	EAD (post-CRM)	RWA
Exposures to QCCPs (total)		
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	8,233	165
(i) OTC derivatives	6,805	136
(ii) Exchange-traded derivatives	544	11
(iii) Securities financing transactions	884	18
Pre-funded default fund contributions	212	376

EU CCR8: Exposures to central counterparties		
2016	EAD (post-CRM)	RWA
Exposures to QCCPs (total)		
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	17,002	340
(i) OTC derivatives	15,676	314
(ii) Exchange-traded derivatives	631	13
(iii) Securities financing transactions	695	14
Pre-funded default fund contributions	159	279
Exposures to non-QCCPs (total)		
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	229	15
(iii) Securities financing transactions	229	15

Note: The status “qualified” is based on the European Securities and Markets Authority (ESMA) qualification. ING clears with the following QCCPs: Banque Centrale de Compensation SA, Chicago Mercantile Exchange Inc, EUREX Clearing Aktiengesellschaft, ICE Clear Europe Ltd, Japan Securities Clearing Corp, KDPW_CCP SA, LCH.Clearnet Repoclear service, LCH.Clearnet Swapclear service, LME Clear Ltd, The Korea Exchange and the Options Clearing Corporation.

Voluntary and mandatory clearing has a large impact on the development of EAD and RWA. From an EAD perspective, it should be noted that 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).

In 2017, ING amended its exposure calculation for qualifying CCPs, which explains the majority of the significant drop in EAD between 2016 and 2017. ING had no exposure to non-QCCPs at the end of 2017.

CVA risk

ING follows the standardised approach for calculation of the capital charge to cover CVA Risk (CVA Capital) in accordance with the CRR. The scope of products and counterparties that the CVA Capital charge is applied to also follows these regulations. The most important factors in the calculation of CVA Capital are CVA Exposure, CVA Risk Weight and maturity. CVA exposure is similar to the READ, but includes collateral held under collateral agreements. The CVA Risk Weight is prescribed in regulation and depends directly on the risk rating of the counterparty. The maturity used for CVA Capital is similar to the maturity used in the calculation of Counterparty Default Risk, but without the 5 years cap.

EU CCR2 – CVA capital charge		2017		2016
	Exposure value	RWAs	Exposure value	RWAs
Total portfolios subject to the advanced method				
All portfolios subject to the standardised method	7,931	2,754	10,155	3,598
Based on the original exposure method				
Total subject to the CVA capital charge	**7,931**	**2,754**	**10,155**	**3,598**

CVA Capital is calculated and reported mainly for financial counterparties. This portfolio however is well collateralised or cleared by a qualifying CCP.
In line with the increased use of central clearing (where CVA Capital is not required) and the introduction of initial margining, exposure and thus CVA capital dropped in 2017. The significant (23%) decrease is also explained by the following reasons:

- as rates started to increase in Q4 (mainly in December), the MtM to financial counterparties decreased that mitigated the current exposure,
- mainly for US counterparties enhancements in collateral recognition mitigated the post collateral exposure, used for CVA Capital calculation,
- finally credit quality changes also contributed to the better risk weights and thus decrease of CVA Capital.

Wrong way risk policy

ING’s Wrong Way Risk Policy provides a framework of regulatory and ING specific minimum standards for identifying, monitoring and managing Wrong Way Risk (WWR) in Financial Markets transactions. In scope of the WWR policy are all non-cleared and cleared OTC derivatives, collateral accepted for variation and initial margin purposes, independent amounts, and securities financing transactions. For the avoidance of doubt, structured products are also in scope of this policy.

The policy identifies two sources of WWR:

- Derivatives - where there is a correlation between exposure – driving risk factors and the counterparty default.
- Financial Collateral – (Variation Margin, Initial Margin, Securities Financing Trade and Margin Collateral) – where there is a correlation between the counterparty default and the liquidation value of collateral. Tri-Party securities financing transactions are also in scope of this policy.

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

2017	Protection bought	Protection sold
Notionals		
Single-name credit default swaps	-15,684	13,226
Index credit default swaps	-1,188	607
Total Notionals	**-18,168**	**15,491**
Fair values	-196	195
Positive fair value (asset)	29	208
Negative fair value (liability)	-225	-13

EU CCR6: Credit derivatives exposures

2016	Protection bought	Protection sold
Notionals		
Single-name credit default swaps	-17,867	14,909
Index credit default swaps	-680	828
Total Notionals	**-18,547**	**15,737**
Fair values	-39	96
Positive fair value (asset)	118	179
Negative fair value (liability)	-157	-83

For ING's credit derivative positions as of 31 December 2017, the largest notional is under single-name credit default swap (CDS), and a small notional is under Index CDS (IXCDS).

Compared to 2016, the absolute total notional has decreased in both protection bought and protection sold. For protection bought, the total fair value changed to become more negative in 2017 compared to 2016, mainly due to the decrease in the fair value of the sovereign position (more negative). On the other hand, the fair value of protection sold became more positive in 2017 compared to 2016, mainly caused by the increase in the fair value of the sovereign position.

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 mitigant 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 which 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 which 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 outstandings 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 collateral and financial guarantees are included for all secured exposures, irrespective of whether the standardized apporach 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 *Exposure 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

2017	Exposures unsecured: carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees
Total loans	584,461	379,782	339,397	40,385
Total debt securities	163,425	95		95
Total exposures	**747,886**	**379,876**	**339,397**	**40,480**
Of which defaulted	4,540	4,654	4,298	356

Includes the AIRB and SA portfolios and excludes the Default Fund Contribution, securitisations, CVA RWA, equities and ONCOA.

EU CR3: Credit risk mitigation techniques - overview

2016	Exposures unsecured: carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees
Total loans	592,375	363,313	326,200	37,113
Total debt securities	155,997	91		91
Total exposures	**748,371**	**363,404**	**326,200**	**37,204**
Of which defaulted	5,011	4,636	4,092	544

Includes the AIRB and SA portfolios and the Default Fund Contribution, excludes securitisations, CVA RWA, equities and ONCOA.

For more information on the covers, please see the section 'credit risk mitigation' part of the Risk Management Paragraph of the ING Bank Annual Report 2017.

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 recognized as credit risk mitigants 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.

Valuation and accounting policies

ING's activities regarding securitisations are described in Note 45 'Structured entities' in the annual accounts. The applicable accounting policies are included in the section 'Accounting policies for the consolidated annual accounts of ING Bank' in the annual accounts. 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 of financial instruments'.

Regulatory capital method used and Rating Agencies

ING has implemented the AIRB approach for credit risk. As a consequence, 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 position is then attributed a derived rating by mapping the internal rating grade to an externally published credit assessments corresponding to that rating grade.

Securitisation exposure per rating agency used

					2017	2016
	S&P	Fitch	Moody's	IAA approach	Total	Total
Asset Backed Securities	2,128	982	336		**3,446**	3,875
Residential Mortgage Backed Securities	358	783	62		**1,202**	1,549
Securitisation Liquidity				1,139	**1,139**	720
Interest Rate Derivatives				364	**364**	330
Other		5	8	312	**325**	450
Total	**2,485**	**1,769**	**406**	**1,815**	**6,476**	**6,924**

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.

Securitisations - credit risk disclosure in READ

	2017	2016	Delta %
Geography	**6,476**	**6,924**	-7%
America	2,064	2,908	-27%
Asia	139	35	97%
Australia	8	19	-47%
Europe	4,265	3,962	8%
Europe	4,265	3,962	8%
Germany	1,564	1,556	8%
Netherlands	926	943	0%
Spain	566	730	-16%
United Kingdom	268	463	-41%
Rest of Europe	941	269	185%
Product Type	**6,476**	**6,924**	-7%
Asset Backed Securities	3,446	3,875	-13%
Residential Mortgage Backed Securities	1,202	1,549	-19%
Securitisation Liquidity (1)	1,139	720	63%
Interest Rate Derivatives	364	330	0%
Other	325	450	-27%
Exposure Class (2)	**6,476**	**6,924**	-7%
Securitisation Investor	4,661	5,476	-15%
Securitisation Sponsor	1,815	1,448	25%

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 2017 the exposure to securitisations decreased from EUR 6.9 billion to EUR 6.5 billion mainly caused by repayment and sales in the RMBS and ABS portfolio. All assets in the securitisation portfolio 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 its Disintermediation & Asset Securitisation department.

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

Investor securitisation activities

		2017	2016
	Traditional	Total	Total
Residential mortgage	1,225	1,225	1,568
Other retail exposures	2,127	2,127	3,049
Loans to corporates	8	8	10
Commercial mortgage			32
Lease and receivables	1,301	1,301	817
Re-securitisation			
Total	**4,661**	**4,661**	**5,476**

In 2017, the Investment Exposure in Other retail exposures decreased by EUR 0.9 billion to EUR 2.1 billion, while the Investment Exposure in securitisations with underlying Lease and Receivables increased by EUR 0.5 billion to EUR 1.3 billion.

The following table 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.

Investor securitisation activities

		2017		2016
	READ	RWA	READ	RWA
Risk weight band 1 <= 10%	4,194	317	5,112	383
Risk weight band 2 >10% and <= 18%	185	22	147	21
Risk weight band 3 >18% and <= 35%	270	56	191	41
Risk weight band 4 >35% and <= 75%			1	0
Risk weight band 5 >75% and <1250%	10	24	7	18
Risk weight 1250%	1	16	19	232
Total	**4,661**	**434**	**5,476**	**695**

Capital requirements for investment positions in securitisations

		Traditional securitisation			Total exposure 2017	Total exposure 2016
		Total traditional	Of which retail underlying	Of which non-retail underlying		
Exposure values (by RW bands)	<= 20% RW	4,650	4,532	118	4,650	5,303
	>20% to 50% RW					147
	>50% to 100% RW	2	2		2	4
	>100% to <1250% RW	8	8		8	3
	1250% RW	1	1		1	19
	Total	**4,661**	**4,543**	**118**	**4,661**	**5,476**
Exposure values (by regulatory approach)	IRB RBA (incl. IAA)	4,660	4,542	118	4,660	5,457
	1250% Risk Weight	1	1		1	19
	Total	**4,661**	**4,543**	**118**	**4,661**	**5,476**
RWA (by regulatory approach)	IRB RBA (incl. IAA)	419	405	14	419	462
	1250% Risk Weight	16	16		16	232
	Total	**435**	**421**	**14**	**435**	**695**
Capital charge after cap	IRB RBA (incl. IAA)	33	32	1	33	37
	1250% Risk Weight	2	1		2	19
	Total Capital	**35**	**33**	**1**	**35**	**56**

Excludes equities and ONCOA. ING does not have any re-securitisation in its books.

In the table above an overview of Investor Securitization exposures and their respective capital requirements are shown. In line with ING's policy and Risk Appetite the vast majority of positions are rated AA- and above, and almost the entire portfolio remains within the investment grade.

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 liquidity facilities, provided to Mont Blanc are EUR 1,139 million. There was no drawn liquidity amount at 31 December 2017. Mont Blanc has no investments in securitisation positions that ING has securitised.

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 that results in an internal rating. This rating is then directly mapped to an external rating 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. As of 31 December 2017, there were no synthetic transactions.

Liquidity and funding

Although the most senior tranches in securitisations are no longer efficient to release regulatory capital under CRR/CRD IV, they are used to obtain funding and improve 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.

ING has created a number of these securitisations with a 31 December 2017 position of approximately EUR 56 billion of AAA rated notes and unrated subordinated notes. The underlying exposures are residential mortgages in the Netherlands, Germany, Belgium, Spain, Italy and Australia and SME Loans in the Netherlands and Belgium.

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.

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	
	2017	2016		2017	2016	2017	2016	2017	2016
Exchange traded equity exposures	1,002	770	290%	1,002	770	2,904	2,232	232	179
Private equity exposures	521	490	190%	521	490	990	931	79	74
Other equity exposures			370%						
Total	**1,523**	**1,260**		**1,523**	**1,260**	**3,894**	**3,163**	**311**	**253**

In 2017, the value of ING equity investments has increased by EUR 263 million to EUR 1,523 million (vs EUR 1,260 million in 2016). As a result, the total value of RWA under simple risk weight method and the regulatory capital has increased by EUR 731 million and EUR 61 million in 2017 respectively. Increase in total value of ING equity exposure is mainly driven by upswing of share price for assets in 290% weight category and mainly by acquisition of the new equity stakes of Fintech portfolio as a part of ING strategic priority programs (ING Ventures) for assets in 190% weight category.

Market risk

Market RWA under the internal model approach (IMA)

The table below explains the changes in Market RWA under the Internal Model Approach (IMA) during 2017 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

amounts in EUR millions						2017		2016
		VaR	SVaR	IRC	Total RWA	Total capital requirements	Total RWA	Total capital requirements
1	RWA at previous year end	1,123	2,546	1,910	5,579	446	8,307	665
1a	*Regulatory adjustment*	674	1,492	409	2,575	206	3,464	277
1b	*RWA at previous year-end (end of the day)*	449	1,054	1,500	3,003	240	4,844	387
2	Movement in risk levels	-240	-212	-520	-972	-78	1,840	147
8a	*RWAs at the end of the reporting period (end of the day)*	209	842	981	2,032	163	3,003	240
8b	*Regulatory adjustment*	440	908	224	1,572	126	2,575	206
8	RWA at the end of the reporting period	649	1,750	1,205	3,604	288	5,579	446

* 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

Over the year, the Market RWA under Internal Model Approach decreased by EUR 2.0 billion to EUR 3.6 billion, the key changes being a decrease in exposures to sovereign issuers that decreased IRC, and a change in risk positions during 2017 that resulted in decreases in VaR and Stressed VaR. The main changes in risk positions throughout the year were in trading books with credits and interest rates asset classes, including CVA hedge portfolio. The CVA hedges are capitalized under market risk framework, while CVA is capitalized under credit risk framework according to Basel rules.

Economic capital for market risk

Economic capital for market risk is the economic capital necessary to withstand unexpected value movements due to changes in market variables and model risk.

Risk profile

Economic and Regulatory Capital by risk type

	Economic capital		Regulatory capital	
	2017	2016	2017	2016
Trading	258	224	288	446
Interest rate risk in the banking books	6,238	3,651		
Foreign exchange	530	556	86	87
Real Estate	294	230		
Equity Investments*	2,476	3,313		
Pension risk	660	n/a		
Market risk	**10,445**	**7,974**	**374**	**533**

* Regulatory capital for equity investments are reported under credit risk regulatory capital.

The market risk Economic Capital is higher than the Regulatory Capital primarily due to the inclusion of the interest rate risk in banking books and equity investments in Economic Capital. The main drivers of the Market Risk Economic Capital are the linear interest rate risk positions of Capital Investments and Customer Behaviour Risk, and the strategic Equity Investments in the banking books.

Year-on-year variance analysis

During 2017, market risk economic capital increased from EUR 8.0 billion to EUR 10.4 billion. The move is primarily driven by the increase of Capital Investments EC of EUR 1.2 billion (mainly caused by investments done to more gradually spread the maturity profile of the capital investment), the inclusion of Customer Behaviour Risk EC of EUR 1.0 billion (from Business Risk to Market Risk), and inclusion of the Pension risk EC of EUR 0.7 billion in 2017. This was partly offset by lower EC in Equity Investment mainly due to the model improvements for EC calculation implemented in 2017.

Capital at Risk

Capital at Risk measures the impact of predefined instant shocks of market risk factors such as interest rates, credit spreads, foreign exchange rates, equity prices and real estate prices on the volatility of IFRS-EU and common equity Tier 1.

Main Drivers

The main market risk sensitivities of capital are interest rate and credit spread driven, resulting from cash flow hedges and available for sale debt securities. Furthermore the sensitivity of the currency translation reserve is an intended open position to stabilise the common equity tier1 ratio for foreign exchange movements, as the RWA are impacted as well by these market movements.

Risk profile

Capital Elements & Market Risk Impact on Capital

Market Risk Sensitivity (before tax)			Interest Rate	Credit Spread	Equity Prices	Real Estate	Foreign Exchange
	IFRS-EU	CRR/CRD IV*	+100bp	+40bp	-10%	-10%	+10%
Capital elements							
Reserve							
Property revaluation reserve	●	●				-77	
Cash flow hedge reserve	●		-1,779				
Available-for-sale reserve							
– Debt securities	●	●	-472	-1,098			
– Equity securities	●	●			-392		-379
Currency translations reserve	●	●					-1,002
P&L							
All items impacting P&L, excluding DVA	●	●	-188	-43	-138	-4	-151
DVA own issued debt/structured notes	●			150			
DVA derivatives	●			31			-1
Impact on capital							
IFRS-EU Equity			-2,171	-961	-530	-82	-1,471
Common equity Tier 1 (CRR/CRD IV, fully loaded)			-634	-1,142	-530	-82	-1,470

* CRR/CRD IV on a fully loaded basis, no phase in assumed.
● Indicates the item has an impact on the capital as indicated in that column.

Revaluation Reserve Impact

The revaluation reserve for real estate, debt securities, equity securities and for currency translations will be part of CRR/CRD IV equity. The revaluation reserve for cash flow hedges will not be part of CRR/CRD IV equity. The interest rate sensitivity shown for debt securities is the unhedged interest rate sensitivity, i.e. debt securities in hedge accounting relations are excluded.

P&L Impact

Items on fair value which revalue through P&L, excluding debit valuation adjustments, impact IFRS-EU equity as well as CRR/CRD IV equity. Debit valuation adjustments of own issued debt only impacts IFRS-EU equity and not CRR/CRD IV equity. Debit valuation adjustments of derivatives will not be part of CRR/CRD IV equity.

Funding & liquidity risk

Funding and liquidity risk is the risk that ING Bank or one of its subsidiaries cannot meet its financial liabilities when they come due, at reasonable cost and in a timely manner.

As part of the liquidity buffer management, ING Bank monitors the existing asset encumbrance. Encumbered assets represent the on- and off-balance sheet assets that are pledged or used as collateral for ING Bank's liabilities. The presented templates of ING Bank's encumbered and unencumbered assets are based on the CRR (Part Eight) and the related guidance from the European Banking Authority (EBA).

In 2017, the median asset encumbrance ratio for ING Bank remained stable at 19% compared to 2016.

Asset encumbrance ING Bank

2017 median	Carrying amount of en-cumbered assets	Fair value of en-cumbered assets	Carrying amount of unen-cumbered assets	Fair value of unen-cumbered assets
Assets of ING Bank	101,262		760,587	
Equity instruments	5,782	5,782	10,277	10,277
Debt securities	10,872	10,889	83,056	83,016
Other assets	830		56,178	

Asset encumbrance ING Bank

2016 median	Carrying amount of en-cumbered assets	Fair value of en-cumbered assets	Carrying amount of unen-cumbered assets	Fair value of unen-cumbered assets
Assets of ING Bank	106,258		761,865	
Equity instruments	5,450	5,450	8,593	8,593
Debt securities	15,782	15,745	99,422	99,391
Other assets	706		73,546	

Collateral received ING Bank

2017 median	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
Collateral received by ING Bank	83,746	47,690
Equity instruments	11,428	7,410
Debt securities	72,318	40,280
Other collateral received		
Own debt securities issued other than own covered bonds or ABSs		

Collateral received ING Bank

2016 median	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
Collateral received by ING Bank	79,098	34,397
Equity instruments	12,339	3,357
Debt securities	66,759	30,920
Other collateral received		120
Own debt securities issued other than own covered bonds or ABSs		

Encumbered assets/collateral received and associated liabilities ING Bank

2017 median	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	123,783	158,621

Encumbered assets/collateral received and associated liabilities ING Bank		
2016 median	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs en-cumbered
Carrying amount of selected financial liabilities	116,394	162,319

Information on importance of encumbrance ING Bank
ING Bank manages it balance sheet whereby a variety of funding sources is readily available. Given this situation, the level of encumbrance of ING Bank's balance sheet is relatively low.
Encumbered assets on ING Bank's 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 collateralized deposits. Of the total encumbered assets of the Bank, EUR 77 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 Bank. The issued securitisations and especially the covered bonds have over collateralisation, meaning that the assets in the cover pool are higher than the issuance.
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.
The main part of ING Bank's repo- and reverse repo activities are short-term dated. Repo transactions are mostly conducted with securities which have been obtained as collateral in reverse repo transactions, which are not recognized on the balance sheet. Where securities recognized on the balance sheet have been used in a repo transaction, these remain recognized on the balance sheet and are reported as encumbered. Of the unencumbered other assets included in the table 'Assets', the vast majority of the assets is not available for encumbrance. This category comprises assets such as derivative receivables, tax assets, property and equipment, intangible assets and investments in associates and joint ventures.

To protect ING and its depositors against liquidity risks, ING maintains a liquidity buffer based on the Delegated Act 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.

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	2017	2016**
Business disruption and systems failures	1	1
Clients, products and business practices	164	10
Damage to physical assets	1	6
Employment practices and workplace safety	5	3
Execution, delivery and process management	15	59
External fraud	18	58
Internal fraud		3
Total	**204**	**140**

* Loss amounts for events with an individual loss ≥ €5,000.
** Due to recoveries and the development of loss amounts over time, the figures of previous years can be subject to change.

In 2017, 80% of the losses occurred in the risk category Clients, products and business practices. About a third of the loss in this category relates to events from activities discontinued in 2001. Another third stems from financial services conduct incidents and the remainder mainly arises from organisational conduct related issues.
In 2016, losses occurred mainly in the risk categories Execution, delivery and process management and External fraud. Over 50% of losses for Execution, delivery and process management were from multiple events in the home markets of the BeNeLux countries.

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 Whistleblower 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. 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	2017	2016
Breach of Orange code or unethical behaviour	19	37
Financial Economic Crime	1	
Fraud / Theft	9	3
Privacy or (client) confidentiality	3	3
Bribery / Corruption	1	5
Other breach of any external law / regulation	66	42
Retaliation	1	
Total	**100**	**90**

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, (2) changes in performance of financial markets, including developing markets, (3) potential consequences of European Union countries leaving the European Union or a break-up of the euro, (4) changes in the availability of, and costs associated with, sources of liquidity such as interbank funding, as well as conditions in the credit and capital markets generally, including changes in borrower and counterparty creditworthiness, (5) changes affecting interest rate levels, (6) changes affecting currency exchange rates, (7) changes in investor and customer behaviour, (8) changes in general competitive factors, (9) changes in laws and regulations and the interpretation and application thereof, (10) geopolitical risks and policies and actions of governmental and regulatory authorities, (11) changes in standards and interpretations under International Financial Reporting Standards (IFRS) and the application thereof, (12) conclusions with regard to purchase accounting assumptions and methodologies, and other changes in accounting assumptions and methodologies including changes in valuation of issued securities and credit market exposure, (13) changes in ownership that could affect the future availability to us of net operating loss, net capital and built-in loss carry forwards, (14) changes in credit ratings, (15) the outcome of current and future legal and regulatory proceedings, (16) ING's ability to achieve its strategy, including projected operational synergies and cost-saving programmes and (17) the other risks and uncertainties detailed in this 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. 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.

Projects related to the integration of Record Bank in Belgium are still subject to regulatory approval.

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