# Additional Pillar III information

amounts in millions of euros, unless stated otherwise

## Introduction

### Basis of disclosure

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

For both Capital Requirement and Asset Encumbrance, this Pillar III report provides information on ING Group level. The information on credit risk, counterparty credit risk, securitisations, market risk and non-financial risk focuses on ING Bank.

### Assurance/validity

The Pillar III disclosures have been subject to the ING Group's internal control assessments and validation mechanisms, to ensure compliance with laws and regulations. They have not been audited by ING Group's external auditors.

The Disclosure Committee (DC), responsible for all ING Group disclosures, assesses the accuracy of the content before reporting their conclusions to the Audit Committee (AC) who review the outcome and provide final approval. However, the ultimate authority for the preparation and disclosure of financial information is vested within the Executive Board. This process ensures that both Executive Board and Supervisory Board are given sufficient opportunity to review and challenge the Group's financial statements and other significant disclosures before they are made public. Stand-alone reports that are not published in the annual report require management (General Manager or Head of department involved) to seek appropriate verification and validation of the information.

### 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. For more information, please refer to the chapter 'Regulatory environment' in the Risk Management Paragraph.

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 about Supervisory review process, which requires banks to undertake an internal capital adequacy assessment process for risks not included in Pillar I, and Pillar III on Market discipline, requiring disclosures to allow investors and other market participants to understand the risk profiles of individual banks.

ING Group prepares the Pillar III report in accordance with the CRR and CRD IV as required by the supervisory authority. The ING Group's 'additional Pillar III information' 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, which are not included in the risk management section. Hence, the Pillar III section should be read in conjunction with the Risk Management and Capital Management sections of the annual accounts, which present a comprehensive discussion on both topics.

For the requirements related to CRR/CRD IV disclosures, a reference guide will be published on the corporate website ing.com. http://www.ing.com/About-us/Annual-Reporting-Suite.htm

The Pillar III report is published on an annual basis as part of the ING Group Annual Report. However, some capital requirements as laid down in Article 438 and, as well as information on risk exposure or other items prone to rapid change rapidly, are disclosed on a quarterly basis. Some ING Group's 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 in a two-phase programme. 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.

Additional Pillar III information - continued

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 first phase of the revised Pillar III framework (RPF) was introduces in January 2015 (BCBS 309), focussing on risk management and RWA, linkages between financial statements and regulatory exposures, Credit risk, counterparty credit risk, securitisation and market risk.

In March 2016, the Basel Committee issued a consultative paper for the second phase of the RPF, which suggested:

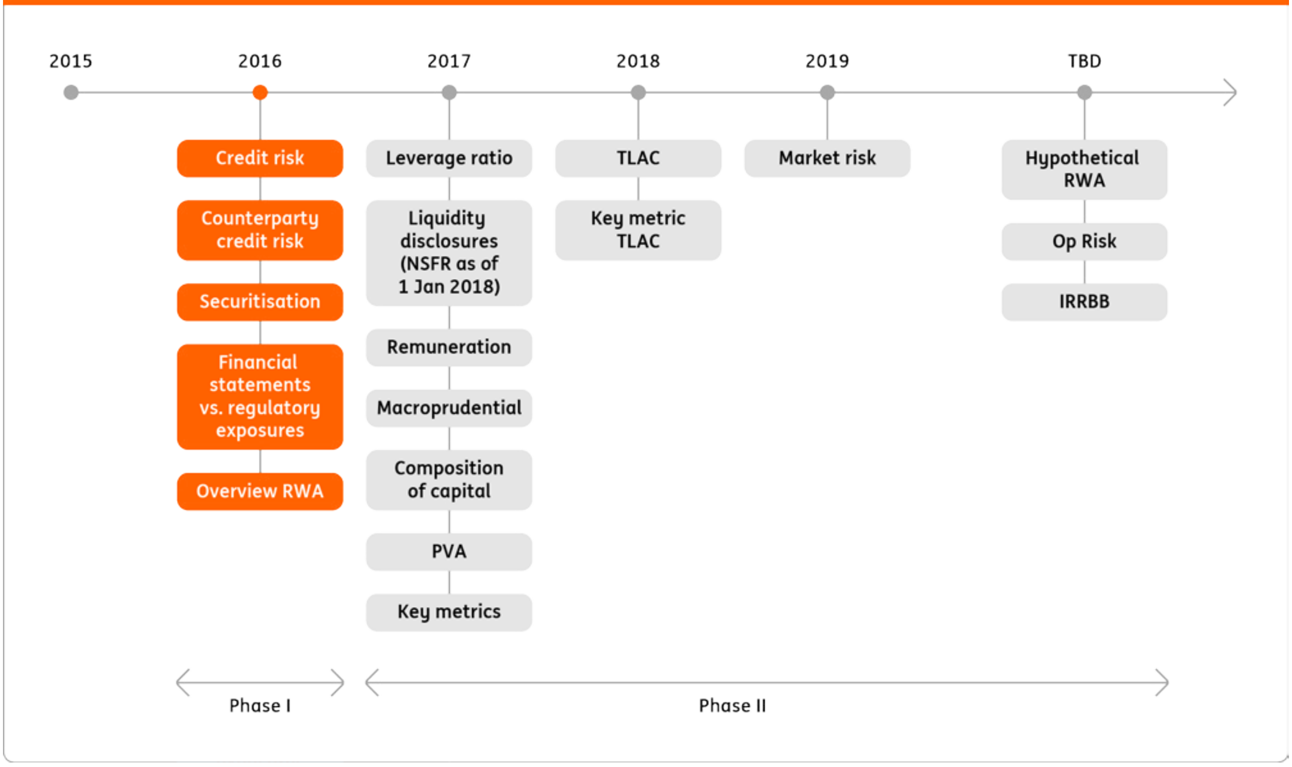
(i) further revision of the Phase I proposals, including the introduction of additional key regulatory metrics (when applicable) to a "dashboard", disclosure of 'hypothetical risk-weighted assets' calculated based on the standardised approach - to serve as a benchmark to RWA calculations using the internal ratings-based approach - and increased granularity for the disclosure of the Prudent Valuation Adjustment (PVA).

(ii) an inclusion of disclosure requirement resulting from other BCBS proposals, including addition of TLAC disclosure (via TLAC RWA and Leverage Ratio requirement and eligible instruments) to the regulatory capital disclosure requirements, revisions of operational risk disclosures to reflect the Standardised Measurement Approach (SMA), once finalised, revisions of market risk disclosures resulting from the Fundamental Review of the Trading Book (FRTB) and disclosure requirement described in the Interest Rate Risk in Banking Book (IRRBB) proposal.

(iii) the integration of other BCBS disclosure requirements into the Pillar III framework, which covers the disclosure requirements previously issued or announced by BCBS (i.e. G-SIB indicators, Countercyclical Capital Buffer, Leverage Ratio, LCR and NSFR)

The implementation date of the Phase 1 alterations is dependent on the expected finalisation of the underlying regulatory standards as displayed in the total overview of the RPF below.

**BCBS revised Pillar III disclosures – overview**




## European Regulation

In order to be legally binding, the RPF templates needed to be transposed for European institutions into EU requirements by EBA. Therefore, in June 2016, EBA issued a consultation paper on the guidelines on the CRR disclosure requirements covering Phase I of the BCBS Revised Pillar III Framework.

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

Furthermore, EBA proposed to postpone the implementation date to year-end 2017, rather than year-end 2016 as proposed by BCBS. However, G-SIBs like ING Group are required to disclose a subset composed of the amounts on risk exposures and minimum capital requirements per year-end 2016. 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 scope of the EBA guidelines corresponds almost fully with the first phase of the RPF, focusing on general disclosure requirements for risk management, credit risk, counterparty credit risk and market risk. The remaining requirements in Part Eight CRR are out of scope because either covered in the second phase of the BCBS Pillar III review or are covered via other regulations (Delegated Act, Implementation Technical Standards, etc.) that are already applicable**.**

**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 V and CRR II) 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. Also, a more proportionate disclosure regime has been proposed where the disclosures are adapted to the relevance of institutions with small (i.e. with assets below EUR 1.5 billion) and non-listed institutions subject to less extensive and less frequent disclosures. In the CRR II proposals, firms are classified into three categories (significant, small, and other) with a further distinction between listed and non-listed firms.

Further, the 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.

## Implementation
With the EBA guidelines being positioned as specifications of the existing CRR disclosure requirements, ING Group has opted for an early implementation of the EBA templates related to regulatory capital requirements, credit risk, counterparty credit risk and market risk. This early implementation provides us an opportunity to improve the transparency of the information published in the annual Pillar III report.

The table below “disclosure index” points out where one can find the EBA templates in the annual report:

**Disclosure index EBA guidelines**

| Type | ID | EBA description | Pages |
|---|---|---|---|
| Capital requirements | EU OV1 | Overview of RWAs | 370 |
| Credit risk and general information on CRM | EU CRB-B | Total and average net amount of exposures | 392 |
| | EU CRB-C | Geographical breakdown of exposures | 392 |
| | EU CRB-D | Concentration of exposures by industry or counterparty types | 394 |
| | EU CRB-E | Maturity of exposures | 395 |
| | EU CR1-A | Credit quality of exposures by exposure class and instrument | 402 |
| | EU CR1-B | Credit quality of exposures by industry or counterparty types | 403 |
| | EU CR1-C | Credit quality of exposures by geography | 403 |
| | EU CR1-D | Ageing of past-due exposures | 406 |
| | EU CR1-E | Non-performing and forborne exposures | 405 |
| | EU CR3 | Credit risk mitigation techniques – overview | 414 |
| Credit risk and CRM in the standardised approach | EU CR4 | Standardised approach – Credit risk exposure and CRM effects | 400 |
| | EU CR5 | Standardised approach | 401 |
| Credit risk and CRM in the IRB approach | EU CR6 | IRB approach – Credit risk exposures by exposure class and PD range | 396 |
| | EU CR9 | IRB approach – Backtesting of PD per exposure class | 398 – 399 |
| CCR | EU CCR1 | Analysis of CCR exposure by approach | 407 |
| | EU CCR8 | Exposures to CCPs | 411 |
| | EU CCR3 | Standardised approach – CCR exposures by regulatory portfolio and risk | 407 |
| | EU CCR4 | IRB approach – CCR exposures by portfolio and PD scale | 408 |
| | EU CCR5-A | Impact of netting and collateral held on exposure values | 410 |
| | EU CCR5-B | Composition of collateral for exposures to CCR | 410 |
| Market risk | EU MR1 | Market risk under the standardised approach | 303 |
| | EU MR2-A | Market risk under the IMA | 304 |
| | EU MR2-B | RWA flow statements of market risk exposures under an IMA | 421 |
| | EU MR3 | IMA values for trading portfolios | 303 |

### Public disclosure of return on assets
The CRD IV requires ING Group to disclose information on its return on assets. ING Group 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 2016, the underlying ROA was 0.58% (in 2015: 0.46%).

## 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 hybrid 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 2016 per type of risk and method of calculation. The largest part of the capital requirement relates to credit risk (82%), followed by operational risk with 13%, amounts below the threshold for deduction (which relates to equity in the banking book) 3% and market risk for 2% of the capital requirements.

Additional Pillar III information - continued

## EU OV1: ING Group Regulatory capital requirements

| | RWA | | Minimum capital requirements |
|---|---|---|---|
| amounts in EUR million | 2016 | 2015 | 2016 |
| **Credit risk (excluding counterparty credit risk) (CCR)** | **241,331** | **237,064** | **19,306** |
| Of which standardised approach (SA) | 24,731 | 22,368 | 1,978 |
| Of which internal rating-based (IRB) approach | 212,982 | 209,885 | 17,039 |
| Of which Equity IRB under the simple risk-weight or the internal models approach | 3,618 | 4,811 | 289 |
| **Counterparty credit risk (CCR)** | **14,714** | **17,927** | **1,177** |
| Of which Marked to market | | | - |
| Of which Original exposure | | | - |
| of which standardised approach for counterparty credit risk | 10,863 | 12,290 | 869 |
| of which internal model method (IMM) | | | - |
| Of which risk exposure amount for contributions to the default fund of a CCP | 279 | 633 | 22 |
| Of which CVA | 3,572 | 5,004 | 286 |
| **Settlement risk** | **-** | **-** | **-** |
| **Securitisation exposures in banking book (after cap)** | **842** | **1,904** | **67** |
| Of which IRB approach (RBA) | 842 | 1,904 | 67 |
| Of which IRB Supervisory Formula Approach (SFA) | - | - | - |
| Of which Internal assessment approach (IAA) | - | - | - |
| Of which Standardised approach (SA) | - | - | - |
| **Market risk** | **6,660** | **9,635** | **533** |
| Of which standardised approach (SA) | 1,081 | 1,328 | 87 |
| Of which internal model approaches (IMA) | 5,579 | 8,307 | 446 |
| **Large exposures** | **-** | **-** | **-** |
| **Operational risk** | **40,527** | **43,137** | **3,242** |
| Of which Basic Indicator Approach | - | - | - |
| Of which Standardised Approach | - | - | - |
| Of which Advanced Measurement Approach | 40,527 | 43,137 | 3,242 |
| **Amounts below the thresholds for deduction (subject to 250% risk weight)** | **10,251** | **11,469** | **820** |
| **Floor adjustment** | **0** | **0** | **0** |
| **Total** | **314,325** | **321,135** | **25,146** |

The decrease in CRR/CRDIV required regulatory capital was mainly caused by decreased capital requirements for counterparty credit risk, market risk and operational risk. This decrease was partly offset by increased credit risk capital requirements following from volume growth and model changes. The CRR/CRDIV requires banks to hold own funds of at least 80% of the old Basel I requirement, which was 8% of the RWAs as calculated using the Basel I methodology. This requirement remains at least until the end of 2017.

Additional Pillar III information - continued

**ING Group Regulatory Capital flow statement**

| | 2016 | | 2015 | |
|---|---|---|---|---|
| | 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 | 41,554 | 40,788 | 40,543 | 31,511 |
| Profit included in CET1 capital | 2,091 | 2,091 | 1,495 | 1,495 |
| Adjustment prudential filters own credit risk | 24 | 31 | -135 | -129 |
| Change in goodwill and intangibles | -284 | 58 | -302 | 88 |
| Change in revaluation reserves | 732 | -188 | 1,689 | 240 |
| Change in third party interest | 20 | 20 | 40 | 40 |
| Change in deductions significant investments in Financial Institutions | 558 | 1,389 | 4,073 | 12,714 |
| Other | -229 | 379 | -5,849 | -5,171 |
| Closing amount | **44,466** | **44,568** | **41,554** | **40,788** |
| | | | | |
| **Additional Tier 1 capital** | | | | |
| Opening amount | 4,858 | 6,574 | 0 | 5,727 |
| Change in AT 1 instruments | 1,132 | 1,132 | 847 | 847 |
| CRR/CRD IV phased-in adjustments (excl. significant investments in FIs) | 487 | | 575 | |
| Change in deductions significant investments in Financial Institutions | 419 | | 3,436 | |
| Closing amount | **6,897** | **7,706** | **4,858** | **6,574** |
| | | | | |
| **Tier 2 capital** | | | | |
| Opening amount | 7,912 | 8,672 | 3,291 | 9,474 |
| Change in T 2 instruments | 918 | 918 | -801 | -801 |
| CRR/CRD IV phased-in adjustments (excl. significant investments in FIs) | 145 | | 184 | |
| Change in deductions significant investments in Financial Institutions | 419 | | 5,239 | |
| Change minority interest | 7 | 7 | -1 | -1 |
| Closing amount | **9,402** | **9,597** | **7,912** | **8,672** |
| | | | | |
| **Total Regulatory Capital** | **60,765** | **61,871** | **54,324** | **56,034** |

## 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 2016 rules. This makes clear which items phase in directly, which phase in gradually.

ING Group'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 Group's phased-in (transitional) common equity Tier 1 ratio at year-end 2016 of 14.15% is well in excess of the 9.00% common equity Tier 1 requirement for ING Group in 2017. This requirement is the sum of (i) 4.5% Pillar 1 requirement (ii) 1.75% Pillar 2 requirement, being the European Central Bank's (ECB) decision on the 2016 Supervisory Review and Evaluation Process (SREP) (iii) the 1.25% capital conservation buffer and (iv) 1.5% for the Systemic Risk Buffer (SRB) which has been set separately for Dutch systemic banks by DNB as macro-prudential supervisor. The impact from countercyclical buffer requirements was insignificant in 2016. The fully loaded SRB requirement is currently set at 3% for ING Group and phases in over four years, with a final implementation date of 1 January 2019. With a 14.18% fully-loaded Group CET1 ratio as at 31 December 2016, ING is already in compliance with the current fully-loaded requirement that is expected to grow to 11.75% in 2019 .

Additional Pillar III information - continued

| ING Group Capital position | | | 2016 | | | 2015 |
|---|---|---|---|---|---|---|
| | 2016 rules (CRR/CRD IV phased in) | 2017 rules (CRR/CRD IV phased in) | 2019 rules (CRR/CRD IV fully loaded) | 2015 rules (CRR/CRD IV phased in) | 2016 rules (CRR/CRD IV phased in) | 2019 rules (CRR/CRD IV fully loaded) |
| **Shareholders' equity** | **49,793** | **49,793** | **49,793** | **47,832** | **47,832** | **47,832** |
| | | | | | | |
| **Regulatory adjustments:** | | | | | | |
| Minority interests, counting as Common equity Tier 1 | 326 | 326 | 326 | 305 | 305 | 305 |
| Goodwill and intangibles deducted from Tier 1[1] | -922 | -1,229 | -1,536 | -638 | -956 | -1,594 |
| Provision shortfall[2] | -584 | -779 | -974 | -454 | -681 | -1,135 |
| Revaluation reserve debt securities | -470 | -235 | | -758 | -505 | |
| Revaluation reserve equity securities | -1,063 | -531 | | -1,580 | -1,053 | |
| Revaluation reserve real estate | -81 | -41 | | -196 | -130 | |
| Revaluation reserve cash flow hedge | -777 | -777 | -777 | -666 | -666 | -666 |
| Prudent valuation adjustment | -49 | -49 | -49 | -91 | -91 | -91 |
| Investments >10% FI, exceeding 10% threshold | | | | -558 | -835 | -1,389 |
| excess AT1 deductions over AT1 | | | | | | |
| | | | | | | |
| **Prudential filters:** | | | | | | |
| Own credit risk | 127 | 127 | 127 | 89 | 89 | 89 |
| Defined benefit remeasurement (IAS19R) | 223 | 148 | | 244 | 184 | |
| Net defined benefit pension fund assets | -297 | -396 | -495 | -257 | -386 | -643 |
| Deferred tax assets | -95 | -127 | -159 | -113 | -169 | -282 |
| Own credit risk adjustments to derivatives (DVA) | -36 | -48 | -60 | -21 | -32 | -53 |
| Interim profit not included in CET1 capital | -1,629 | -1,629 | -1,629 | -1,586 | -1,586 | -1,586 |
| **Available capital - Common equity Tier 1** | **44,466** | **44,554** | **44,568** | **41,554** | **41,320** | **40,788** |
| | | | | | | |
| Subordinated loans qualifying as Tier 1 capital[3] | 7,706 | 7,706 | 7,706 | 6,574 | 6,574 | 6,574 |
| Deduction of goodwill and other intangibles[1] | -615 | -307 | | -956 | -638 | |
| Provision shortfall[2] | -195 | -97 | | -340 | -227 | |
| CRD-IV eligible Tier 1 Hybrids | | | | | | |
| Investments >10% FI, exceeding 10% threshold | | | | -419 | -278 | |
| Minority interests, counting as Additional Tier 1 capital | | | | | | |
| **Available capital - Tier 1** | **51,363** | **51,856** | **52,274** | **46,412** | **46,750** | **47,362** |
| | | | | | | |
| Supplementary capital - Tier 2[3] | 9,488 | 9,488 | 9,488 | 8,570 | 8,570 | 8,570 |
| Provision shortfall[2] | -195 | -97 | | -340 | -227 | |
| IRB excess provision | | | | | | |
| Investments >10 FIs, exceeding 10% threshold | | | | -419 | -278 | |
| Minority interests, counting as Tier 2 capital | 109 | 109 | 109 | 102 | 102 | 102 |
| Available Tier 3 funds | | | | | | |
| **BIS capital** | **60,765** | **61,355** | **61,871** | **54,325** | **54,916** | **56,034** |
| | | | | | | |
| **Risk-weighted assets** | **314,325** | **314,325** | **314,325** | **321,135** | **321,146** | **321,151** |
| | | | | | | |
| **Common Equity Tier 1 ratio** | **14.15%** | **14.17%** | **14.18%** | **12.94%** | **12.87%** | **12.70%** |
| **Tier 1 ratio** | **16.34%** | **16.50%** | **16.63%** | **14.45%** | **14.56%** | **14.75%** |
| **Total capital ratio** | **19.33%** | **19.52%** | **19.68%** | **16.92%** | **17.10%** | **17.45%** |

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.

## Own funds

The CRR requires ING Group to disclose information on own funds in a specific format that was provided in the EBA Implementation Technical Standards. The EBA templates Annex I, II and Annex VI are disclosed 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 Group's exposures in these countries relatively small, the resulting countercyclical buffer is small: 0.01% in 2016. 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 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Exposure value for SA | Exposure value for IRB | Sum of long and short positions of trading book exposures for SA | Value of trading book exposures for internal models | Exposure value for SA | Exposure value for IRB | of which: General credit exposures | of which: Trading book exposures | of which: Securitisation exposures | Total | Own funds requirements weights | Countercyclical capital buffer rate |
| Netherlands | 3,671 | 191,088 | 0 | 117 | 0 | 967 | 4,211 | 8 | 7 | **4,227** | 22.110% | - |
| Belgium | 855 | 81,241 | 0 | 0 | 0 | 0 | 2,573 | 0 | 0 | **2,573** | 13.460% | - |
| Germany | 254 | 90,653 | 0 | 38 | 0 | 784 | 1,994 | 3 | 41 | **2,037** | 10.656% | - |
| United States of America | 289 | 52,017 | 0 | 42 | 0 | 2,938 | 1,614 | 3 | 48 | **1,665** | 8.711% | - |
| Turkey | 10,899 | 4,636 | 0 | 79 | 0 | 0 | 1,018 | 6 | 0 | **1,024** | 5.356% | - |
| Poland | 8,106 | 11,097 | 0 | 5 | 0 | 0 | 980 | 0 | 0 | **980** | 5.128% | - |
| United Kingdom | 40 | 13,223 | 0 | 29 | 0 | 463 | 661 | 2 | 5 | **668** | 3.496% | - |
| Spain | 2,169 | 17,189 | 0 | 49 | 0 | 730 | 635 | 3 | 19 | **658** | 3.442% | - |
| France | 726 | 12,692 | 0 | 82 | 0 | 106 | 566 | 6 | 2 | **573** | 2.997% | - |
| Italy | 1,170 | 16,931 | 0 | 7 | 0 | 0 | 483 | 1 | 2 | **485** | 2.539% | - |
| Australia | 1,373 | 36,861 | 0 | 4 | 0 | 19 | 368 | 0 | 0 | **368** | 1.927% | - |
| Luxembourg | 144 | 11,853 | 0 | 28 | 0 | 773 | 342 | 2 | 6 | **350** | 1.831% | - |
| Russian Federation | 4 | 4,633 | 0 | 286 | 0 | 0 | 284 | 20 | 0 | **304** | 1.592% | - |
| Romania | 2,274 | 2,124 | 0 | 0 | 0 | 0 | 245 | 0 | 0 | **245** | 1.282% | - |
| Brazil | 0 | 2,236 | 0 | 0 | 0 | 0 | 227 | 0 | 0 | **227** | 1.186% | - |
| Switzerland | 0 | 8,619 | 0 | 0 | 0 | 0 | 198 | 0 | 0 | **198** | 1.037% | - |
| Hong Kong | 45 | 4,699 | 0 | 25 | 0 | 0 | 94 | 2 | 0 | **96** | 0.502% | 0.625% |
| Sweden | 0 | 1,816 | 0 | 30 | 0 | 0 | 68 | 2 | 0 | **70** | 0.364% | 1.500% |
| Norway | 0 | 2,796 | 0 | 11 | 0 | 0 | 37 | 1 | 0 | **37** | 0.195% | 1.500% |
| Total of other | 346 | 62,584 | 0 | 533 | 0 | 79 | 2,275 | 37 | 18 | **2,330** | 12.190% | - |
| **Total** | **32,365** | **628,989** | **0** | **1,367** | **0** | **6,858** | **18,873** | **95** | **148** | **19,117** | **100.000%** | **0.012%** |

### Amount of institution-specific CCyB

| | 2016 |
|---|---|
| Total RWA | 314,325 |
| Weighted countercyclical buffer rate | 0.01% |
| **Countercyclical buffer requirement** | **36.2** |

## Leverage ratio

The Leverage ratio is a CRR/CRD IV measure indicating the level of the Tier 1 Capital compared to the total exposure. Its aim is to assess the risk of excessive leverage of the institution. In line with the regulatory requirements, ING Group will use the specific EBA templates as basis for the presentation of its Leverage ratio. These EBA templates reflect the Leverage ratio as calculated under the Leverage ratio Delegated Act which was introduced in October 2014. The Final Draft Implementing Technical Standards (ITS) on disclosure of the leverage ratio have been approved by the European Commission and published in the EU Official Journal early 2016. The official reporting of the Delegated Act Leverage ratio to the ECB has commenced per September 2016. The fully loaded leverage ratio of ING Group based on the Delegated Act, and with notional cash pooling grossed is 4.8% at 31 December 2016.

Additional Pillar III information - continued

**Summary reconciliation of accounting assets and leverage ratio exposures**

| | | 2016 CRR/CRD IV phased in Applicable amounts | 2016 CRR/CRD IV fully loaded Applicable amounts | 2015 CRR/CRD IV phased in Applicable amounts | 2015 CRR/CRD IV fully loaded Applicable amounts |
|---|---|---|---|---|---|
| 1 | Total assets as per published financial statements | 845,081 | 845,081 | 841,769 | 841,769 |
| 2 | Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation | | | | |
| 3 | (Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 'CRR') | | | | |
| 4 | Adjustments for derivative financial instruments[1] | 376 | 376 | -140 | -140 |
| 5 | Adjustments for securities financing transactions 'SFTs' | 3,661 | 3,661 | 15,786 | 15,786 |
| 6 | Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures) | 71,623 | 71,623 | 69,093 | 69,093 |
| EU-6a | (Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013) | | | | |
| EU-6b | (Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013) | | | | |
| 7 | Other adjustments[1] | 172,269 | 173,180 | 145,010 | 146,666 |
| **8** | **Total leverage ratio exposure** | **1,093,011** | **1,093,922** | **1,071,518** | **1,073,174** |

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

Additional Pillar III information - continued

**Group leverage ratio common disclosure**

| | | 2016 CRR/CRD IV phased in CRR leverage ratio exposures | 2016 CRR/CRD IV fully loaded CRR leverage ratio exposures | 2015 CRR/CRD IV phased in CRR leverage ratio exposures | 2016 CRR/CRD IV fully loaded 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) | 929,981 | 929,981 | 898,179 | 898,179 |
| 2 | (Asset amounts deducted in determining Tier 1 capital) | -4,833 | -3,922 | -7,456 | -5,800 |
| **3** | **Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)** | **925,149** | **926,060** | **890,723** | **892,379** |
| **Derivative exposures** | | | | | |
| 4 | Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin) | 11,726 | 11,726 | 13,439 | 13,439 |
| 5 | Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method) | 27,031 | 27,031 | 25,575 | 25,575 |
| EU-5a | Exposure determined under Original Exposure Method | | | | |
| 6 | Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework | | | | |
| 7 | (Deductions of receivables assets for cash variation margin provided in derivatives transactions) | -10,579 | -10,579 | -11,800 | -11,800 |
| 8 | (Exempted CCP leg of client-cleared trade exposures) | | | -156 | -156 |
| 9 | Adjusted effective notional amount of written credit derivatives | 15,656 | 15,656 | 15,606 | 15,606 |
| 10 | (Adjusted effective notional offsets and add-on deductions for written credit derivatives) | -13,316 | -13,316 | -12,245 | -12,245 |
| **11** | **Total derivative exposures (sum of lines 4 to 10)** | **30,518** | **30,518** | **30,418** | **30,418** |
| **Securities financing transaction exposures** | | | | | |
| 12 | Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions | 81,569 | 81,569 | 88,067 | 88,067 |
| 13 | (Netted amounts of cash payables and cash receivables of gross SFT assets) | -19,509 | -19,509 | -22,569 | -22,569 |
| 14 | Counterparty credit risk exposure for SFT assets | 3,661 | 3,661 | 15,786 | 15,786 |
| EU-14a | Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013 | | | | |
| 15 | Agent transaction exposures | | | | |
| EU-15a | (Exempted CCP leg of client-cleared SFT exposure) | | | | |
| **16** | **Total securities financing transaction exposures (sum of lines 12 to 15a)** | **65,722** | **65,722** | **81,283** | **81,283** |
| **Other off-balance sheet exposures** | | | | | |
| 17 | Off-balance sheet exposures at gross notional amount | 217,943 | 217,943 | 210,856 | 210,856 |
| 18 | (Adjustments for conversion to credit equivalent amounts) | -146,320 | -146,320 | -141,762 | -141,762 |
| **19** | **Other off-balance sheet exposures (sum of lines 17 to 18)** | **71,623** | **71,623** | **69,093** | **69,093** |
| **Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)** | | | | | |
| EU-19a | (Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet)) | | | | |
| EU-19b | (Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet)) | | | | |
| **Capital and total exposures** | | | | | |
| 20 | Tier 1 capital[1] | 51,363 | 52,274 | 46,412 | 47,362 |
| **21** | **Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)** | **1,093,011** | **1,093,922** | **1,071,518** | **1,073,174** |
| **Leverage ratio** | | | | | |
| **22** | **Leverage ratio** | **4.7%** | **4.8%** | **4.3%** | **4.4%** |
| **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 |
| EU-24 | Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013 | | | | |

1 Please note that Tier 1 Capital per December 2016 includes grandfathered hybrids to an amount of EUR 4,654 million (2015: EUR 5,187 million)

Additional Pillar III information - continued

| 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 increase of qualifying Tier 1 capital as result of (a) the profit for 2016 that was included in CET1 capital, (b) AT1 issuance, (c) the divestment of both Voya Financial and NN Group leading to less deductions for significant investments in financial institutions and (d) changes in the revaluations reserves. |

## 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 2016, both the total RC and EC decreased compared to 2015. Both are well below the total amounts of available capital of EUR 53,646 million based on CRR/CRD IV phased-in rules. Details regarding the available capital can be found in the table "ING Group Regulatory Capital flow statement".

**Economic and Regulatory Capital by risk type**

| | Economic capital | | Regulatory capital | |
|---|---|---|---|---|
| | 2016 | 2015 | 2016 | 2015 |
| Credit risk | 18,820 | 20,057 | 21,192 | 21,234 |
| Market risk | 7,965 | 8,581 | 533 | 771 |
| Business risk | 3,160 | 2,571 | | |
| Operational risk | 4,465 | 4,748 | 3,242 | 3,451 |
| **Total banking operations** | **34,410** | **35,957** | **24,967** | **25,456** |

Additional Pillar III information - continued

**Economic and Regulatory Capital by business line combination**

| | Economic capital | | Regulatory capital | |
|---|---|---|---|---|
| | 2016 | 2015 | 2016 | 2015 |
| Wholesale Banking | 11,937 | 12,127 | 12,305 | 12,195 |
| Retail Benelux | 8,642 | 9,237 | 6,663 | 7,159 |
| Retail Challengers & Growth Markets | 10,620 | 10,729 | 5,820 | 5,886 |
| Corporate Line[1] | 3,210 | 3,864 | 179 | 216 |
| **Total banking operations** | **34,410** | **35,957** | **24,967** | **25,456** |

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 5.6 billion to EUR 28.8 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 2016, 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 2016, market risk economic capital decreased mainly caused by the sale of shares in Kotak Mahindra Bank and lower volatility in the time period used in the Historical Value-at-risk calculation for foreign exchange positions.
- 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.

## Credit Risk

### Basis and scope of presentation

In the credit risk section of Pillar III, data included in tables are related to ING Bank's credit risk resulting from Lending (both on- and off-balance); Securities Financing, Derivatives (collectively Counterparty Credit Risk); Money Market activities, and Investment Risks. Compared to the Pillar III section of 2015, new templates have been added in accordance with EBA Pillar III disclosure requirements. A separate section for counterparty risk has been added.

The amounts presented in this section relate to amounts used for Credit Risk Management purposes, which follow ING Bank'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.

Unless stated otherwise, the tables included in this section are based on the measurement of 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. Multiplying RWA by 8% will result in the level of Regulatory Capital (RC) for these portfolios (for the Credit Risk portion of the activities). This excludes all additional buffers. Figures for Derivatives and Securities Financing are based on the current exposure method, which generally 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 then further modified by an adjustment that is related to the underlying collateral (market) values (after a haircut is applied) and any legal netting or compensation that may be permitted under various master agreement arrangements such as International Swaps and Derivatives Association (ISDA master agreements and Credit Support Annexes (CSAs).

Additional Pillar III information - continued

Off-balance sheet exposures include letters of credit and guarantees, which are associated with the Lending Risk category. Additionally, off-balance sheet exposures include a portion of the unused limits, which is the unused portion of the limit between the moment of measurement and the theoretical moment of statistical default. Collectively, these amounts are called 'Credit Risk outstandings'.

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 activity or mark-to-market adjustments. These amounts are also considered to be 'Credit Risk outstandings'.

### Credit RWA Migration Analysis

The table below explains the changes in Credit RWA 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 Bank for the SA and AIRB portfolio including securitisations excluding equity and ONCOA. It does not include counterparty credit risk exposures under the Internal Model Method, because ING Bank does not have these exposures.

**Flow statement for Credit RWA**

| in EUR billion | 2016 | 2015 |
|---|---|---|
| Opening amount | 231.6 | 226.7 |
| Book size[1] | 9.2 | 7.6 |
| Divestments/De-consolidations | -0.5 | -1.5 |
| Book quality[2] | -9.8 | -8.4 |
| Model updates[3] | 13.0 | 5.6 |
| Methodology and policy[4] | 0.4 | -2.8 |
| Foreign exchange movements | 0.1 | 5.5 |
| Other | -2.3 | 0.4 |
| **Total Credit RWA movement excluding CVA RWA** | 10.1 | **6.3** |
| | | |
| CVA RWA movement | -1.4 | -1.4 |
| **Total Credit RWA movement** | 8.7 | **4.9** |
| | | |
| **Closing amount** | **240.3** | **231.6** |

Excluding equities and ONCOA.
1 Book size: organic changes in book size and composition (including new business and maturing loans).
2 Book quality: quality of book changes caused by experience such as underlying customer behaviour or demographics including changes to credit quality of portfolios.
3 Model updates: model implementation, change in model scope or any change to address model malfunctions including changes through model calibrations / realignments.
4 Methodology and policy: methodology changes to the calculations driven by internal changes in policy and regulatory policy changes.

## Key changes

Over the year 2016, credit RWA increased by EUR 8.7 billion to EUR 240.3.

- **Book size:** The increasing book size, excluding divestments, de-consolidations and FX fluctuations, led to EUR 9.2 billion higher RWA, mainly driven by the Wholesale Banking and Challenger & Growth portfolios. The growth in Challengers & Growth portfolios was partly due to organic growth and partly due to transfer of assets from Wholesale Banking to Germany. Mortgages also witnessed a growth in Germany, Australia, Poland and Spain, contributing to the growth of the Challenger & Growth portfolio. Within Wholesale Banking growth was seen in the Structured Finance book in Asia, Switzerland and Americas and the CFIL book in UK and BeLux. The reduction in the Dutch mortgage portfolio continued over 2016 contributing to reduced book size in the Market Leaders portfolio. Increase in mortgages in BeLux was more than compensated by the reduction in the Netherlands. Several smaller movements, both increases and decreases occurred in various portfolios throughout the year.
- **Divestments/ de-consolidations:** The periodic transfer of residential mortgages from WestlandUtrecht to NN Bank as a part of overall the strategy for WestlandUtrecht continued over 2016, further reducing RWA by EUR 0.5 billion.
- **Book quality:** The book quality improved reducing RWA by EUR 9.8 billion, largely due to the Dutch mortgages portfolio. The improved economic conditions especially with respect to house prices and employment in the Netherlands, accompanied with a more efficient arrears management has led to RWA reduction of EUR 2.9 billion in the mortgage portfolio. The Real Estate book showed signs of improvement in overall risk profile, helped by return to performing status of key clients and higher collateralisation which reduced RWA by EUR 1.4 billion. Similar Improvement in risk profile was also witnessed in other Corporate portfolios which further reduced RWA by EUR 2.1 billion. However, deteriorating conditions in Poland and Turkey led to a downgrade in ING rating of these countries and subsequently to an increase of more than EUR 0.5 billion in RWA.
- **EU Equivalence:** The EU equivalence rule used to be applicable to certain countries outside the EU that had supervisory and regulatory arrangements in place that are at least equivalent to those applied in the EU. As of March 31 2016, the 0% risk weight

will only apply to sovereigns that are part of the EU. Before the EU equivalence implementation ING did not take custormer type into account. From now on, EU equivalence and the resulting exposure class and correlation will be based on the combination of country and customer type. Due to this implementation, certain banks will be treated as Corporates, rather than Institutions.
- **Model updates:** Introduction of the Single Supervisory Mechanism of the ECB has led to a change in the implementation timelines. Model updates driven by regulatory guidance increased RWA by EUR 13.0 billion. An RWA add-on for the SME portfolios in the Netherlands and Belgium was implemented through LGD model updates which increased RWA by EUR 6.1 billion. Further RWA add-ons were implemented on Belgian mortgages and SBF portfolios through model updates, which increased RWA by EUR 1.9 billion. The RWA impact of all these add-ons were taken as an ONCOA item in 2015. For the LGD models for Project Finance and ING Direct Spain mortgages risk-weight multipliers were added to make the models more conservative increasing RWA by EUR 4.0 billion and EUR 0.7 billion, respectively. Next to these model updates, the model approach for the Dutch Healthcare portfolio changed from AIRB to SA which increased RWA by EUR 1.0 billion.
- **Methodology and policy:** Some larger and smaller changes resulted in an RWA increase of EUR 0.4 billion. The EUR 1.2 billion decrease was mainly due to the change in calculation for derivatives, counterparty credit risk methodology changes and reduction of the regulatory maturity. An RWA increase of EUR 1.4 billion was due to methodology updates on SME and EU equivalence identification implemented for regulatory compliance. The biggest impact was caused by the change in calculation for derivatives, several methodology changes for counterparty credit risk, and regulatory maturity reduced the RWA by EUR 1.2 billion. Another big impact was caused by the move of the Dutch Healthcare portfolio from IRB to SA approach which increased RWA by EUR 1.0 billion. Further increase in RWA of EUR 1.4 billion was due to methodology updates on SME and EU equivalence identification implemented for regulatory compliance. All in all, these changes and multiple other smaller changes resulted in an RWA increase of EUR 0.4 billion.
- **Foreign exchange movements:** FX rates fluctuated over quarters, but over the year FX movements had a small impact increasing RWA by EUR 0.1 billion. The appreciation of the US Dollar (3.0%) against the Euro increased RWA by EUR 1.6 billion, this was offset by the depreciation of the Turkish Lira (-14,5%) and the British Pound (-13.6%) decreasing RWA by EUR 1.0 billion and EUR 0.7 billion respectively.
- **CVA RWA:** RWA attributable to CVA capital movements decreased by EUR 1.4 billion over 2016, predominantly due to change in the calculation of pre-settlement exposure and regulatory maturity.
  **Other:** The remaining RWA decrease of EUR 2.3 billion was the result of multiple smaller changes. Improved and on-time handling of customer rating led to a decline of EUR 1.0 billion in RWA attributed to penalty ratings. Remainder of the RWA decreases stemmed from improvements in covers and provisions allocation.

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

## Credit risk approach

ING Bank uses two methods to calculate Regulatory Capital for Credit Risk within its portfolio: the Advanced Internal Rating Based (AIRB) approach and the Standardised Approach (SA). ING Bank does not use the Basel Foundation IRB Approach (FIRB) for any of its portfolios. This section is to be read in conjunction with the Risk Management paragraph of the Annual Report.

ING Bank applies the Advanced Internal Ratings Based (AIRB) approach on the majority of its significant portfolios that contain credit risk in accordance with the approvals granted by ECB and various local regulators, as required. 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 that is subject to the Standardised Approach (SA). The majority of SA portfolios at ING Bank relate to subsidiaries where the home regulator does not have a robust AIRB framework or requirement. Depending on the regulatory landscape, ING will continue to explore opportunities to transition additional portfolios from SA to AIRB.

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 of Pillar III.

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 Bank's counterparties increase, CVA will increase as well and ING Bank will incur a loss. ING Bank follows the standardised approach 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 Bank 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.

## Exposure classes

The Basel Accord has developed the concept of 'Exposure Classes'. These are essentially groupings of credit risks associated with a common obligor type or product type. For the AIRB and SA, most of the exposure classes have subcategories.

- **Central Governments & Central Banks** (hereafter **Sovereigns**) include Sovereign Government entities, Central Banks, CRR/CRD IV recognized Local / Regional Authorities and Public Sector entities as well as Supranational Organisations;
- **Institutions** include Commercial Banks and non-Bank Financial Institutions;
- **Corporates** include all legal entities, that are not considered to be Governments, Institutions or Retail; and
- **Retail** includes the following classes:
  - **Retail – Secured by immovable property non-SME** (hereafter **Secured by Residential Mortgages**) includes all retail loans which are covered by residential properties
  - **Retail – Secured by immovable property SME** (included in most tables with **Other Retail**) includes all retail loans which are covered by commercial properties.
  - **Retail Other** includes all other retail credit obligations related to Retail SMEs (such as partnerships and one-man businesses) and private individuals (such as consumer loans, car loans and credit cards). Under these exposure class definitions, it is possible for a private individual to be included under both Secured by Res. Mortgage and Retail Other.

In the table below, the CRR categories for the AIRB and SA approach are given and are mapped to the ING Bank exposure classes. The CRR is the translation of the Basel Accords into the European and national regulations.

| CRR exposure classes[1] | ING Bank exposure class classification |
|---|---|
| **AIRB** | |
| Central governments and central banks | Sovereigns |
| Institutions | Institutions |
| Corporates – Specialised lending | Corporates |
| Corporates – SME | Corporates |
| Corporates – Other | Corporates |
| Retail – Secured by immovable property SME | Other Retail |
| Retail – Secured by immovable property non-SME | Secured by Res. Mortgage |
| Retail – Other SME | Other Retail |
| Retail – Other non-SME | Other Retail |
| Securitisations | Securitisations |
| **SA** | |
| Central governments or central banks | Sovereigns |
| Regional governments or local authorities | Sovereigns |
| Public sector entities | Sovereigns |
| Multilateral development banks | Sovereigns |
| International organisations | Sovereigns |
| Institutions | Institutions |
| Corporates | Corporates |
| Retail | Other Retail |
| Exposures secured by mortgages on commercial immovable property | Secured by commercial real estate |
| Exposures secured by mortgages on residential property | Secured by residential property |
| Exposures in default | All [2] |

1 Exposure classes not applicable to ING are not listed in the table, and not taken up on the tables in the disclosures.
2 The SA exposure class 'Exposures in default' is mapped to the ING exposure class in which the exposure would have been if it was performing.

In the tables below an overall picture is given of the ING Bank portfolio per exposure class, after which a breakdown per exposure class is given segmented by geography, industry and maturity. The segmentation on Securitisations is provided in the Securitisation chapter. Compared to the Pillar III section of 2015, new templates have been added in accordance with EBA Pillar III disclosure requirements. A separate section for counterparty risk has been added. In some tables where a separation of actual AIRB and SA exposure classes is not provided, mapping of SA exposure classes presented in above tables has been used. This approach has been followed to preserve continuity with past annual disclosures.

## Credit risk exposure (based on internal exposure classes)

The table below shows the total READ and RWA for ING Bank by internal defined exposure types for both the SA and AIRB portfolio per exposure class for Lending, Investment and Money Market. Counterparty Credit Risk is included in the table.

Additional Pillar III information - continued

## Model approaches per exposure class

| | Sovereigns | | Institutions | | Corporate | | Secured by Res. Mortgage | | Other Retail | | Total 2016 | | Total 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | READ | RWA | READ | RWA | READ | RWA | READ | RWA | READ | RWA | READ | RWA | READ | RWA |
| **AIRB approach** | | | | | | | | | | | | | | |
| On-balance | 91,045 | 5,215 | 39,386 | 7,082 | 210,673 | 100,281 | 274,321 | 40,809 | 26,494 | 13,455 | 641,918 | 166,841 | 632,066 | 158,568 |
| Off-balance | 8,409 | 206 | 5,021 | 1,383 | 70,871 | 28,883 | 7,981 | 619 | 8,820 | 2,380 | 101,102 | 33,472 | 101,247 | 31,480 |
| Securities Financing | 191 | 5 | 11,265 | 831 | 2,818 | 310 | | | | | 14,275 | 1,146 | 15,741 | 1,503 |
| Derivatives | 2,259 | 272 | 30,384 | 3,424 | 11,207 | 5,486 | | | 24 | 11 | 43,874 | 9,192 | 45,094 | 10,415 |
| **Total AIRB** | 101,904 | 5,698 | 86,055 | 12,720 | 295,569 | 134,959 | 282,302 | 41,428 | 35,339 | 15,846 | 801,169 | 210,651 | 794,148 | 201,967 |
| | | | | | | | | | | | | | | |
| **SA approach** | | | | | | | | | | | | | | |
| On-balance | 2,464 | 2,181 | 2,222 | 484 | 10,853 | 9,084 | 7,775 | 3,412 | 9,618 | 6,673 | 32,931 | 21,834 | 30,460 | 19,824 |
| Off-balance | 0 | 0 | 11 | 7 | 1,399 | 1,287 | 83 | 63 | 2,097 | 1,540 | 3,590 | 2,897 | 3,270 | 2,544 |
| Securities Financing | | | | | 0 | 0 | | | | | 0 | 0 | 45 | 41 |
| Derivatives | | | 565 | 280 | 247 | 251 | | | 3 | 3 | 815 | 534 | 672 | 343 |
| **Total SA** | 2,464 | 2,181 | 2,797 | 771 | 12,499 | 10,622 | 7,858 | 3,475 | 11,718 | 8,216 | 37,337 | 25,265 | 34,447 | 22,752 |
| | | | | | | | | | | | | | | |
| **SEC AIRB** | | | | | | | | | | | | | | |
| On-balance | | | | | | | | | | | 6,097 | 755 | 6,854 | 1,780 |
| Off balance | | | | | | | | | | | 827 | 87 | 1,276 | 124 |
| **Total Sec IRB** | | | | | | | | | | | 6,924 | 842 | 8,130 | 1,904 |
| | | | | | | | | | | | | | | |
| **Total Bank** | **104,368** | **7,879** | **88,853** | **13,491** | **308,068** | **145,581** | **290,161** | **44,903** | **47,056** | **24,061** | **845,430** | **236,757** | **836,726** | **226,623** |
| | | | | | | | | | | | | | | |
| CVA (SA portfolio) | | | | 13 | | 0 | | | | | | 14 | | 20 |
| CVA (AIRB portfolio) | | 28 | | 2,973 | | 565 | | | | | | 3,567 | | 4,985 |
| **Total CVA** | | **28** | | **2,987** | | **566** | | | | | | **3,581** | | **5,005** |
| | | | | | | | | | | | | | | |
| **Total Bank including CVA** | **104,368** | **7,907** | **88,853** | **16,478** | **308,068** | **146,147** | **290,161** | **44,903** | **47,056** | **24,061** | **845,430** | **240,339** | **836,726** | **231,628** |

Excludes equities and ONCOA.
Default Fund Contribution to Central Clearing Parties is included under exposure classes Institutions and Corporate.

The ING Bank portfolio falls for 89% under the AIRB approach and for 11% under SA in terms of RWA (excl. CVA RWA). The total portfolio increased in 2016 by EUR 8.7 billion (2015: EUR 46.4 billion) in READ and also by EUR 8.7 billion (2015: EUR 4.9 billion) in RWA. The increase in READ was mainly a result of growth witnessed in the Wholesale Banking and Challenger & Growth portfolios while RWA growth was driven by implementation of model updates apart from the portfolio growth.

Improvements in risk profile were observed in the mortgages (especially in the Netherlands), Real Estate Finance and Corporate & FI Lending portfolios. These improvements were offset by deterioration of the credit quality of some specific portfolios, notably shipping, and the direct and indirect negative effects of continued low oil and other commodity prices. Despite the imbalances in emerging economies and financial markets which continued in 2016, ING's overall risk profile improved during the year leading to decline in RWA in the banking book. FX rates fluctuated over quarters, but over the year FX movements had a small impact in READ and RWA.

However, these declines were more than compensated by the various model updates in the Netherlands and Belgium. Also, some methodology changes implemented for regulatory compliance further contributed to the RWA increase. These two in total contributed to a relatively higher increase in RWA compared to READ.

SA portfolio increase over the year was mainly due to the shift of the Dutch Healthcare portfolio from AIRB to SA approach. In addition to this development, rating downgrades for Turkey and Poland contributed to a higher increase in RWA compared to READ since these two countries form majority of the SA portfolio.

Additional Pillar III information - continued

## Sovereigns credit risk disclosure

The table below presents the READ and RWA (excl. CVA RWA), segmented by relevant factors for the exposure class 'Sovereigns'. The figures per geography for each exposure class are based on the country of residence of the obligor.

**Sovereigns – credit risk disclosure in READ and RWA**

| | | READ | | | RWA | | |
|---|---|---|---|---|---|---|---|
| | | 2016 | 2015 | Change in % | 2016 | 2015 | Change in % |
| Sovereigns | **Total per rating** | **104,368** | 117,789 | **-11%** | **7,879** | 8,297 | **-5%** |
| | Performing | **104,368** | 117,771 | **-11%** | **7,879** | 8,229 | **-4%** |
| | Non-performing | **0** | 18 | **-100%** | **0** | 68 | **-100%** |
| | | | 0 | | | 0 | |
| Sovereigns | **Geography/business units** | **104,368** | 117,789 | **-11%** | **7,879** | 8,297 | **-5%** |
| | Africa | **560** | 313 | **79%** | **58** | 180 | **-67%** |
| | America | **5,159** | 3,490 | **48%** | **586** | 18 | **3092%** |
| | Asia | **4,242** | 6,868 | **-38%** | **327** | 428 | **-23%** |
| | Australia | **2,679** | 3,061 | **-12%** | **166** | 0 | **0%** |
| | Europe | **91,729** | 104,057 | **-12%** | **6,741** | 7,671 | **-12%** |
| | | | 0 | | | 0 | |
| Sovereigns | **Europe** | **91,729** | 104,057 | **-12%** | **6,741** | 7,671 | **-12%** |
| | Netherlands | **17,590** | 25,205 | **-30%** | **233** | 224 | **4%** |
| | Belgium | **14,658** | 14,691 | **0%** | **158** | 147 | **8%** |
| | Germany | **22,889** | 24,364 | **-6%** | **0** | 64 | **-100%** |
| | Other Europe | **36,591** | 39,797 | **-8%** | **6,350** | 7,236 | **-12%** |
| | | | 0 | | | 0 | |
| Sovereigns | **Product Type** | **104,368** | 117,789 | **-11%** | **7,879** | 8,297 | **-5%** |
| | Bond Investments | **67,823** | 70,427 | **-4%** | **4,337** | 4,373 | **-1%** |
| | Revolving | **13,705** | 23,983 | **-43%** | **624** | 776 | **-20%** |
| | Money Market | **15,644** | 15,128 | **3%** | **2,306** | 2,270 | **2%** |
| | Term Loans | **4,582** | 4,414 | **4%** | **306** | 390 | **-21%** |
| | Derivatives | **2,259** | 2,229 | **1%** | **272** | 262 | **4%** |
| | Other | **355** | 1,609 | **-78%** | **34** | 225 | **-85%** |
| | | | | | | | |
| Sovereigns | **PD Bands** | **104,368** | 117,789 | **-11%** | **7,879** | 8,297 | **-5%** |
| | <0.05% | **84,277** | 91,755 | **-8%** | **1,036** | 283 | **266%** |
| | 0.05% to 0.5% | **19,195** | 25,532 | **-25%** | **6,141** | 7,385 | **-17%** |
| | 0.5% to 5% | **451** | 276 | **63%** | **49** | 195 | **-75%** |
| | 5% to 10% | **438** | 63 | **594%** | **643** | 10 | **6346%** |
| | 10% to 20% | **8** | 43 | **-82%** | **9** | 30 | **-69%** |
| | 20% to 50% | **0** | 103 | **-100%** | **0** | 325 | **-100%** |
| | more than 50% | **0** | 18 | **-100%** | **0** | 68 | **-100%** |
| | | | | | | | |
| Sovereigns | **LGD Bands** | **104,368** | 117,789 | **-11%** | **7,879** | 8,297 | **-5%** |
| | <10% | **1,519** | 1,107 | **37%** | **69** | 41 | **70%** |
| | 10% to 20% | **628** | 715 | **-12%** | **72** | 42 | **73%** |
| | 20% to 30% | **3,708** | 3,436 | **8%** | **8** | 15 | **-49%** |
| | 30% to 40% | **95,038** | 106,644 | **-11%** | **5,794** | 5,241 | **11%** |
| | 40% to 50% | **3,200** | 5,689 | **-44%** | **1,325** | 2,443 | **-46%** |
| | 50% to 60% | **-** | - | **-** | **-** | - | **-** |
| | more than 60% | **274** | 197 | **39%** | **611** | 515 | **19%** |

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

The majority of the sovereign exposure comprises of investments in bonds issued by European sovereigns. Next to Germany, the Netherlands and Belgium a large part of sovereign exposure is observed in Poland, Luxembourg and France. The main driver for the READ decrease in the Netherlands was a decline in the central bank deposits of EUR 7.4 billion) at the Dutch Central Bank (also visible in the <0.05% PD bucket), which carries a 0% risk weight therefore not impacting the RWA.

The main driver for the RWA increase in America (EUR 0.6 billion) and Australia (EUR 0.2 billion) was the implementation of the EU equivalence regulation, which asserts that a 0% risk weight no longer applies to sovereigns outside the EU that have supervisory and regulatory arrangements in place that are at least equivalent to those applied in the EU.

Given that a major purpose of sovereign credit exposure is to support high quality liquid assets, it is consistent that most exposures are in the best quality risk bands. Due to the sovereign rating upgrade for Ukraine the exposure moved from the 20% to 50% bucket to the 5% to 10% PD Band bucket. Exposures in Ukraine increased during the year increasing the 5% to 10% PD Band bucket further.

The declined RWA in the 0.05% to 0.5% PD Band bucket is mainly attributable to the Government of the Republic of Italy (EUR 1.2 billion RWA) and Bank of Japan (EUR 0.2 billion RWA), which was driven by a decrease in READ (EUR 2.6 billion and EUR 3.4 respectively).

### Institutions credit risk disclosure

The table below presents the READ and RWA (excl. CVA RWA), segmented by relevant factors for the exposure class 'Institutions'. The figures per geography for each exposure class are based on the country of residence of the obligor.

**Institutions – credit risk disclosure in READ and RWA**

| | | | | READ | | | RWA |
|---|---|---|---|---|---|---|---|
| | | 2016 | 2015 | Delta % | 2016 | 2015 | Delta % |
| Institutions | **Total per rating** | **88,853** | 107,372 | -17% | **13,491** | 20,683 | -35% |
| | Performing | **88,530** | 107,017 | -17% | **13,483** | 20,477 | -34% |
| | Non-performing | **323** | 354 | -9% | **8** | 206 | -96% |
| | | | | | | | |
| Institutions | **Geography/business units** | **88,853** | 107,372 | -17% | **13,491** | 20,683 | -35% |
| | Africa | **126** | 435 | -71% | **79** | 515 | -85% |
| | America | **14,334** | 17,701 | -19% | **2,202** | 3,249 | -32% |
| | Asia | **9,045** | 12,274 | -26% | **1,640** | 2,878 | -43% |
| | Australia | **1,730** | 1,495 | 16% | **236** | 216 | 9% |
| | Europe | **63,618** | 75,466 | -16% | **9,334** | 13,827 | -32% |
| | | | | | | | |
| Institutions | **Europe** | **63,618** | 75,466 | -16% | **9,334** | 13,827 | -32% |
| | Netherlands | **7,317** | 7,845 | -7% | **1,252** | 1,775 | -29% |
| | Belgium | **9,107** | 8,601 | 6% | **1,734** | 1,667 | 4% |
| | Germany | **2,072** | 3,259 | -36% | **303** | 430 | -30% |
| | Other Europe | **45,122** | 55,761 | -19% | **6,046** | 9,955 | -39% |
| | | | | | | | |
| Institutions | **Product Type** | **88,853** | 107,372 | -17% | **13,491** | 20,683 | -35% |
| | Derivatives | **29,579** | 32,056 | -8% | **3,531** | 5,371 | -34% |
| | Bond Investments | **15,027** | 18,645 | -19% | **1,273** | 1,623 | -22% |
| | Revolving | **11,678** | 18,144 | -36% | **2,877** | 4,575 | -37% |
| | Securities Financing | **11,017** | 13,113 | -16% | **779** | 1,387 | -44% |
| | Term Loans | **12,952** | 13,794 | -6% | **3,276** | 4,200 | -22% |
| | Other | **8,601** | 11,620 | -26% | **1,755** | 3,526 | -50% |
| | | | | | | | |
| Institutions | **PD Bands** | **88,853** | 107,372 | -17% | **13,491** | 20,683 | -35% |
| | <0.05% | **19,296** | 17,386 | 11% | **2,396** | 2,346 | 2% |
| | 0.05% to 0.5% | **64,487** | 84,313 | -24% | **8,884** | 15,367 | -42% |
| | 0.5% to 5% | **4,647** | 4,987 | -7% | **2,097** | 2,393 | -12% |
| | 5% to 10% | **11** | 91 | -88% | **12** | 67 | -83% |
| | 10% to 20% | **82** | 137 | -40% | **92** | 262 | -65% |
| | 20% to 50% | **7** | 104 | -93% | **3** | 43 | -92% |
| | more than 50% | **323** | 354 | -9% | **8** | 206 | -96% |
| | | | | | | | |
| Institutions | **LGD Bands** | **88,853** | 107,372 | -17% | **13,491** | 20,683 | -35% |
| | <10% | **23,745** | 26,663 | -11% | **1,211** | 1,534 | -21% |
| | 10% to 20% | **7,005** | 9,584 | -27% | **843** | 1,346 | -37% |
| | 20% to 30% | **3,205** | 6,012 | -47% | **608** | 1,372 | -56% |
| | 30% to 40% | **52,959** | 55,941 | -5% | **9,373** | 11,058 | -15% |
| | 40% to 50% | **71** | 276 | -74% | **53** | 195 | -73% |
| | 50% to 60% | **1,226** | 5,147 | -76% | **772** | 3,037 | -75% |
| | more than 60% | **641** | 3,748 | -83% | **631** | 2,142 | -71% |

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

The decrease in READ was mainly driven by the implementation of the EU equivalence regulation, which shifted EUR 15.0 billion READ and EUR 5.9 billion RWA from exposure class Institutions to Corporates. Under this change, the resulting exposure class and correlation will be determined by the country and customer type, meaning that some banks will be treated as Corporates rather than Institutions. The shift was witnessed across the geographies within this portfolio. The biggest impact of this change in absolute numbers was witnessed in America, Asia and Other Europe and in the 50%-60% LGD band.

Additionally, the READ decrease was driven by a decline in revolving loans and bond investments, which was spread over several countries. As Turkey and Russia carry a relatively high risk weight, the volume decrease of the revolving loans portfolio in both countries impacted RWA considerably, while the volume decreases in the Netherlands, US and China impacted RWA to a lesser extent, due to their relatively low risk weight. The decrease in bond investments is mainly witnessed in Spain and Norway.

The READ and RWA decrease in the more than 60% bucket is mainly driven by reduced nostro exposure in Switzerland.

Additional Pillar III information - continued

## Corporate credit risk disclosure

The table below presents the READ and RWA (excl. CVA RWA), segmented by relevant factors for the exposure class 'Corporates'. The figures per geography for each exposure class are based on the country of residence of the obligor.
The Industry breakdown for this table is based on the NAICS system (North American Industry Classification System).

**Corporates – credit risk disclosure in READ and RWA**

| | | | | READ | | | RWA |
|---|---|---|---|---|---|---|---|
| | | 2016 | 2015 | Delta % | 2016 | 2015 | Delta % |
| Corporate | **Total per rating** | 308,068 | 269,558 | 14% | 145,581 | 125,091 | 16% |
| | Performing | 300,022 | 261,661 | 15% | 134,429 | 114,457 | 17% |
| | Impaired/Non-performing | 8,046 | 7,897 | 2% | 11,152 | 10,634 | 5% |
| | | | | | | | |
| Corporate | **Geography/business units** | 308,068 | 269,558 | 14% | 145,581 | 125,091 | 16% |
| | Africa | 2,553 | 1,654 | 54% | 1,735 | 1,007 | 72% |
| | America | 48,956 | 39,936 | 23% | 24,362 | 19,191 | 27% |
| | Asia | 35,151 | 25,601 | 37% | 11,392 | 8,044 | 42% |
| | Australia | 5,520 | 4,083 | 35% | 2,171 | 1,556 | 39% |
| | Europe | 215,890 | 198,284 | 9% | 105,922 | 95,292 | 11% |
| | | | | | | | |
| Corporate | **Europe** | 215,890 | 198,284 | 9% | 105,922 | 95,292 | 11% |
| | Netherlands | 57,366 | 54,324 | 6% | 28,669 | 26,228 | 9% |
| | Belgium | 38,697 | 39,083 | -1% | 20,051 | 15,476 | 30% |
| | Germany | 9,432 | 8,284 | 14% | 3,552 | 3,100 | 15% |
| | Rest of Europe | 110,395 | 96,593 | 14% | 53,650 | 50,488 | 6% |
| | | | | | | | |
| Corporate | **Industry** | 308,068 | 269,558 | 14% | 145,581 | 125,091 | 16% |
| | Natural Resources | 54,572 | 48,089 | 14% | 23,672 | 19,157 | 24% |
| | Real Estate | 48,473 | 43,999 | 10% | 16,627 | 17,676 | -6% |
| | Transportation & Logistics | 32,317 | 30,377 | 6% | 13,951 | 12,897 | 8% |
| | Food, Beverages & Personal Care | 22,448 | 24,600 | -9% | 11,846 | 11,509 | 3% |
| | Services | 20,633 | 18,189 | 13% | 13,644 | 10,435 | 31% |
| | Other | 129,626 | 104,306 | 24% | 65,842 | 53,417 | 23% |
| | | | | | | | |
| Corporate | **PD Bands** | 308,068 | 269,558 | 14% | 145,581 | 125,091 | 16% |
| | <0.05% | 10,997 | 9,058 | 21% | 1,499 | 1,239 | 21% |
| | 0.05% to 0.5% | 183,109 | 158,886 | 15% | 58,113 | 49,792 | 17% |
| | 0.5% to 5% | 94,849 | 83,802 | 13% | 62,505 | 50,991 | 23% |
| | 5% to 10% | 4,075 | 3,049 | 34% | 3,757 | 2,877 | 31% |
| | 10% to 20% | 2,736 | 3,176 | -14% | 3,285 | 4,335 | -24% |
| | 20% to 50% | 4,256 | 3,690 | 15% | 5,271 | 5,222 | 1% |
| | more than 50% | 8,046 | 7,897 | 2% | 11,152 | 10,634 | 5% |
| | | | | | | | |
| Corporate | **LGD Bands** | 308,068 | 269,558 | 14% | 145,581 | 125,091 | 16% |
| | <10% | 79,490 | 66,795 | 19% | 6,732 | 4,889 | 38% |
| | 10% to 20% | 32,219 | 38,908 | -17% | 11,264 | 12,812 | -12% |
| | 20% to 30% | 54,954 | 43,457 | 27% | 23,332 | 16,322 | 43% |
| | 30% to 40% | 74,699 | 59,761 | 25% | 40,188 | 31,314 | 28% |
| | 40% to 50% | 41,385 | 38,953 | 6% | 33,683 | 33,286 | 1% |
| | 50% to 60% | 12,980 | 9,642 | 35% | 13,141 | 10,039 | 31% |
| | more than 60% | 12,340 | 12,042 | 3% | 17,240 | 16,429 | 5% |

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

The increase in READ is mainly attributed to growth observed in the Structured Finance, Corporate & FI Lending, and Real Estate Finance portfolios. During the year, risk weights improved for these portfolios, partially due to increased provisions, restructuring and increased collateral.

A driver for both the READ and RWA increase is the implementation of the EU Equivalence regulation. Under this regulation, EUR 15.0 billion READ and EUR 5.9 billion RWA shifted from exposure class Institutions to exposure class Corporates.
The methodology update on SME clients also contributed to an increase in READ and RWA. Due to this change, EUR 3.7 billion in READ and EUR 1.6 billion in RWA shifted from Retail exposure class to Corporate exposure class. Besides this, an additional stand-alone increase of EUR 0.9 billion in RWA has been observed within the Corporate exposure class, which is not related to the methodology update on SME clients or the implementation of the EU Equivalence regulation.

The Natural Resources portfolio shows a deterioration in risk profile due to the difficulties faced by the Oil and Gas sector. This deterioration impacted RWA mainly in the Netherlands, United Kingdom, Switzerland, United States, and the Republic of Korea. The exposures in Africa are mainly in Structured Finance.

In addition, model updates and changes in methodology and policy further increased RWA by EUR 11.1 billion. An 35% LGD add-on for the SME Belgium and SME Netherlands LGD models was implemented, increasing RWA by EUR 6.1 billion. Furthermore the Project Finance LGD model was updated, increasing RWA by EUR 4.0 billion. In addition to these model related impacts the Dutch Healthcare portfolio was moved from AIRB approach to SA approach, increasing RWA by EUR 1.0 billion in the Netherlands.

## Retail credit risk disclosure

The table below presents the READ and RWA (excl. CVA RWA), segmented by relevant factors for the exposure class 'Retail'. The figures per geography for each exposure class are based on the country of residence of the obligor.

**Retail – credit risk disclosure in READ and RWA**

| | | | | READ | | | RWA |
|---|---|---|---|---|---|---|---|
| | | 2016 | 2015 | Delta % | 2016 | 2015 | Delta % |
| Retail | **Total per rating** | **337,217** | 333,876 | 1% | **68,964** | 70,647 | -2% |
| | Performing | **332,193** | 327,116 | 2% | **62,570** | 62,297 | 0% |
| | Impaired/Non-performing | **5,024** | 6,760 | -26% | **6,394** | 8,351 | -23% |
| | | | | | | | |
| Retail | **Customer Segment** | **337,217** | 333,876 | 1% | **68,964** | 70,647 | -2% |
| | Private Persons | **315,311** | 308,145 | 2% | **60,270** | 59,982 | 0% |
| | Small Mid-sized Enterprises | **17,638** | 19,377 | -9% | **7,606** | 8,769 | -13% |
| | Private Banking | **3,112** | 3,683 | -16% | **702** | 910 | -23% |
| | Other | **1,156** | 2,671 | -57% | **387** | 986 | -61% |
| | | | | | | | |
| Retail | **Geography/business units** | **337,217** | 333,876 | 1% | **68,964** | 70,647 | -2% |
| | Africa | **55** | 88 | -38% | **14** | 16 | -12% |
| | America | **166** | 249 | -33% | **45** | 85 | -47% |
| | Asia | **118** | 171 | -31% | **20** | 26 | -22% |
| | Australia | **32,948** | 29,834 | 10% | **2,116** | 2,011 | 5% |
| | Europe | **303,929** | 303,534 | 0% | **66,769** | 68,509 | -3% |
| | | | | | | | |
| Retail | **Europe** | **303,929** | 303,534 | 0% | **66,769** | 68,509 | -3% |
| | Netherlands | **135,611** | 142,607 | -5% | **20,635** | 26,242 | -21% |
| | Belgium | **43,535** | 42,660 | 2% | **10,259** | 8,284 | 24% |
| | Germany | **81,356** | 77,107 | 6% | **20,920** | 19,772 | 6% |
| | Rest of Europe | **43,428** | 41,160 | 6% | **14,955** | 14,211 | 5% |
| | | | | | | | |
| Retail | **PD Bands** | **337,217** | 333,876 | 1% | **68,964** | 70,647 | -2% |
| | <0.05% | **28,159** | 25,288 | 11% | **1,773** | 1,521 | 17% |
| | 0.05% to 0.5% | **217,248** | 206,862 | 5% | **22,646** | 20,853 | 9% |
| | 0.5% to 5% | **77,923** | 85,664 | -9% | **29,472** | 30,734 | -4% |
| | 5% to 10% | **3,253** | 3,215 | 1% | **2,870** | 2,796 | 3% |
| | 10% to 20% | **3,458** | 3,599 | -4% | **3,394** | 3,679 | -8% |
| | 20% to 50% | **1,951** | 2,084 | -6% | **2,293** | 2,480 | -8% |
| | more than 50% | **5,225** | 7,164 | -27% | **6,516** | 8,584 | -24% |
| | | | | | | | |
| Retail | **LGD Bands** | **337,217** | 333,876 | 1% | **68,964** | 70,647 | -2% |
| | <10% | **116,023** | 108,381 | 7% | **6,547** | 5,362 | 22% |
| | 10% to 20% | **109,066** | 109,392 | 0% | **17,144** | 17,784 | -4% |
| | 20% to 30% | **23,469** | 34,637 | -32% | **5,880** | 9,816 | -40% |
| | 30% to 40% | **20,893** | 23,761 | -12% | **6,220** | 6,117 | 2% |
| | 40% to 50% | **18,623** | 15,732 | 18% | **6,782** | 6,319 | 7% |
| | 50% to 60% | **17,129** | 12,446 | 38% | **7,371** | 6,745 | 9% |
| | more than 60% | **32,013** | 29,527 | 8% | **19,022** | 18,503 | 3% |

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

The decrease in RWA is mainly due to an improved risk profile, also observed in decreasing non-performing loans. The improving Dutch economy resulted in lower RWAs for mortgages. Furthermore the decline in READ in the Dutch portfolio was caused by the continued transfer of Westland Utrecht Bank (WUB) mortgages to NN Group and the run-off in the WUB mortgages portfolio.

Due to the methodology update on SME clients a shift of EUR 3.7 billion in READ and EUR 1.6 billion in RWA from Retail exposure class to Corporate exposure class is observed. The decreases were offset by model updates for Belgium mortgages, increasing RWA by EUR 1.9 billion. This was mainly caused by the implemented macro-prudential add-on for Belgium mortgages Additionally, growth in the residential mortgages portfolio, mainly observed in Germany, Australia, and Poland, increased RWA by an additional EUR 0.9 billion RWA. The increase of RWA in the Rest of Europe bucket is mainly a result of the ING Direct Spain mortgage LGD model update, increasing RWA by EUR 0.7 billion.

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

**Loan-to-Value Residential Mortgages per country**

| | | 2016 | | 2015 |
|---|---|---|---|---|
| | LTV | READ | LTV | READ |
| Netherlands | 78% | 124,368 | 83% | 129,814 |
| Germany | 70% | 72,671 | 70% | 69,967 |
| Belgium, Luxembourg | 64% | 32,395 | 72% | 30,760 |
| Australia | 61% | 32,901 | 62% | 29,875 |
| Spain | 62% | 11,750 | 64% | 10,453 |
| Italy | 58% | 8,220 | 59% | 7,673 |
| Poland | 62% | 5,325 | 61% | 4,626 |
| Turkey | 57% | 1,357 | 57% | 1,472 |
| Romania | 69% | 1,173 | 68% | 871 |
| Total | 71% | 290,161 | 74% | 285,510 |

The improvement of the LTV ratio is mainly caused by improved housing markets in the Benelux region. The economic environment and the housing market in the Netherlands continued to improve in 2016. The average Dutch house price increased from EUR 227,000 in December 2015 to EUR 236,000 in December 2016, which led to an improved LTV through indexation. The LTV in Belgium improved due to the change in the LTV calculation, which now takes indexation into account instead of LTV at origination. The improvement in LTV in Spain is also attributable to the improved housing market, which is again reflected through indexation. The increased READ change was due to growth in mortgage portfolios mainly in Australia, Germany, Poland, Spain, and Italy, which was offset by decreased exposures in the Netherlands.

## AIRB models per exposure class
Within ING Bank internal Basel models are used to determine the PD, EAD and LGD for regulatory and economic capital. Bank wide, ING Bank has implemented over 80 models, including various sub models for specific portfolios. A model may be applicable for various exposure classes. In the table below, the number of significant PD, EAD, and LGD models per asset class are shown. Additionally a description of the model and methodology are provided per exposure class. The asset classes presented in this table do not align with the EBA Exposure classes as the scope has been redefined to better fit the scope of the model. SME exposure for example can be part of both Corporate exposures as Other Retail depending on the size of the SME.

Additional Pillar III information - continued

## AIRB models and methodology

| Asset classes measured in EUR billion | READ for associated Asset class | % of Total EAD | RWAs for associated Asset class | % of Total RWA | Model Type | Number of significant models | Model description and methodology | Number of years of data |
|---|---|---|---|---|---|---|---|---|
| Sovereigns | 95.62 | 11.8% | 5.32 | 2.5% | PD | 1 | The Government Central PD model is a fully statistical model, containing only quantitative risk drivers. | >7 years |
| | | | | | LGD | 1 | The LGD model for Sovereigns and other governments is an unsecured recovery model built on assessment of structural factors that influence a country's performance. | >7 years |
| | | | | | EAD | 1 | The Low Default EAD model is a hybrid model that pools default information from multiple low default portfolios, including central governments and central banks. | >7 years |
| Government related entities | 12.84 | 1.6% | 2.35 | 1.1% | PD | 1 | The government related entities PD model is expert based and assigns ratings based on stand-alone credit fundamentals as well as degree of government support. | >7 years |
| | | | | | LGD | 1 | The LGD model for Government related entities is a secured/unsecured recovery model built on assessment of stand-alone fundamentals as well as geography. | >7 years |
| | | | | | EAD | 1 | The Low Default EAD model is a hybrid model that pools default information from multiple low default portfolios, including government related entities. | >7 years |

**AIRB models and methodology - continued**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Financial institutions | 81.72 | 10.1% | 14.90 | 7.0% | PD | 3 | The main PD model applied is Bank Commercial based upon financial, qualitative and country information. Other PD models for different types of financial institutions are built using a similar framework, but are more specialised for the specific characteristics of the financial institution. | >7 years |
| | | | | | LGD | 1 | This LGD model was developed based on expert judgement, supported by limited internal and external data. The developed LGD model is based on ultimate recovery rates. | >7 years |
| | | | | | EAD | 1 | The Low Default EAD model is a hybrid model used that pools default information from multiple low default portfolios, including financial institutions. | >7 years |
| Corporates - Specialized lending | 83.75 | 10.4% | 29.77 | 14.1% | PD | 3 | Expert based scorecards Models predict a rating for Commercial Property Finance, Project Finance, Trade and Commodity Finance. | >7 years |
| | | | | | LGD | 3 | Hybrid LGD Models predict loss given default for Commercial Property Finance, Project Finance, Trade and Commodity Finance. | >7 years |
| | | | | | EAD | 1 | There is a dedicated EAD model for commercial property finance due to the specificities of this portfolio. | >7 years |
| Large Corporates | 141.63 | 17.5% | 67.09 | 31.7% | PD | 1 | The Corporate Large model is a global hybrid model build on 13 years of data, including balance sheet and qualitative information as well as country risk and parent influence. | >7 years |
| | | | | | LGD | 1 | Loss Given Default for Large corporates are predicted by a dedicated hybrid LGD model using both no loss rates as well as secured/unsecured recovery rates. | >7 years |
| | | | | | EAD | 1 | The Low Default EAD model is a hybrid model used that pools default information from multiple low default portfolios, including large corporates. | >7 years |
| SME | 64.81 | 8.0% | 37.10 | 17.5% | PD | 6 | The SME PD models are estimated statistically and directly predict a PD. Most of these models are developed locally to reflect regional/jurisdiction circumstances. | >7 years |
| | | | | | LGD | 6 | Local statistical models or hybrid models use various data inputs on cure behaviour as well as cost and recovery. | >7 years |
| | | | | | EAD | 6 | Local statistical models that use various data inputs, including product type and geography. | >7 years |
| Secured by Res. Mortgage | 276.29 | 34.2% | 39.64 | 18.7% | PD | 7[1] | The PD mortgages models are all developed statistically and include borrower specific information, payment behaviour and product related information. These are statistical models that directly predict a PD. | >7 years |
| | | | | | LGD | 7 | Local statistical models or hybrid models use various data inputs on cure behaviour as well as cost and recovery | >7 years |
| | | | | | EAD | 7 | Local statistical models that use various data inputs, including product type and geography. | >7 years |
| Private Individuals | 30.10 | 3.7% | 12.36 | 5.8% | PD | 4[1] | The PD models for private individuals are all developed statistically and include borrower specific information, payment behaviour and product related information. These are statistical models that directly predict a PD. | >7 years |
| | | | | | LGD | 4 | Local statistical models use various data inputs on cure behaviour as well as cost and recovery. | >7 years |
| | | | | | EAD | 4 | Local statistical models that use various data inputs, including product type and geography. | >7 years |
| Other[1] | 21.27 | 2.6% | 2.93 | 1.4% | Other | | (Covered Bonds, Structured assets) | |
| **Total** | **808.03** | **100%** | **211.46** | **100%** | | | | |

1 Belgian PD models provide a rating at a customer level, covering both secured and unsecured loans.
Excludes Securitisations, CVA RWA, Equities and ONCOA.

### Credit risk exposure excluding Counterparty Credit Risk (based on EBA templates)

In this section on Credit Risk 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 and ONCOA items. The EBA has implemented a view on credit risk exposures different from the internal ING view.

Additional Pillar III information - continued

The gross carrying value refers to the original exposure pre-credit conversion factors for the on- and off-balance sheet items. The net carrying values correspond to the original exposure (on and off-balance) pre-credit conversion factors corrected for allowances, impairments and provisions. In the table on Credit quality of exposures by exposure class and instruments, the gross carrying values and the net carrying values are provided .
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 2015 and as per end of 2016 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 2016.

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

| AIRB Approach | Net carrying value of exposures at the end of 2016 | Average net exposures over the period | Net carrying value of exposures at the end of 2015 |
|---|---|---|---|
| Central governments or central banks | 225,826 | 222,210 | 180,961 |
| Institutions | 100,954 | 106,058 | 120,191 |
| Corporates | 409,510 | 387,659 | 350,343 |
| Of Which: Specialised lending | 142,754 | 132,616 | 120,709 |
| Of Which: SME | 34,060 | 34,200 | 36,003 |
| Retail | 325,737 | 325,014 | 324,427 |
| Secured by real estate property | 296,084 | 294,992 | 293,514 |
| SMEs | 10,916 | 11,391 | 12,227 |
| Non-SMEs | 285,168 | 283,601 | 281,287 |
| Qualifying Revolving | | | |
| Other Retail | 29,653 | 30,022 | 30,913 |
| SMEs | 5,907 | 6,622 | 8,108 |
| Non-SMEs | 23,745 | 23,399 | 22,805 |
| **Total AIRB approach** | **1,062,027** | **1,040,941** | **975,921** |
| | | | |
| SA approach | | | |
| Central governments or central banks | 3,801 | 3,807 | 3,812 |
| Regional governments or local authorities | 274 | 245 | 227 |
| Institutions | 2,281 | 2,438 | 4,917 |
| Corporates | 12,468 | 14,002 | 13,456 |
| of which: SMEs | 2,865 | 3,408 | 3,746 |
| Retail | 14,831 | 14,783 | 14,533 |
| of which: SMEs | 4,492 | 4,815 | 5,236 |
| Secured by mortgages on immovable property | 15,991 | 14,278 | 11,665 |
| of which: SMEs | 2,960 | 2,910 | 2,702 |
| Exposures in default | 481 | 479 | 424 |
| **Total SA approach** | **50,127** | **50,032** | **49,033** |
| | | | |
| **Total** | **1,112,154** | **1,090,972** | **1,024,954** |

The total exposure increased by EUR 87.2 billion in Net Carrying value mainly from increased exposures and higher limits in the AIRB portfolio (EUR 86.1 billion), and to a lesser extent from the SA portfolio (EUR 1.1 billion). A significant part of the increased limits were unadvised and uncommitted. Within both the AIRB and SA portfolios, the highest exposures can be found towards corporates, retail, and secured by real estate property. The exposure within institutions decreased in 2016 mainly driven by the implemented EU equivalence regulation in 2016, shifting exposures from the institutions to corporates exposure class. The growth of the Corporates portfolio is observed in the Structured Finance, Corporate & FI Lending, and Real Estate portfolios.
The majority of the growth in the SA portfolio is related to the move of the Dutch Healthcare portfolio from the AIRB to the SA approach. The Retail Mortgage exposures in Turkey, Poland and Romania contribute to the growth of the 'Secured by Mortgages on Immovable Property' exposure class.

**Exposure by geography**

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

**EU CRB-C: Geographical breakdown of exposures**

| | Net carrying value | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | 0 | 391 | 7 | 12,468 |
| Retail | 14,825 | 140 | 114 | 1 | 14,569 | 3 | 3 | 0 | 0 | 14,831 |
| Secured by mortgages on immovable property | 14,473 | 3,247 | 0 | 2 | 11,224 | 0 | | 45 | 1,473 | 15,991 |
| Exposures in default | 474 | 41 | 129 | 0 | 305 | 0 | 0 | 0 | 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** |

The Central Governments or Central Banks exposure for ING is mostly concentrated within Europe. The majority of the exposure comprises uncommitted/unadvised limits.

The SA portfolio comprises of Secured by Mortgages on Immovable Property, Retail, and Corporates exposure class. These exposures are mainly observed in Poland and Turkey with some Commercial Property Finance in Australia.

### 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, both AIRB and SA, ordered by the size of the combined AIRB and SA exposure. These industry sector or counterparty types are based upon the European NACE codes (Nomenclature statistique des Activités économiques dans la Communauté Européenne) and reflect the main activity of the counterparty. The industry or counterparty type allocation is based exclusively on the nature of the immediate counterparty. 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 | | | | | | |
|---|---|---|---|---|---|---|---|
| | 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 | 0 | 3,623 | 225,826 |
| Institutions | | | 89,080 | 8,666 | 20 | 3,189 | 100,954 |
| Corporates | 74 | 81,424 | 49,995 | 0 | 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** |

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. The other counterparty or industry types exposures are grouped under the Other Services. The way of allocating exposures to these counterparty sectors, explains largely the above table. Manufacturing is logically mostly found in the Corporate Exposure class and the Financing activities in the Institutions and Sovereign exposure classes.

The AIRB portfolio is mostly concentrated in the Financial and Insurance Activities, Public Administration and Defence and Activities of Households as Employers industries. This last industry or counterparty type refers to both households as employers and to the production and services to households for own use. In this case is the mortgage book underlying that is classified in this category.
The SA portfolio is predominantly spread in Manufacturing, Wholesale and Retail Trade, Financial and Insurance Activities, Human Health Services and Social Work Activities, and Activities of Households as Employers.

The Retail portfolio holds most exposures within the Activities of Households as Employer, which is related to Residential Mortgages and Loans (Traditional Residential Mortgages and Interest-Only Mortgage). The Central Governments or Central Banks exposure class holds most exposures within the industry types Financial and Insurance Activities and Public Administration and Defence.

Within the SA Secured by Mortgages on Immovable Property exposure class, most exposures can be found in the Manufacturing, Wholesale and Retail Trade, Human Health Services and Social Work Activities, and Activities of Households as Employers industries.
The Retail portfolio shows the highest exposures within Manufacturing, Wholesale and Retail Trade, Professional, Scientific and Technical Activities, and Activities of Households as Employers industries.
The Corporates exposure class holds most exposures within the industry types Manufacturing, Wholesale and Retail Trade, and Human Health Services and Social Work Activities.

**Exposure by maturity**
The table below presents a breakdown of the net carrying value by residual maturity, for both AIRB and SA exposure classes.

Additional Pillar III information - continued

**EU CRB-E: Maturity of exposures**

| | Net carrying value | | | | |
|---|---|---|---|---|---|
| | <= 1 year | > 1 year < 5 years | >= 5 years | No stated maturity | 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** |

The majority of the exposures within the AIRB portfolio are observed in the lower than 1 year and higher than 5 years maturity buckets. The Retail portfolio consists mostly of residential mortgages, which typically have longer maturities. The exposures within the Corporates and Central Governments or Central Banks exposure classes are shorter compared to the Retail portfolio, which results in more exposure within the lower maturity buckets.
For Central Governments or Central Banks this is mostly in the less than 1 year buckets in Money Market Lending and to a lesser extent to Revolving Loans. Exposures in the other two buckets are predominantly seen in the Bond Investment products. Revolving Loans and Guarantees make up the majority of the exposure seen in the first maturity bucket of the Corporate exposure class, whereas Term Loans and Revolvers are the dominant product types in the longer maturity buckets.

For the SA portfolio, most exposures within both the Retail and Corporates exposure classes can be found in the first two maturity buckets. With Mortgages as the main underlying exposure the Secured by Mortgages and Immovable Property is predominantly seen in the longer maturity.

## 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 are: the 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 Bank'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 in ING Bank 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 exposure 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.

Additional Pillar III information - continued

As of July 2014, PD values of the ING Bank Master Scale are adjusted using both internal and external default data covering the period from 2005 until 2013. External data from Standard & Poor's is used. Internal default experience is reflected for a better fit of ING Bank's portfolios compared to the predominantly US-based Standard & Poor´s data.

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 expo-sure | off-balance sheet expo-sures pre-ccf | Average CCF | EAD post crm and post-ccf | Average pd | Number of obligors | Average LGD | Average matu-rity | RWA | RWA density | EL | Value adjust-ments and provi-sions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Governments and Central Banks | 0.00 to < 0.15 | 87,684 | 131,631 | 6% | 95,367 | 0.0% | 1,212 | 30% | 2.63 | 3,509 | 4% | 4 | -2 |
| Central Governments and Central Banks | 0.15 to < 0.25 | 570 | 630 | 34% | 785 | 0.2% | 30 | 36% | 1.98 | 216 | 28% | 1 | |
| Central Governments and Central Banks | 0.25 to < 0.50 | 2,242 | 2,150 | 9% | 2,428 | 0.3% | 42 | 42% | 1.52 | 1,056 | 44% | 3 | -1 |
| Central Governments and Central Banks | 0.50 to <0.75 | | | 0% | | 0.0% | 0 | 0% | - | | 0% | | |
| Central Governments and Central Banks | 0.75 to < 2.50 | 107 | 26 | 52% | 121 | 1.9% | 40 | 3% | 4.37 | 11 | 9% | | |
| Central Governments and Central Banks | 2.50 to < 10.00 | 438 | 337 | 91% | 746 | 6.6% | 41 | 23% | 3.11 | 620 | 83% | 14 | -8 |
| Central Governments and Central Banks | 10.00 to < 100.00 | 3 | 17 | 24% | 7 | 16.3% | 54 | 20% | 2.94 | 9 | 119% | | |
| Central Governments and Central Banks | default | | | 50% | | 100.0% | 3 | 31% | 1.00 | | 6% | | |
| **Central Governments and Central Banks** | **sub-total** | **91,045** | **134,792** | **6%** | **99,454** | **0.1%** | **1,421** | **30%** | **2.61** | **5,421** | **5%** | **22** | **-11** |
| Institutions | 0.00 to < 0.15 | 30,769 | 49,398 | 7% | 34,352 | 0.1% | 2,925 | 23% | 2.59 | 4,781 | 14% | 5 | -2 |
| Institutions | 0.15 to < 0.25 | 1,316 | 3,635 | 13% | 1,799 | 0.2% | 470 | 25% | 1.89 | 327 | 18% | 1 | |
| Institutions | 0.25 to < 0.50 | 3,127 | 4,676 | 11% | 3,650 | 0.4% | 767 | 24% | 2.16 | 1,414 | 39% | 4 | -2 |
| Institutions | 0.50 to < 0.75 | 3 | 1 | 100% | 5 | 0.7% | 7 | | 4.61 | 3 | 62% | | |
| Institutions | 0.75 to < 2.50 | 3,809 | 2,583 | 14% | 4,163 | 1.0% | 551 | 27% | 1.72 | 1,785 | 43% | 8 | -4 |
| Institutions | 2.50 to < 10.00 | 28 | 532 | 3% | 42 | 5.3% | 145 | 18% | 1.39 | 61 | 145% | 1 | |
| Institutions | 10.00 to < 100.00 | 23 | 731 | 7% | 73 | 17.2% | 3,380 | 26% | 1.51 | 86 | 118% | 2 | -1 |
| Institutions | default | 310 | 26 | 50% | 323 | 100.0% | 48 | 1% | 4.93 | 8 | 2% | 4 | -4 |
| **Institutions** | **sub-total** | **39,386** | **61,581** | **8%** | **44,407** | **0.9%** | **8,293** | **23%** | **2.46** | **8,465** | **19%** | **25** | **-13** |
| Corporate | 0.00 to < 0.15 | 35,245 | 78,364 | 32% | 60,411 | 0.1% | 15,940 | 32% | 2.73 | 13,018 | 22% | 17 | -5 |
| Corporate | 0.15 to < 0.25 | 23,089 | 27,062 | 35% | 32,673 | 0.2% | 7,848 | 25% | 2.92 | 9,055 | 28% | 17 | -5 |
| Corporate | 0.25 to < 0.50 | 66,370 | 55,139 | 36% | 86,025 | 0.4% | 24,957 | 23% | 3.08 | 30,940 | 36% | 77 | -26 |
| Corporate | 0.50 to < 0.75 | 1,149 | 450 | 48% | 1,364 | 0.6% | 2,135 | 30% | 2.89 | 672 | 49% | 2 | -1 |
| Corporate | 0.75 to < 2.50 | 61,379 | 33,074 | 39% | 74,410 | 1.2% | 34,991 | 24% | 3.17 | 45,438 | 61% | 231 | -89 |
| Corporate | 2.50 to < 10.00 | 10,395 | 4,526 | 45% | 12,287 | 5.5% | 11,330 | 25% | 2.91 | 11,122 | 91% | 162 | -59 |
| Corporate | 10.00 to < 100.00 | 5,599 | 2,884 | 29% | 6,464 | 23.4% | 21,374 | 21% | 2.77 | 8,017 | 124% | 320 | -132 |
| Corporate | default | 7,429 | 749 | 49% | 7,911 | 100.0% | 5,715 | 32% | 2.37 | 10,901 | 138% | 2,934 | -2,934 |
| **Corporate** | **sub-total** | **210,656** | **202,248** | **35%** | **281,543** | **4.1%** | **124,290** | **26%** | **2.98** | **129,163** | **46%** | **3,761** | **-3,252** |
| Retail | 0.00 to < 0.15 | 61,311 | 15,077 | 66% | 71,372 | 0.1% | 4,228,271 | 25% | | 3,879 | 5% | 13 | -5 |
| Retail | 0.15 to < 0.25 | 63,761 | 3,705 | 51% | 65,685 | 0.2% | 723,298 | 16% | | 4,707 | 7% | 21 | -10 |
| Retail | 0.25 to < 0.50 | 97,514 | 3,434 | 59% | 99,728 | 0.4% | 1,129,103 | 16% | | 11,467 | 11% | 63 | -23 |
| Retail | 0.50 to < 0.75 | 27,191 | 1,311 | 56% | 27,936 | 0.7% | 509,064 | 23% | | 6,402 | 23% | 43 | -19 |
| Retail | 0.75 to < 2.50 | 30,045 | 2,499 | 68% | 31,901 | 1.2% | 1,163,149 | 27% | | 11,529 | 36% | 114 | -52 |
| Retail | 2.50 to < 10.00 | 10,572 | 652 | 56% | 10,990 | 4.5% | 439,278 | 27% | | 7,667 | 70% | 136 | -59 |
| Retail | 10.00 to < 100.00 | 5,153 | 226 | 66% | 5,330 | 22.5% | 186,922 | 26% | | 5,628 | 106% | 307 | -138 |
| Retail | default | 4,601 | 46 | 54% | 4,675 | 100.0% | 88,581 | 31% | | 5,985 | 128% | 1,053 | -1,053 |
| **Retail** | **sub-total** | **300,147** | **26,949** | **62%** | **317,617** | **2.4%** | **8,467,666** | **21%** | | **57,263** | **18%** | **1,749** | **-1,360** |
| **Total (all portfolios)** | **Total** | **641,234** | **425,571** | **24%** | **743,021** | **2.6%** | **8,237,084** | **24%** | **2.84** | **200,313** | **27%** | **5,557** | **-4,635** |

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

The figures in this table can be compared to the figures reported in the first tables in this section on exposure class, geography, counterparty type and maturity. Adding the on and off-balance sheet exposures with the Expected Losses will provide the net carrying amounts, except for the corporate exposure class where the write-offs should be included as well.

The PD, LGD, EAD and Maturity are drivers from the RWA and the RWA Density, which is measured as the RWA over the EAD, and is expected to increase with each PD Scale. In several instances the RWA Density is lower than expected, for instance in the Central Governments and 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 classes.

The CCF is lower for products and/or transactions seen in the corporate exposure class as opposed those seen in the Central Government exposure class, explaining the higher observed average CCF percentage in the latter exposure class.

**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 the model development team. More over an independent Model Validation department periodically reviews all AIRB models. All models are backtested when possible by both the Model development and the independent Model Validation departments. If a model is considered not to be robust or backtesting indicates insufficient performance, than the model is either re-calibrated or re-developed. All model recommendations from Model Validation 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, 86% of the AIRB credit risk models in the validation cycle have had ‘No to Remote’ (49%) 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 2016.

The analysis is based on the 31 December 2016 portfolio. The average PD as of 31 December 2016 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 2011 until 2016. 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.

ING does not have positions with Central Governments in the lower two performing rating classes

Additional Pillar III information - continued

**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 |
|---|---|---|---|---|---|---|---|---|
| Central Governments | 0.00 - 0.01 | AAA | 0.010% | 0.010% | 85 | 93 | | |
| Central Governments | 0.01 - 0.03 | AA | 0.021% | 0.021% | 515 | 532 | | |
| Central Governments | 0.03 - 0.04 | AA | 0.031% | 0.031% | 253 | 267 | | |
| Central Governments | 0.04 - 0.05 | AA | 0.041% | 0.041% | 202 | 161 | | |
| Central Governments | 0.05 - 0.06 | A | 0.052% | 0.052% | 48 | 39 | | |
| Central Governments | 0.06 - 0.08 | A | 0.062% | 0.062% | 86 | 74 | | |
| Central Governments | 0.08 - 0.11 | A | 0.092% | 0.092% | 43 | 37 | | |
| Central Governments | 0.11 - 0.17 | BBB | 0.139% | 0.139% | 27 | 22 | | 0.245% |
| Central Governments | 0.17 - 0.26 | BBB | 0.212% | 0.213% | 32 | 26 | | |
| Central Governments | 0.26 - 0.37 | BBB | 0.307% | 0.306% | 24 | 25 | | |
| Central Governments | 0.37 - 0.58 | BB | 0.444% | 0.445% | 23 | 21 | | |
| Central Governments | 0.58 - 1.00 | BB | 0.756% | 0.756% | 6 | 9 | | |
| Central Governments | 1.00 - 1.77 | BB | 1.321% | 1.335% | 13 | 11 | | |
| Central Governments | 1.77 - 3.23 | B | 2.377% | 2.441% | 24 | 23 | | |
| Central Governments | 3.23 - 6.05 | B | 4.391% | 4.410% | 17 | 18 | | 0.926% |
| Central Governments | 6.05 - 11.67 | B | 8.349% | 8.349% | 14 | 23 | | |
| Central Governments | 11.67 - 20.20 | CCC | 16.324% | 16.324% | 7 | 8 | | |

**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 | 13 | | |
| Corporates | 0.01 - 0.03 | AA | 0.021% | 0.021% | 26 | 315 | | |
| Corporates | 0.03 - 0.04 | AA | 0.031% | 0.031% | 89 | 96 | | |
| Corporates | 0.04 - 0.05 | AA | 0.041% | 0.041% | 121 | 158 | | 0.075% |
| Corporates | 0.05 - 0.06 | A | 0.051% | 0.047% | 2,667 | 2,960 | 1 | 0.095% |
| Corporates | 0.06 - 0.08 | A | 0.062% | 0.066% | 1,242 | 1,320 | | 0.159% |
| Corporates | 0.08 - 0.11 | A | 0.092% | 0.102% | 1,423 | 1,577 | 1 | 0.133% |
| Corporates | 0.11 - 0.17 | BBB | 0.139% | 0.136% | 9,453 | 10,030 | 25 | 0.300% |
| Corporates | 0.17 - 0.26 | BBB | 0.213% | 0.214% | 6,447 | 6,782 | 10 | 0.340% |
| Corporates | 0.26 - 0.37 | BBB | 0.306% | 0.297% | 10,451 | 11,279 | 30 | 0.448% |
| Corporates | 0.37 - 0.58 | BB | 0.443% | 0.444% | 13,245 | 14,191 | 52 | 0.725% |
| Corporates | 0.58 - 1.00 | BB | 0.755% | 0.761% | 13,051 | 13,807 | 90 | 1.214% |
| Corporates | 1.00 - 1.77 | BB | 1.318% | 1.343% | 13,057 | 13,583 | 210 | 1.680% |
| Corporates | 1.77 - 3.23 | B | 2.360% | 2.393% | 9,367 | 9,837 | 196 | 2.936% |
| Corporates | 3.23 - 6.05 | B | 4.384% | 4.350% | 6,935 | 7,432 | 230 | 4.659% |
| Corporates | 6.05 - 11.67 | B | 8.317% | 8.347% | 3,083 | 3,221 | 225 | 10.425% |
| Corporates | 11.67 - 20.20 | CCC | 15.846% | 15.769% | 3,172 | 3,271 | 320 | 9.335% |
| Corporates | 20.20 - 29.58 | CC- | 24.881% | 24.639% | 1,512 | 1,414 | 266 | 16.522% |
| Corporates | 29.58 - 100.00 | C- | 36.148% | 39.969% | 1,242 | 1,104 | 288 | 27.205% |

Additional Pillar III information - continued

**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% | 59 | 52 | | |
| Institutions | 0.01 - 0.03 | AA | 0.021% | 0.021% | 309 | 33 | | |
| Institutions | 0.03 - 0.04 | AA | 0.031% | 0.031% | 69 | 80 | | 0.154% |
| Institutions | 0.04 - 0.05 | AA | 0.041% | 0.041% | 992 | 1,006 | | |
| Institutions | 0.05 - 0.06 | A | 0.052% | 0.051% | 505 | 526 | | 0.064% |
| Institutions | 0.06 - 0.08 | A | 0.062% | 0.062% | 828 | 646 | | |
| Institutions | 0.08 - 0.11 | A | 0.092% | 0.092% | 790 | 451 | | 0.072% |
| Institutions | 0.11 - 0.17 | BBB | 0.139% | 0.139% | 672 | 775 | 1 | 0.135% |
| Institutions | 0.17 - 0.26 | BBB | 0.212% | 0.213% | 488 | 528 | | 0.023% |
| Institutions | 0.26 - 0.37 | BBB | 0.307% | 0.305% | 503 | 377 | | 0.036% |
| Institutions | 0.37 - 0.58 | BB | 0.444% | 0.444% | 812 | 643 | 1 | 0.021% |
| Institutions | 0.58 - 1.00 | BB | 0.756% | 0.761% | 520 | 471 | | 0.042% |
| Institutions | 1.00 - 1.77 | BB | 1.318% | 1.331% | 392 | 321 | 4 | 0.293% |
| Institutions | 1.77 - 3.23 | B | 2.389% | 2.406% | 285 | 275 | | 1.055% |
| Institutions | 3.23 - 6.05 | B | 4.524% | 4.371% | 223 | 150 | 4 | 0.539% |
| Institutions | 6.05 - 11.67 | B | 8.183% | 8.277% | 91 | 62 | 2 | 1.091% |
| Institutions | 11.67 - 20.20 | CCC | 16.322% | 16.293% | 62 | 126 | 4 | 3.476% |
| Institutions | 20.20 - 29.58 | CC- | 24.855% | 24.658% | 32 | 10 | 4 | 4.819% |
| Institutions | 29.58 - 100.00 | C- | 36.813% | 39.576% | 31 | 10 | 1 | 4.611% |

**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 | 0.005% | 0.009% | 1,865,865 | 1,984,312 | 538 | 0.031% |
| Retail | 0.01 - 0.03 | AA | 0.019% | 0.021% | 79,657 | 86,022 | 71 | 0.073% |
| Retail | 0.03 - 0.04 | AA | 0.031% | 0.031% | 77,248 | 97,544 | 42 | 0.090% |
| Retail | 0.04 - 0.05 | AA | 0.044% | 0.041% | 645,294 | 677,469 | 296 | 0.050% |
| Retail | 0.05 - 0.06 | A | 0.051% | 0.053% | 79,571 | 46,746 | 21 | 0.031% |
| Retail | 0.06 - 0.08 | A | 0.067% | 0.067% | 143,336 | 51,231 | 89 | 0.061% |
| Retail | 0.08 - 0.11 | A | 0.089% | 0.102% | 864,211 | 948,013 | 1,059 | 0.104% |
| Retail | 0.11 - 0.17 | BBB | 0.146% | 0.136% | 556,848 | 556,142 | 559 | 0.142% |
| Retail | 0.17 - 0.26 | BBB | 0.209% | 0.217% | 647,080 | 681,394 | 978 | 0.222% |
| Retail | 0.26 - 0.37 | BBB | 0.324% | 0.312% | 541,514 | 570,611 | 1,384 | 0.392% |
| Retail | 0.37 - 0.58 | BB | 0.457% | 0.476% | 615,005 | 615,365 | 3,035 | 0.600% |
| Retail | 0.58 - 1.00 | BB | 0.727% | 0.773% | 663,427 | 653,326 | 3,540 | 1.605% |
| Retail | 1.00 - 1.77 | BB | 1.314% | 1.485% | 373,902 | 455,802 | 3,762 | 1.663% |
| Retail | 1.77 - 3.23 | B | 2.645% | 2.498% | 421,224 | 470,410 | 5,298 | 2.348% |
| Retail | 3.23 - 6.05 | B | 4.152% | 3.907% | 191,386 | 190,078 | 6,905 | 6.357% |
| Retail | 6.05 - 11.67 | B | 8.340% | 7.927% | 171,878 | 182,624 | 11,027 | 7.675% |
| Retail | 11.67 - 20.20 | CCC | 16.227% | 16.815% | 82,577 | 75,683 | 7,580 | 12.792% |
| Retail | 20.20 - 29.58 | CC- | 24.960% | 25.843% | 11,192 | 10,885 | 2,131 | 20.164% |
| Retail | 29.58 - 100.00 | C- | 44.409% | 37.048% | 43,591 | 34,283 | 11,592 | 27.216% |

The performance of AIRB PD models is statistically back-tested on a regular basis. There are currently no known issues of PD underestimation.

Additional Pillar III information - continued

### *EL backtesting*

The table below gives insight in the Expected Loss rate and the Observed Loss rate. The expected loss as of 31 December 2015 for the performing portfolio is split per exposure class. The 31 December 2015 portfolio is followed through 2016 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 2015 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 2015 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**

| 2016 | Sovereigns | Institutions | Corporate | Secured by Res. Mortgage | Other retail | Total |
|---|---|---|---|---|---|---|
| Expected loss rate 2015* | 0.02% | 0.05% | 0.34% | 0.18% | 0.82% | **0.22%** |
| Observed Loss Rate 2016 | 0.00% | 0.05% | 0.25% | 0.12% | 0.80% | **0.17%** |

Includes the AIRB portfolio only; excludes securitisations, equities and ONCOA.
* Expected loss rate 2015 includes performing loans only.

Backtesting observed default rates and observed losses for 2016 show observed results that are below predicted levels for all exposure classes except for Institutions. This can be explained by the improved economic conditions that were experienced in 2016. In 2016, no defaults were recorded for Sovereigns while default rates of corporates, residential mortgages and other retail loans have continued to improve compared to the previous year. The observed losses for institutions were mainly witnessed for institutions in Africa.

## 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 Bank 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 portfolios, the fixed prescribed risk weights 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 Bank's exposure value is shown before and after credit risk mitigation. There are two principal methods for reducing or mitigating Credit Risk: i) by reduction of Credit Risk through the acceptance of pledged financial assets as collateral or ii) mitigation or shifting of credit risks to a lower risk weighting group by accepting guarantees from unrelated third parties. ING Bank uses both methods to take CRM effects into account. For financial markets collateral, ING Bank 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. Risk weighted exposure amount (RWA) density provides a synthetic metric on riskiness of each portfolio.

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

| | 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 comprises mainly of the exposures in Turkey, Poland and Romania. In terms of business, the portfolio is spread over residential mortgages and consumer lending, with a relatively small portion arising from corporate exposures. The biggest movement in 2016 within the SA portfolio was the move of the Dutch Healthcare portfolio from IRB approach to SA approach. Excluding this change, there was growth in residential mortgages in these SA three countries. The sovereign portion of SA exposure is arising mainly due to deposits with the Turkish Sovereign.

### Risk weights per exposure classes

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**

| | Risk weight | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Exposure Classes | 0% | 2% | 4% | 10% | 20% | 35% | 50% | 70% | 75% | 100% | 150% | 250% | 370% | 1250% | others | de-ducted | **Total** | Un-rated |
| Central governments or central banks | 216 | | | | | | 419 | | | 1,949 | | | | | | | **2,584** | |
| Regional governments or local authorities | | | | | 5 | | 71 | | | | | | | | | | **76** | |
| Institutions | | | | | 2,537 | 0 | 10 | | | 25 | 2 | | | | | | **2,574** | |
| Corporates | | | | | | | 7 | | | 6,704 | 43 | | | | | | **6,754** | |
| Retail | | | | | | | | | 9,989 | | | | | | | | **9,989** | |
| Secured by mortgages on Real 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 SA portfolio increased by 8% to EUR 36.5 billion in terms of READ, excluding the counterparty credit risk. The RWA increased by 10% to EUR 24.7billion. This increase in the SA portfolio is mainly related to transfer of the Dutch Healthcare portfolio from AIRB approach to SA. Increase in portfolio was witnessed in Poland and in Turkey. In Poland the Residential Mortgage portfolio grew by EUR 0.8 billion READ while in Turkey the portfolio growth is mainly attributable to the Corporates portfolio which increased by EUR 1.3 billion. FX impact over 2016 was limited as the portfolio is denominated in both Turkish Lira's and U.S. dollar for which the FX impacts offset each other.
The exposures with a 35% risk weight are mostly seen in the Polish mortgage portfolio, and the retail exposures with a 75% risk weight originate mostly in the Turkish portfolios, with smaller attributions from Poland and Romania. The 100% risk weight exposures in the corporate exposure class originate in the Turkish corporate portfolio (EUR 7.2 billion) and in the Dutch Healthcare portfolio (EUR 2.0 billion).

## Credit quality

This section focusses on non-performing loans, which are loans where there is a reasonable probability that ING Bank may end up with a loss, unless ING Bank intervenes with specific and significant actions. In other words, in this category an account or portfolio requires a more intensified approach, which may include renegotiations 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 and are presented at the end of the tables. These three tables should be read in conjunction with detailed sections per (ING Internal) exposures class: Sovereign, Institutions, Corporate and Retail. Albeit that the measures used in those sections are READ and RWA, the main movements are explained.

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 by exposure classes and instruments

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 | | | | | |
|---|---|---|---|---|---|---|
| | defaulted exposures | Non-defaulted exposures | specific credit risk adjustments | general credit risk adjustments | credit risk adjustment charges of the period | Net values |
| Central governments or central banks | 0 | 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 |
| Qualifying revolving | | | | | | |
| 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 | 0 | 3,802 | -1 | | | 3,801 |
| Regional governments or local authorities | 0 | 274 | 0 | | | 274 |
| Institutions | 0 | 2,282 | -1 | | | 2,281 |
| Corporates | 0 | 12,489 | -22 | | | 12,468 |
| of which: SMEs | 0 | 2,870 | -5 | | | 2,865 |
| Retail | 0 | 14,937 | -106 | | | 14,831 |
| of which: SMEs | 0 | 4,509 | -17 | | | 4,492 |
| secured by mortgages on immovable property | 0 | 16,012 | -21 | | | 15,991 |
| of which: SMEs | 0 | 2,967 | -7 | | | 2,960 |
| Exposures in default | 915 | 0 | -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.

## Credit quality of exposures by industry or counterparty types

The following breakdown shows the defaulted and non-defaulted exposures per NACE industry or counterparty sector type.

Additional Pillar III information - continued

| EU CR1-B: Credit quality of exposures by industry or counterparty types | gross carrying values of defaulted exposures | gross carrying values of non-defaulted exposures | specific credit risk adjustments [1] | general credit risk adjustments | credit risk adjustment charges of the period | 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 119 million for contingent liabilities

## Credit quality of exposures by geography

The table below provides a comprehensive picture of the credit quality of the on- and off-balance sheet exposures by geography

| EU CR1-C : Credit quality of exposures by geography | gross carrying values of defaulted exposures | gross carrying values of non-defaulted exposures | specific credit risk adjustments[1] | general credit risk adjustments | credit risk adjustment charges of the period | 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 119 million for contingent liabilities

## Reconciliation of non-performing loans disclosures

The table below shows the reconciliation of non-performing loans segmented by the lines of businesses used internally by ING Bank. A narrative explanation on these business lines is given in the Risk Management paragraph of the Annual report.

**Reconciliation of non-performing loans disclosures[4]**

| | Wholesale Banking | Retail Banking Benelux | Retail Challengers & Growth Markets | Total ING Bank |
|---|---|---|---|---|
| **Impaired loan book - movements** | | | | |
| Impaired loans at 1 January 2016[1] | 6,191 | 7,172 | 1,962 | 15,325 |
| Classified as impaired during the year[2] | 1,719 | 1,668 | 842 | 4,229 |
| Outflow from impaired excluding write-offs | -1,628 | -2,443 | -367 | -4,438 |
| Amounts written off | -624 | -677 | -188 | -1,489 |
| Changes in composition of the bank | 0 | 0 | 0 | 0 |
| Exchange rate and other movements[3] | 22 | 0 | -52 | -30 |
| **At 31 December 2016** | **5,680** | **5,721** | **2,196** | **13,597** |
| | | | | |
| **Impairment allowances - movements** | | | | |
| Impairment allowances at 1 January 2016[1] | 2,371 | 2,199 | 1,216 | 5,786 |
| Changes in the composition of the Bank | 0 | 0 | 0 | 0 |
| Amounts written off | -625 | -681 | -188 | -1,494 |
| Recoveries of amounts written off in previous years | 49 | 38 | 7 | 94 |
| Addition to loan loss provisions (from income statement) | 367 | 347 | 260 | 974 |
| Exchange rate and other movements | -15 | -19 | -18 | -52 |
| **At 31 December 2016** | **2,147** | **1,884** | **1,277** | **5,308** |

1 Equals the amount as of 31 December 2015.
2 Unadjusted for exchange rate fluctuations.
3 Based on start and end date of the outstanding positions, unadjusted for inflow and outflow.
4 At the end of 2016, the stock of provisions included provisions for amounts due from banks: EUR 11 million (2015: EUR 14 million).

The decrease of EUR 1.7 billion in non-performing loans was mainly driven by the continuing improving Dutch economy. In Wholesale Banking a significant NPL decrease was observed within Real Estate Finance (EUR 0.5 billion) due to write-offs, repayments and improved clients. This was offset by an increase in Structured Finance (EUR 0.5 billion), mainly driven by the Shipping and Oil & Gas portfolios, the latter also being the main driver for the watch listed clients increase.

The favourable trend in risk costs continued over the first three quarters of 2016. Compared to 2015-end, risk costs have trended down to 31 basis points (2015: 44 basis points) of average RWA which is below the through-the-cycle guidance range of 40-45 basis points. The improving risk trend caused average quarterly risk costs to remain well below EUR 300 million, causing the total stock of provisions to decline from EUR 5.8 billion to EUR 5.3 billion.

Portfolios in Market Leaders continued to improve, Wholesale Banking corporate lending was also relatively strong with a few incidental defaults. Challenges continued in industries like Oil & Gas, Shipping, and Telecom while on the other hand, improved risk profiles were witnessed in other portfolios of the bank such as in Residential Mortgages and in the REF portfolio. Encouraging signs in the Dutch housing market have helped reduce the risk costs due to improved house prices and risk profiles. Risk costs in Turkey and Ukraine have trended downwards in previous quarters.

There was an improvement in the bank coverage ratio to 39.0% (2015: 38.5%) due to improved non-performing loan levels and a comparatively lesser decrease in stock provision level.

Large parts of the Investment portfolio are not accounted for at amortised costs (Loans & Receivables or Held-to-Maturity) and therefore out of scope for LLP. Instead, these assets are evaluated for impairment. The ING Bank Impairment Meeting is a quarterly process that reviews all assets that are subject to an IFRS-EU impairment test.

## 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**

| | 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 |
| | | | | | of which: forborne | | of which: forborne | | of which: forborne | | |
| Debt Securities | 91,920 | | | 7 | 0 | -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 |

The total ING Bank forborne assets increased by EUR 4.7 billion to EUR 15.4 billion per December 2016. The main driver for this increase relate to the further policy revision of the forbearance definition which was implemented in 2016. Key policy revisions were the inclusion of concessions where ING Bank is substantially compensated by concessions by the client, as well as measures that address key financial covenants as part of the loan agreement. Almost 70% of this increase is visible in the top three industries: a EUR 1.0 billion increase in Natural Resources which was mostly attributable to the Oil & Gas portfolio, another EUR 0.9 billion increase in Transportation & Logistics which is mainly related to shipping activities and another EUR 0.4 billion in the Real Estate portfolio.

## Past due loans

ING Bank considers past due loans to be those loans where any payment of interest of principal is more than one day past due. The methodology is principally applied to loans to private individuals, such as residential mortgage loans, car loans and other consumer loans. For business loans (Sovereigns, Institutions, Corporates), ING Bank has adopted a policy to classify the obligor as a non-performing loan as quickly as possible upon the occurrence of a payment default.

The table below is based on the country of residence of the obligor and on credit risk outstandings. Credit Risk outstandings include amounts associated with both on- and off- balance sheet products, but exclude amounts related to unused limits.

**Past due but performing consumer loans by geographic area (based on outstandings)**

| | 2016 | | | 2015 |
|---|---|---|---|---|
| | Residential mortgages | Other retail | Total | Total |
| Netherlands | 945 | 2 | 947 | 1,073 |
| Belgium | 901 | 542 | 1,443 | 1,719 |
| Germany | 223 | 28 | 251 | 276 |
| Other Europe | 346 | 438 | 784 | 768 |
| Americas | 2 | - | 2 | 2 |
| Asia / Pacific | 542 | 0 | 542 | 490 |
| ROW | 1 | 0 | 1 | 0 |
| **Total** | **2,960** | **1,010** | **3,970** | **4,328** |

Total past due exposure for consumer loans decreased by EUR 0.36 billion. The decrease is mainly caused by an improved residential mortgages portfolio in Belgium and the Netherlands which is a result of the further improved economic environment and improved arrears. In the Other Europe Residential Mortgage portfolio an increase is observed in past due exposures payments between 1 to 90 days compared to end of 2015. This is mainly caused by the Turkish, Italian, and Romanian residential mortgage portfolios. In Asia / Pacific, the increase is mostly observed in Australia.

## Aging of past due exposures

The table below gives an insight in the aging of the Business and Consumer exposures and includes both the performing and non-performing portfolio, while the previous table only includes the past due performing exposures for Consumer. 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 and before write offs, as write offs take place after the provisioning process.

**EU CR1-D: Ageing of past-due exposures**

| | <= 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 | - | - | 0 |
| **Total exposures** | **688,408** | **1,050** | **3,138** | **1,217** | **1,169** | **6,983** |

On a total level the ageing of the portfolio improved with EUR 2.5 billion, counting from 30 days and more past due. All buckets show a decrease, except the bucket > 1 year, which increased with EUR 1.1 billion. This means that a part of the customers that were already past due, continue having interest payment arrears.

## Off-balance items
## Undrawn commitments
The figures below represent the potential exposure that may be drawn by ING Bank's obligors under committed facilities. In most cases, the obligors have the right to make use of these facilities unless an event of default has occurred, or another defined event within the associated credit risk agreement has occurred. In most cases, the obligor pays a commitment fee to ING Bank on the unused portion of these facilities. Pre-Settlement, Money Market and Investment limits are generally not committed.

**Undrawn commitments**

| | | | | | | 2016 | 2015 |
|---|---|---|---|---|---|---|---|
| | Sovereigns | Institutions | Corporate | Residential mortgages | Other retail | Total | Total |
| Under SA approach | 1 | 1 | 1,353 | 166 | 3,935 | 5,456 | 4,518 |
| Under AIRB Approach | 1,285 | 4,270 | 80,286 | 11,617 | 9,768 | 107,226 | 105,687 |
| – 0% risk weight | 14 | 25 | 376 | 6 | | 421 | 206 |
| – >0% - ≤10% risk weight | 1,082 | 1,655 | 12,893 | 8,696 | 5,068 | 29,394 | 28,052 |
| – >10% - ≤20% risk weight | 138 | 676 | 8,950 | 1,702 | 1,706 | 13,172 | 15,595 |
| – >20% - ≤35% risk weight | 47 | 840 | 20,523 | 830 | 880 | 23,120 | 24,878 |
| – >35% - ≤50% risk weight | | 653 | 15,516 | 205 | 723 | 17,095 | 16,120 |
| – >50% - ≤75% risk weight | | 137 | 11,564 | 102 | 711 | 12,515 | 10,961 |
| – >75% - ≤100% risk weight | | 178 | 4,296 | 37 | 439 | 4,949 | 5,077 |
| – >100% - ≤150% risk weight | 2 | 60 | 4,307 | 22 | 181 | 4,572 | 3,309 |
| – >150% - ≤200% risk weight | 2 | 42 | 1,243 | 10 | 36 | 1,333 | 928 |
| – >200% - <1250% risk weight | | 4 | 619 | 7 | 24 | 655 | 560 |
| – 1250% risk weight | 0 | 0 | 0 | 0 | 0 | 0 | |
| **Total** | 1,285 | 4,271 | 81,640 | 11,784 | 13,703 | 112,683 | 110,205 |

If all of the unused commitments were called upon at the same time, ING Bank's credit risks (in terms of outstandings) would increase by 14.5%. As part of its Regulatory EAD models, ING Bank 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 increase of the undrawn commitments is spread over all the risk weight categories and is in line with the growth of the portfolio in 2016.

## Counterparty credit risk (CCR)
The main activities that qualify under counterparty credit risk are derivatives trading activities and securities financing. As part of these activities, ING Bank enters into master agreements such as ISDA master agreements and Global Master Repurchase Agreements (GMRAs). Under the terms contained in sections related to Threshold Amounts and Minimum Transfer Amounts of Credit Support Annexes (CSA) or other similar clauses, both ING Bank and its counterparties may agree to pledge additional collateral to each other. The actual amount that ING Bank may be required to pledge in the future varies based on ING Bank'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 entered into.

## CCR risk approach
**Analysis of the counterparty credit risk exposure by approach**
In the table below the portfolio's counterparty credit risk exposure, calculated according the regulatory requirements, is presented. ING is using the Current Exposure Method (or MTM / Mark to Market) method as described in the CRR (art 274), which is a Standardised Approach. There are no exposures under de Internal Model method. For the calculation of the collateral, ING uses the comprehensive method for Securities Financing Transactions (SFT). There is no Contractual Cross Product netting.

For the regulatory exposure at default (READ) calculation for counterparty default risk, ING uses the Current Exposure Method (or MTM / Mark to market) method as described in the CRR (art 274). The READ measure consist of a MTM part and a regulatory prescribed add-on to reflect the potential future exposure in the trade. The READ 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:

- A gross basis (ignoring any collateral received and ignoring any netting between trades, by applying (max(MTM,0) for each trade).
- A 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).
- A 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).

The READ together with the other building blocks (PD, LGD and maturity), allow ING Bank 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 CRR art. 273(6).

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

| | Replacement cost (floored MtM) | Potential future exposure | EAD post-CRM | RWA |
|---|---|---|---|---|
| Mark to market (Derivatives) | 96,440 | 9,880 | 37,530 | 9,726 |
| Financial collateral comprehensive method (for SFT's) | | | 7,619 | 1,146 |
| **Total** | 96,440 | 9,880 | 45,149 | 10,872 |

Excluding exposure class Securitizations

The RWA of ING counterparty credit risk portfolio dropped by 6.6% during the year, mainly due to the increased use of central clearing. 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 requires a low risk weight (2%). Additionally RWA dropped by approximately EUR 1 billion due to a change in the regulatory exposure calculation methodology for derivatives.

### 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**

| | Risk weight | | | | | | | | | | | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Exposure Class | 0% | 2% | 4% | 10% | 20% | 50% | 70% | 75% | 100% | 150% | Others | |
| Central governments or central banks | | | | | | | | | | | | |
| Regional governments or local authorities | | | | | | | | | | | | |
| Institutions | | | | | 9 | 554 | | | 1 | | | 564 |
| Corporates | | | | | | | | | 242 | 8 | | 250 |
| Retail | | | | | | | | 1 | | | | 1 |
| Secured by mortgages on Real Immovable property | | | | | | | | | | | | |
| Exposure in default | | | | | | | | | | | | |
| Other items | | | | | | | | | | | | |
| Total | | | | | 9 | 554 | | 1 | 243 | 8 | | 815 |

Excluding exposure class Securitizations

The 100% Risk weight exposure contains mainly interest rate swaps and is related to the Dutch healthcare portfolio. This portfolio was recently moved to the Standardised approach and received a hundred percent risk weight.

### 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**

| | 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 | 0.50 to < 0.75 | | | | | | | |
| Central Governments and Central Banks | 0.75 to < 2.50 | | | | | | | |
| 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 | 0.50 to < 0.75 | | | | | | | |
| 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 millions of EUR, except for the number of obligors. The maturity is not available 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.

Additional Pillar III information - continued

**Derivatives by product type in READ**

| | Sovereigns | Institutions | Corporate | Residential mortgages | Other retail | 2016 Total | 2015 Total |
|---|---|---|---|---|---|---|---|
| Interest Rate Derivatives | 1,940 | 24,435 | 6,054 | | 10 | 32,439 | 33,930 |
| FX Derivative | 312 | 3,574 | 3,694 | | 8 | 7,588 | 5,972 |
| Equity Derivative | 3 | 1,195 | 415 | | 9 | 1,622 | 2,176 |
| Exchange Traded Products | | 1,370 | 147 | | | 1,516 | 2,094 |
| Commodity Derivative | 4 | 34 | 960 | | 0 | 999 | 997 |
| Credit Derivative | | 268 | 176 | | | 443 | 410 |
| Derivatives Other | | 72 | 9 | | | 81 | 187 |
| **Total (ALL)** | **2,259** | **30,948** | **11,455** | | **27** | **44,689** | **45,766** |

The derivative portfolio of ING Bank facilitates hedging mortgage lending portfolio facilities as well as hedging for clients. Approximately 73% of the derivatives portfolio is related to interest rate derivatives of which a large part is cleared via CCPs.
The FX derivative portfolio increased by 27% in 2016. This is explained by new client volume as well as expansion in one product (FX Swap) with key counterparties.
At Equity derivatives, ING made efforts to simplify the product line and focus only on the most value-added trades.

## Over-the-counter and exchange traded derivatives

This section provides a quantitative and qualitative analysis of ING's credit risk that arises from its derivatives transactions. This quantifies notional derivatives exposure, including 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 and how much is not, and provides a description of the collateral agreements in place.

**Credit risk from derivative transactions**

| | 2016 Notional | 2016 MtM | 2015 Notional | 2015 MtM |
|---|---|---|---|---|
| OTC derivatives | | | | |
| CCP | 2,238,106 | - 1,804 | 2,052,352 | -2,190 |
| Non-CCP | 1,644,126 | -1,658 | 1,759,442 | -1,353 |
| | | | | |
| ETD derivatives | 45,214 | -18 | 46,472 | -28 |
| Total | 3,927,445 | -3,479 | 3,858,265 | -3,571 |

At the end of 2016, around 57% of the derivative portfolio (based on notional value) was novated via a central counterparty. 24% of the non-cleared trades were uncollateralized, which mainly relate to Corporates with small credit limits and mainly comprises of interest rate derivatives (53%) and FX Derivatives (32%).
Among the collateralised, not cleared trades 84% is under a bilateral CSA. Unilateral CSA agreements relate mainly 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 the 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**

| | Sovereigns | Institutions | Corporate | Residential mortgages | Other retail | 2016 Total | 2015 Total |
|---|---|---|---|---|---|---|---|
| Bond Financing Given | 113 | 5,876 | 500 | | | 6,489 | 6,983 |
| Equity Financing Given | | 3,487 | 1,522 | | | 5,009 | 5,140 |
| Bond Financing Taken | 78 | 1,200 | 704 | | | 1,982 | 2,363 |
| Equity Financing Taken | | 702 | 92 | | | 794 | 1,301 |
| Total (ALL) | 191 | 11,265 | 2,818 | | | 14,275 | 15,786 |

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

The securities financing portfolio decreased by around 10% in 2016. The decrease was shared between all product types.

Additional Pillar III information - continued

## 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 case one of the parties defaults. In case 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**

| | Gross positive fair value | Netting benefits | Netted current credit exposure | Collateral held | Net credit exposure |
|---|---|---|---|---|---|
| Derivatives by underlying | 136,343 | 91,328 | 45,015 | 7,485 | 37,530 |
| Securities Financing Transactions | 37,208 | 22,933 | 14,275 | 6,657 | 7,619 |
| Cross-product netting | | | | | |
| **Total** | 173,551 | 114,261 | 59,290 | 14,142 | 45,149 |

Excluding exposure class securitization

### Collaterals

The change in the actual amount that ING Bank 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 | | | |
| 2016 | | Segregated | Un-Segregated | Segregated | Un-segregated | Fair value of collateral received | Fair value of posted collateral |
| | Cash | 1,460 | 10,481 | -4,058 | -13,983 | | |
| | Securities | | 1,760 | -716 | -3,754 | | |
| | Total | 1,460 | 12,241 | -4,774 | -17,737 | 102,612 | -82,868 |
| **2015** | Total | 396 | 14,128 | -6,379 | -22,239 | 103,311 | -90,403 |

ING's key drivers of the changes to the collateralized derivative portfolio are Interest- and Foreign Exchange Risk.

### Central Counterparties

The use of Central Clearing (CCPs) is becoming more important for the derivatives business and as a consequence part of the 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

| | 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 |
| (iv) Netting sets where cross-product netting has been approved | | |
| Segregated initial margin | | |
| Non-segregated initial margin | | |
| Pre-funded default fund contributions | 159 | 279 |
| Alternative calculation of own funds requirements for exposures | | |
| **Exposures to non-QCCPs (total)** | | |
| Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which | 229 | 15 |
| (i) OTC derivatives | | |
| (ii) Exchange-traded derivatives | | |
| (iii) Securities financing transactions | 229 | 15 |
| (iv) Netting sets where cross-product netting has been approved | | |
| Segregated initial margin | | |
| Non-segregated initial margin | | |
| Pre-funded default fund contributions | | |
| Alternative calculation of own funds requirements for exposures | | |

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, EUREX Clearing Aktiengesellschaft, KDPW CCP SA, LCH Clearnet Repoclear service and LCH Clearnet Swapclear service.

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 ending up 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).

During 2016, the total trade exposure EAD (post-credit risk mitigation) for QCCP’s has increased, due to the following reasons:
- Increased cleared trade volumes
- Cleared trades previously reported on INGs clearing brokers, are now reported on the CCP (where the “look-through” approach could be applied as described under CRR art. 305, 2/3).
- In 2016 ESMA has authorised new CCP’s (increase in number of Qualified CCPs). For this reason, the share of QCCPs in the total of cleared trades, has increased.

The trade exposure RWA has decreased, due to the following reasons:
- Exposure previously booked with the regulatory risk weight of the clearing broker, has now been given the 2% risk weight that applies to CCP exposure, based on the same “look-through” approach as described above.
- In 2016 ESMA has authorised new CCP’s (increase in number of Qualified CCPs). For this reason, the risk weight of the newly qualified CCPs could be reduced to 2%.

Note: The exposures to non-QCCPs are predominantly with the entity “The Options Clearing Corporation (OCC)”. Although this US based entity is qualified for the US regulator, it was not so for ESMA as of 31 December 2016.

### CVA risk

In 2014 CRR/CRD IV introduced an additional regulatory capital charge for material increases in the CVA, the market price of the credit risk of derivatives. In particular, as credit spreads of ING Bank's counterparties increase, CVA will increase as well and ING Bank will incur a loss. ING Bank follows the standardised approach 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. The most important factors in the calculation of CVA Capital according to the standardised approach are the CVA Exposure, the CVA Risk Weight and the Maturity. The 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.

**CVA risk**

| | CVA Exposure | Average CVA Risk Weight | Average Maturity | CVA RWA |
|---|---|---|---|---|
| Interest Rate Derivatives | 5,100 | 0.87% | 4.13 | 2,280 |
| FX Derivative | 3,409 | 0.89% | 1.76 | 722 |
| Equity Derivative | 1,128 | 0.93% | 2.88 | 390 |
| Commodity Derivative | 46 | 0.96% | 2,44 | 15 |
| Credit Derivative | 357 | 1.00% | 3,12 | 149 |
| Derivatives Other | 55 | 0.84% | 4.40 | 25 |
| Securities Financing | | | | |
| Total 2016 | 10,096 | 0.89% | 3.15 | **3,581** |
| Total 2015 | 11,680 | 0.89% | 3.78 | 5,005 |

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

The average credit quality of ING counterparties did not change in 2016 thus the average risk weight remained constant during the period.
CVA Capital Maturity dropped in all the major product lines showing that some long term contracts were closed out and replaced by shorter maturity trades. Additionally the CVA capital was impacted by the regulatory exposure calculation methodology change for derivatives in Q4.
Exposure decreased by 13.6% on average compare to 2015. This reflects ING efforts to move trades to qualifying CCPs, where no CVA Capital charge is required. FX derivative portfolio is an exception where CVA exposure increased by 45% in 2016. This is explained by new client volume as well as expansion in one product (FX Swap) with key counterparties.

### Credit default swaps

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

**Credit derivative transactions used for own credit portfolio**

**Credit derivatives exposures**

| | Credit derivative hedges | |
|---|---|---|
| | Protection bought | Protection sold |
| Notionals | | |
| Single-name credit default swaps | -1,973 | 513 |
| Index credit default swaps | - | - |
| Total return swaps | - | - |
| Credit options | - | - |
| Other credit derivatives | - | - |
| **Total notionals** | **-1,973** | **513** |
| Fair values | -6 | -1 |
| *Positive fair value (asset)* | 4 | |
| *Negative fair value (liability)* | -9 | -2 |

**Credit derivative transactions used in intermediation activities**

| Credit derivatives exposures | Credit derivative hedges | |
|---|---|---|
| | Protection bought | Protection sold |
| **Notionals** | | |
| Single-name credit default swaps | -15,894 | 14,396 |
| Index credit default swaps | -680 | 828 |
| Total return swaps | - | - |
| Credit options | - | - |
| Other credit derivatives | - | - |
| **Total notionals** | **-16,574** | **15,224** |
| **Fair values** | -33 | 97 |
| ***Positive fair value (asset)*** | 114 | 179 |
| ***Negative fair value (liability)*** | -148 | -81 |

As of 30 December 2016, ING's credit derivative positions are mostly used in intermediation activities. The largest notional is under single-name credit default swap (CDS), and a small notional is under Index CDS. The largest contributor to the fair values comes from sovereign position, followed by corporates and financial institutions.
The remaining small portion of credit derivative positions are used for own credit portfolio. Only single-name CDS is used. The largest contributor to the fair values is from sovereign position, followed by corporates and financial institutions.
Compared to 2015, the absolute total notional for intermediation activities have increased in both protection bought and protection sold. For protection bought, the total fair value changed from positive in 2015 to negative in 2016, mainly due to the decrease in the fair value of the sovereign position. On the other hand, the fair value of protection sold changed from negative in 2015 to positive in 2016, mainly caused by the increase in the fair value of the sovereign and corporate positions.
For the own credit portfolio, the absolute notional amounts of both long and short CDS positions have increased compared to 2015. Especially, the notional for protection bought has increased significantly. The total fair value changed from positive in 2015 to negative in 2016, driven by the decrease in the fair value of the sovereign position and the negative fair value of the corporates exposure.

## Credit risk mitigation

ING Bank'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 Bank 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 Bank. The most common terminology used in ING Bank 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 Bank's practice to lend on the basis of the customer's creditworthiness rather than exclusively relying on the value of the cover. Within ING Bank, there are two distinct forms of covers: assets and third party obligations.

## Cover forms

### Assets

The asset that has been pledged to ING Bank as collateral or security gives ING Bank the right to liquidate it in cases where the customer is unable to fulfil its financial obligation. As such, the proceeds can be applied towards full or partial compensation 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 Bank the right to expect and claim from that third party to pay an amount, if the customer fails on its obligations to ING Bank. 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 Bank. These general guidelines also require that the value of the cover needs to be 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 valuer (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 Bank and that third party.

For the determination of the Credit Risk applicable amount for Pre-Settlement deals, ING Bank first matches the trades with similar characteristics to determine their eligibility for offsetting. This offsetting effect is called 'compensation'. Subsequently, ING Bank 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 Bank under CSAs or other similar agreements.

For the other risk types and especially lending, covers are received which is intended to reduce the losses incurred subsequent to an event of default on an obligation a customer may have towards ING Bank. 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 bank 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 would have both collateral and a guarantee than these are both shown in the designated column.

**Credit Risk Mitigations techniques – overview**
Covers which are received are intended to reduce the losses incurred subsequent to an event of default on an obligation a customer may have towards ING Bank. 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 bank portfolio excluding pre-settlement, securitisations and equities. 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. If a loan would have both collateral and a guarantee than these are both shown in the table below in the designated column.

**EU CR3: Credit risk mitigation techniques - overview**

| | Exposures unsecured: carrying amount | Exposures to be secured | Exposures secured by collateral | Exposures secured by financial guarantees | Exposures secured by credit derivatives |
|---|---|---|---|---|---|
| Total loans | 142,167 | 463,478 | 437,601 | 82,905 | 0 |
| Total debt securities | 85,497 | 794 | 794 | 107 | 0 |
| **Total exposures** | **227,664** | **464,272** | **438,395** | **83,012** | **0** |
| *Of which defaulted* | 3,426 | 9,809 | 8,636 | 2,933 | 0 |

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

## Maximum exposure to credit risk

The following table present our maximum exposure to Credit Risk in the AIRB and SA portfolios and associated collateral held and other credit enhancements (netting and collateral) that do not qualify for offsetting in our financial statements for the periods specified. The netting credit enhancement component includes the effects of legally enforceable netting agreement as well as the offset of negative mark-to-markets from derivatives against pledged cash collateral. The collateral credit enhancement component which is referred to as Cover Values mainly includes real estate, guarantees and collateral in the form of cash.

ING records collateral value per facility. Those figures are based on original cover values although some business units attempt to update to current market values. This is inherently difficult in volatile markets. Some facilities will have multiple levels of collateral while others have no collateral. The total figures may not reflect the collateral value per facility.

Additional Pillar III information - continued

**Maximum Exposure to Credit Risk per 31 December 2016**

| | Pre-settlement | | | | | Cover Values | Cover Values | Cover Values | Cover Values |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Other |
| | Gross MtM before netting and collateral | MtM after netting | MtM after netting and collateral | Outstanding of which pre-settlement | Total outstanding | Mortgages | Eligible Financial Collateral | Guarantees | Basel II eligible |
| AIRB | | | | | | | | | |
| Sovereigns | 6,621 | 2,502 | 2,188 | 2,754 | 93,898 | 299 | 349 | 1,419 | 122 |
| Institutions | 147,239 | 41,669 | 30,302 | 30,598 | 73,390 | 483 | 14,922 | 3,929 | 2,666 |
| Corporates | 18,682 | 14,257 | 12,270 | 15,821 | 260,979 | 84,908 | 14,504 | 58,091 | 83,036 |
| Res Mortgage secured | | | | | 274,097 | 468,123 | 2,901 | 27,442 | 1,497 |
| Other Retail | 26 | 25 | 25 | 41 | 26,495 | | 1,146 | 1,516 | 2,312 |
| Securitisations | 336 | 336 | 336 | 388 | 6,151 | | | | |
| **Total AIRB** | **172,903** | **58,788** | **45,120** | **49,602** | **735,010** | **553,813** | **33,822** | **92,397** | **89,633** |
| | | | | | | | | | |
| SA | | | | | | | | | |
| Sovereigns | | | | | 2,466 | 50 | 2 | | |
| Institutions | 676 | 565 | 91 | 73 | 2,316 | | 474 | 151 | |
| Corporates | 305 | 270 | 270 | 323 | 12,705 | 8,127 | 145 | 411 | |
| Res Mortgage secured | | | | | 7,824 | 17,494 | 18 | | |
| Other Retail | 3 | 3 | 3 | 6 | 10,414 | | 201 | 395 | |
| **Total SA** | **984** | **838** | **364** | **402** | **35,726** | **25,671** | **840** | **957** | |
| | | | | | | | | | |
| **Total Bank** | **173,887** | **59,626** | **45,484** | **50,003** | **770,736** | **579,484** | **34,662** | **93,354** | **89,633** |

Excludes equities exposure

The ING Bank portfolio is characterised by significant amounts of secured lending especially in the key areas of residential and commercial mortgages, structured finance and leasing. Amount of collateral often has a significant impact on provisioning and LGD which directly affects risk density. The cover values are pre-haircut but indexed values and exclude any cost of liquidation. Covers can either be valid for all limits, sub-limits or a particular outstanding of a borrower, the latter being the most common. The guarantees for the same portfolio relate to mortgages covered by governmental insurers under the Nationale Hypotheek Garantie (NHG) in the Netherlands.

The Risk Management Paragraph of the Annual Report includes an extensive cover section where exposures are categorised into different Value-to-Loan (LTV) buckets which gives insight in the level of collateralisation of ING Bank's portfolio.

## Exposures secured by guarantees received

From time to time, ING Bank extends loans for which it receives a specific financial guarantee from a non-related counterparty or obligor. The figures in the table below represent the READ that has been guaranteed by these non-related parties. It does not include non-guaranteed amounts. For example, if a given credit risk is only partially guaranteed by a third party then only the portion of the amount which is guaranteed is included in the figures. For the Residential Mortgages portfolio the guarantees relate to mortgages covered by governmental insurers under the Nationale Hypotheek Garantie (NHG) in the Netherlands. The NHG guarantees the repayment of a loan in case of a forced property sale.

**Exposures secured by third party guarantees received**

| | | | | | | 2016 | 2015 |
|---|---|---|---|---|---|---|---|
| | Sovereigns | Institutions | Corporate | Secured by Res. Mortgage | Other retail | Total | Total |
| Under AIRB Approach | 1,419 | 3,929 | 58,091 | 24,858 | 4,100 | 92,397 | 86,826 |
| Total | 1.5% | 4.3% | 62.9% | 26.9% | 4.4% | 100.0% | 100.0% |

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

These figures exclude any guarantees which are received from a party related to the obligor, such as a parent or sister company. The figures also exclude any guarantees that may be implied as a result of credit default swap activities. The figures do include amounts that are guaranteed through an unfunded risk participation construction. The overall level of third party guarantees received increased over the year. However, there were opposite movements within the portfolios. An increase of EUR 6.2 billion was observed in the Corporates portfolio, while the rest of the portfolios witnessed decreases mainly driven by the EUR 4.3 billion decrease in the Residential Mortgages.

## Maturity profile

### Outstandings by tenor bucket

The table below shows the outstanding of ING Bank by run-off profile. The figures assume that no new credit risks are introduced into the portfolio and that there are no delays in repayments associated with non-performing loans, nor are there write offs associated with provisions. The portfolio tenor is implied by the difference in the figures between two periods.

The assumption is that loans, money market and investments in fixed income securities are fully repaid at their maturity dates and that limits are reduced in conjunction with repayment schedules contained in the associated loan documentation, without regard for potential renewal or extension, or portfolio sales or acquisitions. Pre-Settlement risks are assumed to reduce over the legal maturity of the underlying transactions. However, under mark-to-market plus add-on methodology, it is possible for exposures to increase in time, rather than decrease. This is a function of ING Bank's estimates of future interest rates and foreign exchange rates, as well as potential changes in future obligations that may be triggered by such events. Generally, credit risk outstandings are lower than READ.

Due to an inflow of longer term and an outflow of shorter term lending assets in the bank portfolio, there is a relative increase in assets having a tenor of 5 years and over.

**Outstandings by tenor buckets (credit risk outstandings)**

| | | | | | | 2016 | 2015 |
|---|---|---|---|---|---|---|---|
| | Sovereigns | Institutions | Corporate | Residential mortgages | Other retail | Total | Total |
| Current Outstandings | 96,365 | 75,396 | 265,637 | 278,576 | 34,965 | 750,939 | 733,880 |
| 1 month | 82,440 | 54,913 | 255,661 | 278,183 | 34,734 | 705,931 | 683,140 |
| 3 month | 80,296 | 47,282 | 240,627 | 277,271 | 34,461 | 679,937 | 660,550 |
| 6 month | 79,703 | 43,501 | 225,337 | 275,752 | 33,977 | 658,270 | 641,577 |
| 1 year | 72,314 | 37,135 | 188,744 | 272,152 | 30,175 | 600,520 | 572,739 |
| 2 years | 69,309 | 31,565 | 151,999 | 267,435 | 25,652 | 545,960 | 516,076 |
| 3 years | 67,818 | 26,484 | 120,881 | 262,002 | 22,773 | 499,958 | 472,762 |
| 5 years | 65,606 | 19,109 | 65,863 | 247,067 | 15,479 | 413,124 | 378,167 |
| 7 years | 61,933 | 16,732 | 36,836 | 232,252 | 10,144 | 357,898 | 314,117 |
| 10 years | 59,237 | 14,304 | 18,355 | 202,798 | 6,503 | 301,196 | 240,312 |

Includes AIRB portfolio only; excludes securitisations, equities and ONCOA.
Non-performing loans (rating 20-22) are excluded in the figures above.

## Securitisations

The following information is prepared taking into account the 'Industry Good Practice Guidelines on Pillar III disclosure requirements for securitisations' (the Guidelines) 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 Bank's entire securitisation activity.

Depending on ING Bank's role as investor, originator, or sponsor the objectives, the involvement and the rules applied may be different. ING Bank is primarily engaged in securitisation transactions in the role of investor (in securitisations arranged by others). To a lesser extent, ING Bank 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 bank hedges its securitisation positions, such instruments are not recognized as credit risk mitigants for regulatory capital purposes.

### Valuation and accounting policies

ING Bank's activities regarding securitisations are described in Note 48 '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 Bank's own originated securitisation programmes are 'Derecognition of financial assets' and 'Consolidation'. Where ING Bank acts as investor in securitisation positions, the most relevant accounting policy is 'Classification of financial instruments'.

## Regulatory capital method used and Rating Agencies

ING Bank has implemented the AIRB approach for credit risk. As a consequence, ING Bank 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 Bank 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 used

ING Bank 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**

| | | | | | | 2016 | 2015 |
|---|---|---|---|---|---|---|---|
| | S&P | Fitch | Moody's | IAA approach | Other | Total | Total |
| Asset Backed Securities | 1,716 | 2,000 | 160 | 0 | 0 | **3,875** | 3,056 |
| Residential Mortgage Backed Securities | 393 | 990 | 166 | 0 | 0 | **1,549** | 3,331 |
| Securitisation Liquidity | 0 | 0 | 0 | 720 | 0 | **720** | 846 |
| Interest Rate Derivatives | 0 | 0 | 0 | 330 | 0 | **330** | 423 |
| Other | 32 | 7 | 10 | 401 | 0 | **450** | 474 |
| **Total** | **2,141** | **2,996** | **336** | **1,451** | **0** | **6,924** | **8,130** |

Under the RBA, the risk-weighted assets (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 | 2016 | 2015 | Delta % |
|---|---|---|---|
| **Geography** | **6,924** | **8,130** | **-17.4%** |
| America | 2,908 | 3,388 | -16.5% |
| Asia | 35 | 38 | -9.6% |
| Australia | 19 | 13 | 31.9% |
| Europe | 3,962 | 4,692 | -18.4% |
| | | | |
| **Europe** | 3,962 | 4,692 | -18.4% |
| Germany | 1,556 | 888 | 43.0% |
| Netherlands | 943 | 768 | 18.5% |
| Spain | 730 | 1,452 | -98.9% |
| United Kingdom | 463 | 919 | -98.6% |
| Rest of Europe | 269 | 664 | -146.6% |
| | | | |
| **Product Type** | **6,924** | **8,130** | **-17.4%** |
| Asset Backed Securities | 3,875 | 2,897 | 25.2% |
| Residential Mortgage Backed Securities | 1,549 | 3,286 | -112.2% |
| Securitisation Liquidity (1) | 720 | 846 | -17.5% |
| Interest Rate Derivatives | 330 | 423 | -28.1% |
| Other | 450 | 678 | -50.8% |
| | | | |
| **Exposure Class (2)** | **6,924** | **8,130** | **-17.4%** |
| Securitisation Investor | 5,476 | 6,442 | -17.6% |
| Securitisation Sponsor | 1,448 | 1,688 | -16.6% |

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 2016 the exposure to securitisations decreased from EUR 8.1 billion to EUR 6.9 billion mainly caused by repayments in the RMBS portfolio. The biggest increase was observed in the exposure in German assets. During 2016 the liquidity portfolio in ABS grew moderately mainly in Auto-ABS from Western Europe, the majority of Auto-ABS is based on German Assets. All assets in the securitisation portfolio are performing.

## Investor securitisations

ING Bank'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 Residential Mortgage Backed Securities (RMBS) and 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 Global Capital Markets Unit.

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

Additional Pillar III information - continued

## Investor securitisation activities

| | | | 2016 | 2015 |
|---|---|---|---|---|
| | Traditional | Synthetic | Total | Total |
| **Retail** | **4,617** | | **4,617** | **6,114** |
| Of which residential mortgage | 1,568 | | 1,568 | 3,340 |
| Of which credit card | | | | |
| Of which other retail exposures | 3,049 | | 3,049 | 2,774 |
| Of which re-securitisation | | | | |
| **Wholesale** | **859** | | **859** | **327** |
| Of which loans to corporates | 10 | | 10 | 18 |
| Of which commercial mortgage | 32 | | 32 | 36 |
| Of which lease and receivables | 817 | | 817 | 274 |
| Of which re-securitisation | | | | |
| **Total** | **5,476** | | **5,476** | **6,442** |

In 2016 the securitisation activities with underlying retail exposure decreased by EUR 1.5 billion to EUR 4.6 billion, while the securitisations with underlying Wholesale Banking exposure increased by EUR 0.5 billion to EUR 0.9 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 I, 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

| | | 2016 | | 2015 |
|---|---|---|---|---|
| | READ | RWA | READ | RWA |
| Risk weight band 1 <= 10% | 5,112 | 383 | 5,493 | 421 |
| Risk weight band 2 >10% and <= 18% | 147 | 21 | 146 | 19 |
| Risk weight band 3 >18% and <= 35% | 191 | 41 | 419 | 116 |
| Risk weight band 4 >35% and <= 75% | 1 | 0 | 289 | 165 |
| Risk weight band 5 >75% and <1250% | 7 | 18 | 23 | 50 |
| Risk weight 1250% | 19 | 232 | 72 | 903 |
| **Total** | **5,476** | **695** | **6,442** | **1,674** |

## Capital requirements for investment positions in securitisations

| | | Traditional securitisation | | | Total exposure 2016 | Total exposure 2015 |
|---|---|---|---|---|---|---|
| | | Total traditional | Of which retail underlying | Of which non-retail underlying | | |
| **Exposure values (by RW bands)** | <= 20% RW | 5,303 | 5,271 | 32 | 5,303 | 5,835 |
| | >20% to 50% RW | 147 | 147 | 0 | 147 | 237 |
| | >50% to 100% RW | 4 | 4 | 0 | 4 | 288 |
| | >100% to <1250% RW | 3 | 3 | 0 | 3 | 10 |
| | 1250% RW | 19 | 19 | 0 | 19 | 72 |
| | **Total** | **5,476** | **5,444** | **32** | **5,476** | **6,442** |
| **Exposure values (by regulatory approach)** | IRB RBA (incl. IAA) | 5,457 | 5,425 | 32 | 5,457 | 6,370 |
| | 1250% Risk Weight | 19 | 19 | 0 | 19 | 72 |
| | **Total** | **5,476** | **5,444** | **32** | **5,476** | **6,442** |
| **RWA (by regulatory approach)** | IRB RBA (incl. IAA) | 462 | 456 | 7 | 462 | 772 |
| | 1250% Risk Weight | 232 | 232 | 0 | 232 | 903 |
| | **Total** | **695** | **688** | **7** | **695** | **1,674** |
| **Capital charge after cap** | IRB RBA (incl. IAA) | 37 | 36 | 1 | 37 | 62 |
| | 1250% Risk Weight | 19 | 19 | 0 | 19 | 72 |
| | **Total Capital** | **56** | **55** | **1** | **56** | **134** |

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. Positions that have deteriorated in credit quality have been adequately provisioned and have been reduced significantly.

## Sponsor securitisations

In the normal course of business, ING Bank 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 Bank facilitates these transactions by acting as administrative agent, swap counterparty and liquidity provider to Mont Blanc. ING Bank 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, car leases and residential mortgages.

ING Bank 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 812.3 million. There was no drawn liquidity amount at 31 December 2016. Mont Blanc has no investments in securitisation positions that ING Bank 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 Bank 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 Bank. 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 at least an annual basis or on a more frequent basis if deemed necessary. The performance of each transaction is closely monitored on an ongoing basis through a.o. detailed transaction reports.

## Originator securitisations

ING Bank originates own securitisation transactions for economic and regulatory capital purposes, as well as liquidity and funding purposes. As of 31 December 2016, 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 Bank as (stand-by) collateral in the money market for secured borrowings.

ING Bank has created a number of these securitisations with a 31 December 2016 position of approximately EUR 75.5 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 ING's portfolio – some of the equity exposure – 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 this method is used.

**Equity exposure – Simple risk weight approach**

| | On balance sheet amount | | Off balance sheet amount | | RW | Exposure amount | | RWA | | Capital requirements | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2015 | 2016 | 2015 | | 2016 | 2015 | 2016 | 2015 | 2016 | 2015 |
| Exchange traded equity exposures | 770 | 1,224 | - | - | 290% | 770 | 1,224 | 2,233 | 3,548 | 179 | 284 |
| Private equity exposures | 490 | 556 | - | - | 190% | 490 | 556 | 930 | 1,057 | 74 | 85 |
| Other equity exposures | - | - | - | - | 370% | - | - | - | - | - | - |
| Total | 1,260 | 1,780 | - | - | | 1,260 | 1,780 | 3,163 | 4,605 | 253 | 368 |

In September 2016 ING announced the sale of 46.7 million ordinary shares of Kotak Mahindra Bank (Kotak). The sale reduced ING's stake in Kotak from 6.4% to 3.9%. ING obtained its stake in Kotak through the merger of ING Vysya Bank with Kotak Mahindra Bank, which was effective from 1 April 2015. This transaction significantly reduced ING equity exposure amount and as a result the RWA.

## 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 2016 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

| | | VaR | SVaR | IRC | CRM | Other | Total RWA | Total capital requirements |
|---|---|---|---|---|---|---|---|---|
| 1 | RWA at previous year end | 1,797 | 2,931 | 3,579 | | | 8,307 | 665 |
| 1a | *Regulatory adjustment* | 1,262 | 1,962 | 239 | | | 3,464 | 277 |
| 1b | *RWA at previous year-end (end of the day)* | 535 | 969 | 3,339 | | | 4,844 | 387 |
| 2 | Movement in risk levels | -86 | 85 | -1,839 | | | - 1,840 | -147 |
| 3 | Model updates/changes | | | | | | | |
| 4 | Methodology and policy | | | | | | | |
| 5 | Acquisitions and disposals | | | | | | | |
| 6 | Foreign exchange movements | | | | | | | |
| 7 | Other | | | | | | | |
| 8a | *RWAs at the end of the reporting period (end of the day)* | 449 | 1,054 | 1,500 | | | 3,003 | 240 |
| 8b | *Regulatory adjustment* | 674 | 1,492 | 409 | | | 2,575 | 206 |
| 8 | RWA at the end of the reporting period | 1,123 | 2,546 | 1,910 | | | 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 ING Bank Market RWA under Internal Model Approach decreased by EUR 2.7 billion to EUR 5.6 billion, the key changes being a decrease in exposures to sovereign issuers that decreased IRC, and a change in risk positions during 2016 that resulted in decreases in VaR and Stressed VaR. The main changes in risk positions throughout the year were in equity derivatives portfolio and CVA hedge portfolio. The CVA hedges are capitalized under market risk framework, while CVA is capitalized under credit risk framework according to Basel rules.

Disclosures on Market risk under Internal Model Approach (table EU MR2-A), Internal Model Approach values for CAD2 trading portfolios (table EU MR3) and Market risk under Standardised Approach (table EU MR1) are presented in “Market risk in trading books” section of the Annual Report.

### 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 | |
|---|---|---|---|---|
| | 2016 | 2015 | 2016 | 2015 |
| Trading | 224 | 307 | 446 | 665 |
| Interest rate risk in the banking books | 3,651 | 3,555 | | |
| Foreign exchange | 556 | 894 | 87 | 106 |
| Real Estate | 230 | 369 | | |
| Equity Investments* | 3,313 | 3,456 | | |
| **Market risk** | **7,974** | **8,581** | **533** | **771** |

* 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 the strategic Equity Investments in the banking books.

### Year-on-year variance analysis

During 2016, market risk economic capital decreased from EUR 8.6 billion to EUR 8.0 billion. The main driver of the decrease is the sale of shares in Kotak Mahindra Bank, with a value of 490 million euro. The foreign exchange Economic Capital also decreased markedly, mainly due to the position change in INR, GBP and USD currencies, and the lower volatility (of CNY, RUB and USD) in the time period used in the Historical Value-at-risk calculation..

### 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 | ● | ● | | | | -88 | |
| Cash flow hedge reserve | ● | | -2,057 | | | | |
| Available-for-sale reserve | | | | | | | |
| - Debt securities | ● | ● | -521 | -1,263 | | | |
| - Equity securities | ● | ● | | | -391 | | -368 |
| Currency translations reserve | ● | ● | | | | | -972 |
| **P&L** | | | | | | | |
| All items impacting P&L, excluding DVA | ● | ● | -48 | -73 | -88 | -16 | -144 |
| DVA own issued debt/structured notes | ● | | | 165 | | | |
| DVA derivatives | ● | | -1 | 45 | | | -3 |
| | | | | | | | |
| **Impact on capital** | | | | | | | |
| IFRS-EU Equity | | | -2,627 | -1,126 | -479 | -104 | -1,486 |
| Common equity Tier 1 (CRR/CRD IV, fully loaded) | | | -569 | -1,336 | -479 | -104 | -1,483 |

* 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.

Additional Pillar III information - continued

### 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 Group or one of its subsidiaries cannot meet its financial liabilities when they come due, at reasonable cost and in a timely manner.

To protect ING Bank and its depositors against liquidity risks, ING Bank maintains a liquidity buffer, which is based on the liquidity needs across all entities under stressed conditions. 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.

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

In 2016, the median asset encumbrance ratio for ING Group was 19% compared to 18% in 2015.

**Asset encumbrance ING Group**

| 2016 median in EUR million | Carrying amount of encumbered assets | Fair value of encumbered assets | Carrying amount of unencumbered assets | Fair value of unencumbered assets |
|---|---|---|---|---|
| Assets of ING Group | 106,258 | | 763,461 | |
| Equity instruments | 5,450 | 5,450 | 8,583 | 8,583 |
| Debt securities | 15,782 | 15,745 | 99,422 | 99,391 |
| Other assets | 706 | | 74,414 | |

**Asset encumbrance ING Group**

| 2015 median in EUR million | Carrying amount of encumbered assets | Fair value of encumbered assets | Carrying amount of unencumbered assets | Fair value of unencumbered assets |
|---|---|---|---|---|
| Assets of ING Group | 104,305 | | 752,873 | |
| Equity instruments | 6,551 | 6,551 | 12,326 | 12,326 |
| Debt securities | 11,477 | 11,394 | 106,771 | 106,697 |
| Other assets | 660 | | 70,536 | |

**Collateral received ING Group**

| 2016 median in EUR million | 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 Group** | 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** | | |

**Collateral received ING Group**

| 2015 median in EUR million | 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 Group** | 69,988 | 40,384 |
| Equity instruments | 16,076 | 5,891 |
| Debt securities | 53,911 | 34,033 |
| Other collateral received | | 460 |
| **Own debt securities issued other than own covered bonds or ABSs** | | |

**Encumbered assets/collateral received and associated liabilities ING Group**

| 2016 median in EUR million | Matching liabilities, contingent liabilities or securities lent | Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered |
|---|---|---|
| **Carrying amount of selected financial liabilities** | 116,394 | 162,319 |

**Encumbered assets/collateral received and associated liabilities ING Group**

| 2015 median in EUR million | Matching liabilities, contingent liabilities or securities lent | Assets, collateral received and own debt securities issued other than covered bonds and ABSs en-cumbered |
|---|---|---|
| **Carrying amount of selected financial liabilities** | 108.536 | 146.697 |

**Information on importance of encumbrance ING Group**

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

Encumbered assets on ING Group'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 Group, 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 Group. 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 Group'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.

## 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 | 2016 | 2015** |
|---|---|---|
| Business disruption and systems failures | 1 | 4 |
| Clients, products and business practices | 10 | 207 |
| Damage to physical assets | 5 | 3 |
| Employment practices and workplace safety | 3 | 38 |
| Execution, delivery and process management | 68 | 29 |
| External fraud | 63 | 38 |
| Internal fraud | 2 | 3 |
| **Total** | **152** | **322** |

* Loss amounts for events with an individual loss ≥ €10,000.
** Due to recoveries and the development of loss amounts over time, the figures of previous years can be subject to change.

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. For *External fraud,* 60% of losses were caused by two events in Wholesale Banking.
In 2015, losses were mainly in the category *Clients, products and business practices.* This was mostly related to the compensation of Small and Medium-sized Enterprise (SME) customers with Interest Rate Derivative contracts in the Netherlands. These contracts were all sold before 2012.

## 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 | 2016 | 2015 |
| Breach of Orange code or unethical behaviour | 37 | 14 |
| Fraud / Theft | 3 | 13 |
| Privacy or (client) confidentiality | 3 | 2 |
| Bribery / Corruption | 5 | 2 |
| Other breach of any external law / regulation | 42 | 39 |
| Retaliation | | 1 |
| **Total** | **90** | **71** |