BARCLAYS

Return to stability

Barclays PLC
Pillar 3 Report 2015

Contents

See page 168 for an index of all risk disclosures in the Pillar 3 and Annual Reports

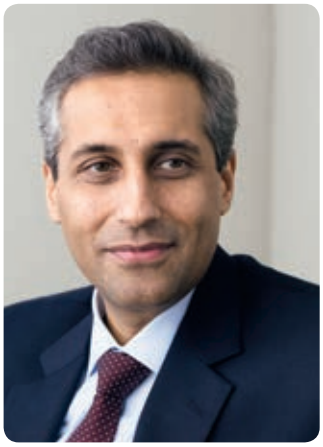
A glossary of terms and remuneration disclosures can be found at: home.barclays/annualreport

Forward-looking statements

This document contains certain forward-looking statements within the meaning of Section 21E of the US Securities Exchange Act of 1934, as amended, and Section 27A of the US Securities Act of 1933, as amended, with respect to the Group. Barclays cautions readers that no forward-looking statement is a guarantee of future performance and that actual results or other financial condition or performance measures could differ materially from those contained in the forward-looking statements. These forward-looking statements can be identified by the fact that they do not relate only to historical or current facts. Forward-looking statements sometimes use words such as 'may', 'will', 'seek', 'continue', 'aim', 'anticipate', 'target', 'projected', 'expect', 'estimate', 'intend', 'plan', 'goal', 'believe', 'achieve' or other words of similar meaning. Examples of forward-looking statements include, among others, statements regarding the Group's future financial position, income growth, assets, impairment charges and provisions, business strategy, capital, leverage and other regulatory ratios, payment of dividends (including dividend pay-out ratios), projected levels of growth in the banking and financial markets, projected costs or savings, original and revised commitments and targets in connection with the strategic cost programme and the Group Strategy Update, rundown of assets and businesses within Barclays Non-Core, estimates of capital expenditures and plans and objectives for future operations, projected employee numbers and other statements that are not historical fact. By their nature, forward-looking statements involve risk and uncertainty because they relate to future events and circumstances. These may be affected by changes in legislation, the development of standards and interpretations under International Financial Reporting Standards, evolving practices with regard to the interpretation and application of accounting and regulatory standards, the outcome of current and future legal proceedings and regulatory investigations, future levels of conduct provisions, the policies and actions of governmental and regulatory authorities, geopolitical risks and the impact of competition. In addition, factors including (but not limited to) the following may have an effect: capital, leverage and other regulatory rules (including with regard to the future structure of the Group) applicable to past, current and future periods; UK, US, Africa, Eurozone and global macroeconomic and business conditions; the effects of continued volatility in credit markets; market related risks such as changes in interest rates and foreign exchange rates; effects of changes in valuation of credit market exposures; changes in valuation of issued securities; volatility in capital markets; changes in credit ratings of any entities within the Group or any securities issued by such entities; the potential for one or more countries exiting the Eurozone; the implementation of the strategic cost programme; and the success of future acquisitions, disposals and other strategic transactions. A number of these influences and factors are beyond the Group's control. As a result, the Group's actual future results, dividend payments, and capital and leverage ratios may differ materially from the plans, goals, and expectations set forth in the Group's forward-looking statements. Additional risks and factors which may impact the Group's future financial condition and performance are identified in our filings with the SEC (including, without limitation, our Annual Report on Form 20-F for the fiscal year ended 31 December 2015), which are available on the SEC's website at www.sec.gov.

Subject to our obligations under the applicable laws and regulations of the UK and the US in relation to disclosure and ongoing information, we undertake no obligation to update publicly or revise any forward looking statements, whether as a result of new information, future events or otherwise.

Robert Le Blanc
Chief Risk Officer



Tushar Morzaria
Group Finance Director

‘The continued strengthening of our capital and leverage ratios reflect the strong progress made this year in rebalancing the Group.’

Capital position and risk management in 2015

Our annual disclosures contain extensive information on risk as well as capital management. This Pillar 3 Report provides a detailed breakdown of Barclays’ regulatory capital adequacy and how this relates to Barclays’ risk management:

- the fully loaded CRD IV Common Equity Tier 1 (CET1) ratio increased significantly to 11.4% (2014: 10.3%) driven by a £44bn reduction in risk weighted assets (RWAs) to £358bn (2014: £402bn)
- the leverage ratio increased significantly to 4.5% (2014: 3.7%) driven by a £205bn reduction in the exposure to £1,028bn (2014: £1,233bn).

Accelerated execution of our strategy with strong progress made on the rundown of the Non-Core business:

- Non-Core RWAs reduced £29bn to £47bn, having more than halved since the business unit was created
- Non-Core leverage exposures reduced £156bn to £121bn primarily in securities financing transactions, potential future exposure on derivatives and trading portfolio assets
- the Non-Core business is subject to the same robust risk management framework as Barclays’ Core businesses.

We saw continued improvement in the credit and market risk positions of the firm:

- credit impairment charges improved 2% to £2.1bn, reflecting the benign economic conditions in the UK and the US
- credit impairment charges within the Non-Core business improved 54% to £78m, reflecting the sale of the Spanish business and higher recoveries in Europe
- counterparty credit risk reduced 31% to £33.7bn driven by trading book risk reductions
- market risk levels decreased mainly driven by equities and interest rates as well as asset reductions in the Non-Core business. Related RWAs reduced 28% to £37.6bn while average management value at risk decreased 23% year on year.

We continued to make strong progress in embedding the elements of a sound risk culture including the Enterprise Risk Management Framework (ERMF):

- we updated and refined the ERMF in order to promote a strong risk culture and embed it further within the businesses
- we clarified further the “three lines of defence” governance model so that responsibilities for risk management and control are an integral part of individuals’ roles (see page 101)
- training on our code of conduct and other related topics relevant to specific roles continue to be deployed to all colleagues.

Summary of risk profile

This section presents a high-level summary of Barclays' risk profile and its interaction with the Group's risk appetite. Please see page 168 for a comprehensive index of all risk disclosures.

The Board makes use of the Risk Appetite Framework to set appetite, and continuously monitors existing and emerging risks.

The Group sets its risk appetite in terms of performance metrics as well as a set of mandate and scale limits to monitor risks. During 2015, the Group's performance was in line with its risk appetite. The following risk metrics reflect the Group's risk profile:

11.4%
Common Equity Tier 1 ratio (see page 16)
2014: 10.3%

£40.7bn
Common Equity Tier 1 capital (see page 16)
2014: £41.5bn

£358.4bn
Risk weighted assets (see page 23)
2014: £401.9bn

4.9%
Return on average shareholders' equity (see page 220 of the 2015 Annual Report)
2014: 5.1%

4.5%
Leverage ratio (see page 26)
2014: 3.7%

133%
Liquidity coverage ratio (see page 187 of the 2015 Annual Report)
2014: 124%

47bps
Loan loss rate (see page 109)
2014: 46bps

£17m
Management Value at Risk (see page 74)
2014: £22m

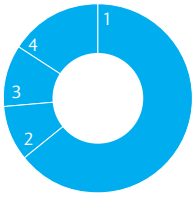
- Fully loaded CRD IV CET1 ratio increased significantly to 11.4% (2014: 10.3%) reflecting a decrease in RWAs to £358.4bn (2014: £401.9bn).
- The RWA reduction was primarily driven by a £29bn decrease in the Non-Core business to £47bn, driven by the sale of the Spanish business and a rundown of legacy structured and credit products.
- The leverage ratio increased significantly to 4.5% (2014: 3.7%), reflecting a £205bn exposure reduction to £1,028bn. This was driven by the Non-Core business exposures rundown of £156bn to £121bn.
- The loan loss rate remained stable at 47bps (2014: 46bps) reflecting the benign economic conditions in the UK and the US. These conditions supported generally stable delinquency rates in retail and lower default rates in wholesale where large single-name losses were limited in number and mainly within the oil and gas sector.
- Average management Value at Risk fell by 23% to £17m (2014: £22m), mainly driven by interest rate risk.

Another component of the Group's risk appetite is a set of mandate and scale limits to help mitigate concentration risk, keep business activities within our mandate and allow Barclays to remain of an appropriate scale. During 2015, Barclays paid particular attention to Non-Core assets, and undertook deep dive reviews of specific sectors to help ensure risk capacity continues to be deployed within overall appetite.

The material existing and emerging risks section on page 119 of the Barclays PLC Annual Report describes the main risks currently faced by the Group.

Please see page 106 for a discussion of risk appetite, and page 119 of the Annual Report for a discussion of material and emerging risks.

The Pillar 3 Report provides detailed regulatory risk measures that reflect the Group's risk profile and strategy. 2015 measures show the progress accomplished in rebalancing the Group's risk profile as follows:

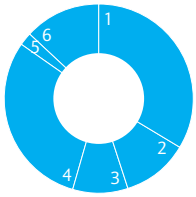


	2015 £bn	2014 £bn
1 Credit risk	**230.4**	244.0
2 Counterparty credit risk	**33.7**	49.1
3 Market risk	**37.6**	52.1
4 Operational risk	**56.7**	56.7

1. credit risk decreased 6% to £230.4bn, primarily driven by the sale of the Spanish business and the rundown of legacy structured and credit products within Non-Core
2. counterparty credit risk decreased 31% to £33.7bn, primarily driven by trading risk reductions within the Investment Bank and Non-Core
3. market risk decreased 28% to £37.6bn, driven by trading risk reductions within the Investment Bank and Non-Core
4. operational risk remained unchanged at £56.7bn (2014: £56.7bn).

We hold RWAs for credit (discussed on page 27), market (page 71), and operational (page 92) risks. See page 24 for the main drivers of movements for each of these risk types.

Summary of risk profile



		2015 £bn	2014 £bn
1	Personal & Corporate Banking	**120.4**	120.2
2	Barclaycard	**41.3**	39.9
3	Africa Banking	**33.9**	38.5
4	Investment Bank	**108.3**	122.4
5	Head Office and Other Operations	**7.7**	5.6
6	Barclays Non-Core	**46.6**	75.3

RWAs decreased 11% to £358.4bn (2014: £401.9bn):

1. Personal and Corporate Banking (PCB) remained stable at £120.4bn
2. Barclaycard increased 4% to £41.3bn, primarily driven by growth in the US cards business
3. Africa Banking decreased 12% to £33.9bn, primarily driven by the depreciation of ZAR against GBP. Excluding the impact of currency movements, Africa Banking increased 8% due to an increase in corporate lending
4. Investment Bank decreased 12% to £108.3bn mainly due to a reduction in securities and derivatives, and improved RWA efficiency
5. Head Office increased 38% to £7.7bn, primarily driven by an increase in deferred tax assets and reallocation of operational risk
6. Non-Core RWAs decreased 38% to £46.6bn, primarily driven by the sale of the Spanish business, the active rundown of legacy structured and credit products, and derivative trade unwinds.

Notes on basis of preparation

Pillar 3 Report regulatory framework

The Pillar 3 Report is prepared in accordance with the Capital Requirements Regulation and Directive IV ('CRR' and 'CRD IV', also known as the 'CRD IV legislative package'). In particular, articles 431 to 455 of the CRR specify the Pillar 3 framework requirements. The CRD IV legislative package came into force on 1 January 2014.

See 'Application of the Basel framework' on page 7 for a more detailed description.

Key changes in the 2015 Pillar 3 Report

The tables and information from last year's CRD IV comparatives section have been reallocated back to their relevant sections as all comparatives are now on a CRD IV basis.

We are now using the term Globally Systematically Important Bank (G–SIB) rather than Globally Systematically Important Financial Institution (G-SIFI) in line with BCBS and FSB terminology.

Comparatives for Collateral (page 41), CVA (page 81) and Remuneration (page 159) tables are now included (these were first time disclosures last year).

See Appendix D on page 161 for a CRD IV reference.

Presentation of risk data in the Pillar 3 disclosures vs. the Annual Report and financial statements

This document discloses Barclays' assets in terms of exposures and capital requirements. For the purposes of this document:

Asset/exposure classes

Throughout this report, tables show credit exposures or capital requirements split into various exposure classes (for instance, industry or type of borrower). Some of these classes are specified in CRD IV. Where the regulations are not explicit, such as in industry and geographic analyses, Barclays shows exposure class splits at an appropriate level of granularity.

Credit losses

Where impairment or losses are disclosed within this document, Barclays has followed the IFRS definitions used in the Annual Report.

Scope of application

Where this document discloses credit exposures or capital requirements, Barclays has followed the scope and application of its Pillar 1 capital adequacy calculations (unless noted otherwise).

Definition of credit exposures

Credit exposure, or 'Exposure at Default' (EAD) is defined as the estimate of the amount at risk in the event of a default (before any recoveries) or through the decline in value of an asset. This estimate takes account of contractual commitments related to undrawn amounts.

In contrast, an asset in the Group's balance sheet is reported as a drawn balance only. This is one of the reasons why exposure values in the Pillar 3 Report will differ from asset values as reported in the Annual Report.

Table 15 provides a reconciliation between IFRS and EAD for credit risk. Tables 33 to 39 provides a reconciliation between the IFRS impairment provision and the regulatory impairment allowance.

Policy, validation and sign-off

Throughout the year ended 31 December 2015, and to date, Barclays has operated a system of risk management and internal control, which provides reasonable assurance over the information disclosed in this report as well as with regards to compliance with laws and regulations.

See Appendix D for a reference to Barclays' compliance with the CRD IV.

This report was validated and approved internally by Barclays in line with its Pillar 3 policy. Businesses attest to the accuracy of their data submissions. Consistency checks and reconciliations are performed with financial statements and regulatory returns.

The Pillar 3 policy, approved by the Board Risk Committee, also requires that Barclays' external disclosures (which include the Pillar 3 Report, interim management statements, and the Annual Report) convey its risk profile comprehensively, subject to the information being material and not proprietary nor confidential. The policy also covers frequency of disclosures.

During the publication process the report is subject to reviews by Barclays' Legal and Technical committee. This committee is responsible for reviewing the Group's financial reports and disclosures to ensure that they are fit for purpose for external disclosures, and reports its conclusions to the Disclosure Committee.

The Disclosure Committee, which is chaired by the Group Finance Director, considers the content and accuracy of the disclosures, reporting its conclusions to the Board Audit Committee (BAC). The BAC reviews the report, with final approval provided by the Board.

This governance process is in place to ensure both management and the Board are given sufficient opportunity to review and challenge the Group's financial statements and other significant disclosures before they are made public.

Scope of application of Basel rules

This section explains the scope of application of Basel rules in relation to capital adequacy.

- Figure 1 shows a representation of Barclays' entities within the scope of regulatory consolidation and how this differs from IFRS consolidation.
- Table 1 shows how IFRS balances contribute to the regulatory scope of consolidation on a line by line basis.
- The regulatory risk type associated with each balance sheet line is indicated in table 2.
- Tables 3 and 4 show the scope of permission of calculation approaches that summarises the various approaches to calculate RWAs, and Barclays' permission to use them.

Scope of application of Basel rules
Application of the Basel framework

Overview of Pillar 3

Barclays has applied the Basel framework since its implementation. The framework is made up of three pillars:

Pillar 1:
covers the calculation of RWAs for credit risk, counterparty credit risk, market risk and operational risk

Pillar 2:
covers the consideration of whether additional capital is required over and above the Pillar 1 risk calculations. A firm's own internal models and assessments support this process

Pillar 3:
covers external communication of risk and capital information by banks as specified in the Basel rules to promote transparency and good risk management

Pillar 3 requires the disclosure of exposures and associated RWAs for each risk type and approach to calculating capital requirements for Pillar 1.

Distinct regulatory capital approaches are followed for each of the following risk and exposure types:

- credit risk (including certain non-traded equity exposures)
- counterparty credit risk
- market risk
- credit valuation adjustment
- securitisations
- operational risk.

Approaches to calculating capital requirements under CRD IV

Calculation of capital for credit risk

The credit risk weighted assets calculation is based on an estimate of the Exposure at Default (EAD). In addition, where Barclays has the necessary regulatory waivers, it estimates Probabilities of Default (PD) and Loss Given Default (LGD) (see page 116 and the online glossary for definitions):

- Standardised approach: assesses capital requirements using standard industry wide risk weightings based on a detailed classification of asset types, ratings and maturity
- Internal Ratings Based approach (IRB): assesses capital requirements using the Group's specific data and internal models to calculate risk weightings. The IRB approach is further sub-divided into two applications:
  - Advanced IRB (AIRB): where internal calculations of PD, LGD and credit conversion factors are used to model risk exposures
  - Foundation IRB (FIRB): where internal calculations of PD, but standardised parameters for LGD and credit conversion factors are used. The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015.

See page 27 for more details on capital requirements for credit risk. Also, the IRB approach to credit risk section on page 107 discusses credit risk modelling in detail.

Calculation of capital for counterparty credit risk (CCR)

CCR differs from credit risk, above, in how the EAD is calculated and applies to traded exposures. It arises where a counterparty default may lead to losses of an uncertain nature as they are market driven. This uncertainty is factored into the valuation of the Group's credit exposure arising from such transactions. The Group uses three methods under the regulatory framework to calculate CCR exposure:

- the Mark to Market method (MTM, also known as Current Exposure method), which is the sum of the current market value of the instrument plus an add-on (dependent on potential future exposure, or PFE) that accounts for the potential change in the value of the contract until a hypothetical default of the counterparty
- the Internal Model Method (IMM), subject to regulatory approval, allows the use of internal models to calculate an effective expected positive exposure (EEPE), multiplied by a factor stipulated by the regulator called alpha. For Barclays this is set at 1.4
- the Financial Collateral Comprehensive Method (FCCM), which is the net position of securities financing transactions after the application of volatility haircuts prescribed by CRR.

See page 63 for more details on capital requirements for CCR exposures.

Calculation of capital for market risk

RWA calculations for market risk assess the losses from extreme movements in the prices of financial assets and liabilities:

- Standardised approach: a calculation is prescribed that depends on the type of contract, the net position at portfolio level, and other inputs that are relevant to the position. For instance, for equity positions a general market risk component captures changes in the market, while specific market risk is calculated based on features of the specific security (for instance, country of issuance)
- Model based approach: with regulatory permission, the Group can use proprietary Value at Risk (VaR) models to calculate capital requirements. Under the Basel framework, stressed VaR, incremental risk charge and all price risk models must also be used to ensure that sufficient levels of capital are maintained.

See page 71 for more details on capital requirements for market risk.

Calculation of credit valuation adjustment (CVA) capital charge

The CVA is the capital charge accounting for potential MTM losses due to credit quality deterioration of a counterparty (that does not necessarily default). Two approaches can be used to calculate the adjustment:

- Standardised approach: takes account of the external credit rating of each counterparty, and incorporates the effective maturity and EAD from the CCR calculation
- Advanced approach: this approach requires the calculation of the charge as; a) a 10-day 99% VaR measure for the current one year period; and b) the same measure for a stressed period. The sum of the two VaR measures is tripled to calculate the capital charge.

See page 81 for more details on CVA.

Scope of application of Basel rules
Application of the Basel framework

Calculation of capital for securitisation exposures
A separate regulatory framework exists for the calculation of securitisations RWA exposures, the scope of which is defined by the CRR. Securitisations give rise to credit, market and other risks. Whilst CRR prescribes a standardised and advanced approach for the calculation of risk weights, Barclays has approval to use, and therefore applies the IRB approach, which includes:

- the Ratings Based Approach, where external ratings are available
- for unrated transactions and where certain criteria is met the 'look through' approach can be used, which considers the risk of the underlying assets
- the Internal Assessment Approach, which is also used for unrated backed commercial paper programmes, which applies a similar methodology to rating agency models.

See page 82 for more details on capital requirements for securitisation exposures.

Calculation of capital for operational risk
Capital set aside for operational risk is deemed to cover the losses or costs resulting from human factors, inadequate or failed internal processes and systems or external events.

To assess capital requirements for operational risk, the following methods apply:

- Basic Indicator approach (BIA): sets the capital requirement as 15% of the gross income, averaged over the last three years. If the income in any year is negative or zero, that year is not considered in the average
- Standardised approach: the capital requirement is calculated as the sum of a percentage of the gross income per business line, averaged over the last three years. The Group does not use this approach
- Advanced Management approach (AMA): under the AMA, and subject to the regulatory approval, the capital requirement is calculated using the Group's own models.

Note that only two of the above methods can be used concurrently. Barclays uses the AMA for the majority (93%) of its exposures, and the BIA for the remaining 7%.

See page 92 for more details on capital requirements for operational risk.

Calculation of capital for large exposures
Barclays has not exceeded the large exposure limit set in CRR, and as such no capital charge applies.

Regulatory minimum capital and leverage requirements
Capital – Fully loaded
Barclays' current regulatory requirement is to meet a fully loaded CRD IV CET1 ratio of 9% by 2019, plus a Pillar 2A add-on. The 9% comprises the required 4.5% minimum CET1 ratio and, phased in from 2016, a Combined Buffer Requirement made up of a Capital Conservation Buffer (CCB) of 2.5% and a Globally Systemically Important Institution (G-SII) buffer of 2%.

Barclays' Pillar 2A requirement as per the PRA's Individual Capital Guidance (ICG) is subject to review at least annually. Under current PRA guidance, the Pillar 2A add-on for 2016, will be 3.9%, of which 56% will need to be met in CET1 form, equating to approximately 2.2% of RWAs. Basel Committee consultations and reviews might further impact the Pillar 2A requirement in the future.

In addition, a Counter-Cyclical Capital Buffer (CCCB) and/or additional Sectoral Capital Requirements (SCR) may be required by the Bank of England to protect against perceived threats to financial stability. These buffers could be applied at the Group level or at a legal entity, sub-consolidated or portfolio level. No SCR has been set to date by the Bank of England, while the CCCB is currently 0% for UK exposures. Other national authorities determine the appropriate CCCBs that should be applied to exposures in their jurisdiction. During 2016, CCCBs will start to apply for our exposures in Hong Kong, Norway and Sweden. Based on current exposures we do not expect this to be material.

Capital – Transitional
On a transitional basis, the PRA has implemented a minimum requirement CET1 ratio of 4%, Tier 1 ratio of 5.5% and Total Capital ratio of 8%.

From 1 January 2015, the transitional capital ratios are equal to the fully loaded ratios following the PRA's acceleration of transitional provisions relating to CET1 deductions and filters. The adjustment relating to unrealised gains on available for sale debt and equity that was applied throughout 2014 as an exception no longer applies.

Grandfathering limits on capital instruments, previously qualifying as Tier 1 and Tier 2, are unchanged under the PRA transitional rules.

Leverage
In addition to the Group's capital requirements, minimum ratios have also been set in respect of leverage. The leverage ratio applicable to the Group has been calculated in accordance with the requirements of the CRR which was amended effective from January 2015. The leverage calculation uses the end-point CRR definition of Tier 1 capital for the numerator and the CRR definition of leverage exposure. During 2015 Barclays was measured against the PRA leverage ratio minimum requirement of 3%.

In December 2015, the PRA finalised the UK leverage ratio framework in which it adopted the FPC's recommendations on Leverage ratio requirements. These recommendations have been finalised in the Supervisory Statement SS45/15 and have been incorporated as part of the updated PRA rulebook, effective January 2016. This would result in a fully phased in leverage ratio requirement of 3.7% for Barclays. The minimum requirement would increase in the event that Barclays was subject to (i) an increased CCCB; and/or (ii) Barclays was reclassified into a higher G-SII category. Furthermore from January 2016, firms are required to report quarterly leverage ratio information, including an average ratio.

Impact of new regulations
Global Systemically Important Banks (G-SIBs)
G-SIBs are defined as banks representing a greater risk to the global economy, due to their size, interconnectedness and complexity. G-SIBs are required to maintain additional capital buffers and disclose indicators that are relevant to their systemic importance.

The list of G-SIBs is updated by the Financial Stability Board (FSB) on an annual basis. In November 2015, the FSB confirmed Barclays' position in a category that requires it to meet a G-SII buffer of 2%; this categorisation was based on year end 2014 data published by Barclays on 30 April 2015. (https://www.home.barclays/content/dam/barclayspublic/docs/InvestorRelations/IRNewsPresentations/2015News/Barclays_G-SII_external_disclosure_Dec2014.pdf). Barclays plans to publish an updated set of indicators in April 2016. Following the FSB's November 2014 categorisation, Barclays has been required to meet the 2% surcharge since January 2016.

Please see page 210 of the Annual Report for a more complete discussion of regulatory changes.

Structural reform of banking groups
The UK Financial Services (Banking Reform) Act 2013 (the UK Banking Reform Act) and associated secondary legislation and regulatory rules, require the separation of the Group's UK and EEA retail and SME deposit taking activities into a legally, operationally and economically separate and independent entity and restrict the types of activity such an entity may conduct (so-called 'ring fencing').

The PRA issued a Policy statement (PS10/15) in May 2015 setting up legal structures and governance requirements that the UK regulator considers as 'near-final'. A PRA Consultation was issued in October 2015 relating to post ring fencing prudential requirements and intra group arrangements among other matters. PRA final rules are expected in 2016. UK ring fencing rules will become binding from January 2019.

Please see page 213 of the Annual Report for a more complete discussion of structural reform.

Scope of application of Basel rules
Risk and capital position review

Scope of consolidation

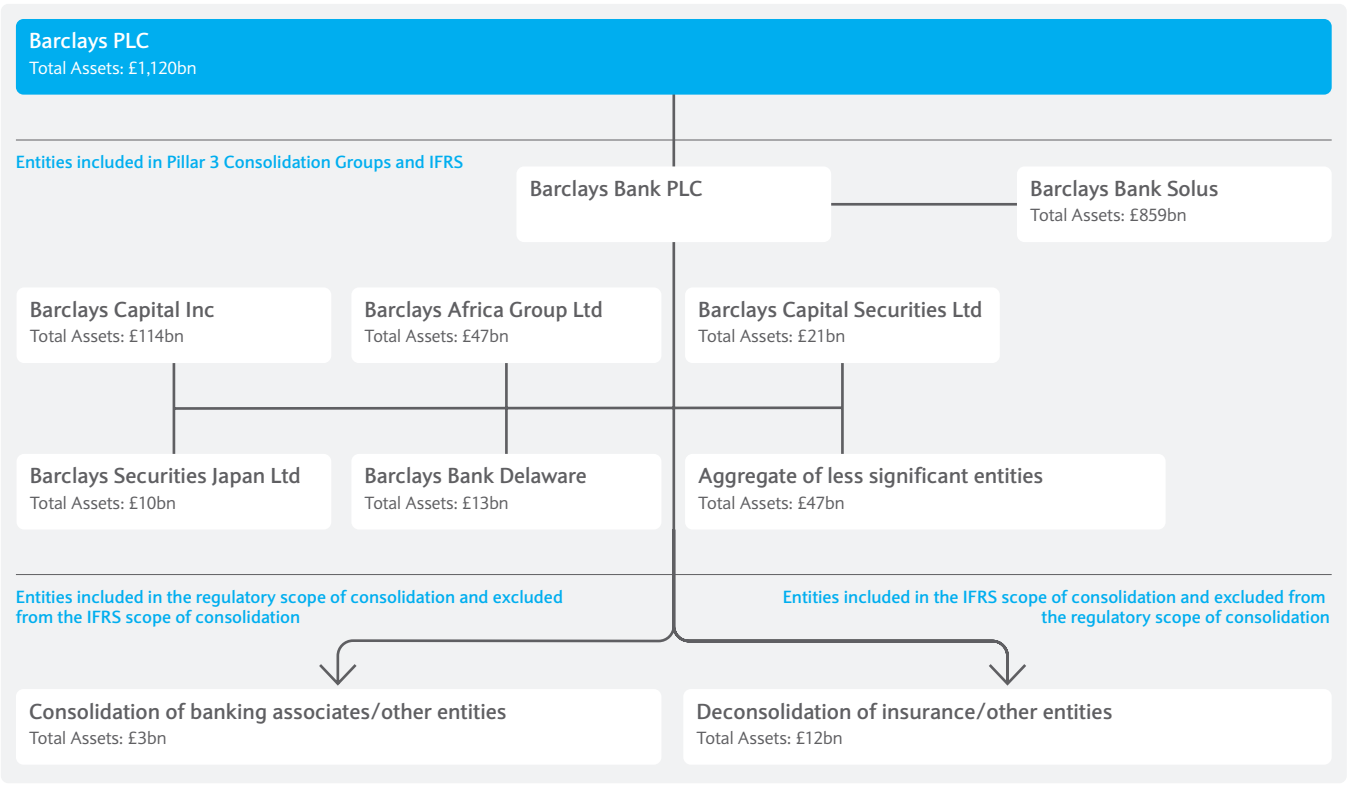
In this report, Barclays PLC is presented on a consolidated basis for the year ended 31 December 2015. The consolidation basis used is the same as that used for reporting regulatory capital adequacy to the PRA. This scope of consolidation is similar to that used for statutory accounting reporting for most of the Group's activities, except for:

- subsidiaries engaged in non-financial activities such as insurance and securitisation vehicles that are fully consolidated for statutory purposes but are not consolidated for regulatory purposes (exposures to securitisation vehicles are subject to a specific capital treatment, see page 83 for further details). Entities not consolidated for regulatory purposes are adequately capitalised
- associates, joint ventures and participations, that are financial in nature and accounted for on an equity basis in the statutory accounts, are consolidated in proportion to the participation for regulatory calculations
- entities that are not financial in nature, as well as private equity investments treated as associates, are accounted for on an equity basis in the statutory accounts, but are either risk weighted or deducted from capital for regulatory calculations.

The chart below summarises Barclays' structure with an indication of the sizes of subsidiaries in terms of their respective contribution to total assets.

Barclays also reports on a solo consolidation basis in accordance with its regulatory waiver. The solo consolidation is not reported on a standalone basis in this report.

Figure 1: Summary of regulatory scope of consolidation as at 31 December 2015[a,b]



Significant subsidiaries (not wholly owned)

CRD IV regulations require Barclays to prepare its Pillar 3 disclosures at a consolidated Group level. Significant subsidiaries must also report limited Pillar 3 information on their capital resources on a standalone basis. Barclays Bank PLC is the main operating subsidiary of the Group, and is represented as part of this report.

Barclays also has a significant subsidiary in Barclays Africa Group Limited (BAGL). BAGL's primary regulator is the South African Reserve Bank (SARB). BAGL discloses its own separate Pillar 3 Report in compliance with the SARB's regulation. These disclosures may be found in the investor relations section of BAGL's website: www.barclaysafrica.com

Please see page 151 for information on transferability of capital between parent and subsidiaries.

Notes
a Barclays Bank Solus refers to Barclays Bank PLC UK branches, excluding those of its subsidiaries.
b Barclays Bank PLC holds 100% interest in all its subsidiaries with the exception of the Barclays Africa Group Limited (BAGL), in which it holds a 62.3% interest in the shareholders' equity and recognises the remainder as non-controlling interests.

Scope of application of Basel rules
Risk and capital position review

Table 1: Barclays PLC balance sheet – statutory versus regulatory view

This table shows a reconciliation between Barclays PLC balance sheet for statutory and regulatory purposes. Please note that the amount shown under the regulatory scope of consolidation is not a RWA measure; it is based on an accounting measure and cannot be directly reconciled to other tables in this report.

As at 31 December 2015	Accounting balance sheet per published financial statements £m	Deconsolidation of insurance/ other entities £m	Consolidation of banking associates/ other entities £m	Balance sheet per regulatory scope of consolidation £m
Assets				
Cash and balances at central banks	49,711	(10)	51	49,752
Items in the course of collection from other banks	1,011	–	–	1,011
Trading portfolio assets	77,348	–	2,762	80,110
Financial assets designated at fair value	76,830	(2,414)	146	74,562
Derivative financial instruments	327,709	(2)	(1,642)	326,065
Available for sale investments	90,267	(2,152)	–	88,115
Loans and advances to banks	41,349	(146)	80	41,283
Loans and advances to customers	399,217	(5,878)	1,465	394,804
Reverse repurchase agreements and other similar secured lending	28,187	–	–	28,187
Prepayments, accrued income and other assets	3,010	402	32	3,444
Investments in associates and joint ventures	573	(105)	(420)	48
Property, plant and equipment	3,468	(16)	21	3,473
Goodwill and intangible assets	8,222	(22)	10	8,210
Current tax assets	415	(1)	(1)	413
Deferred tax assets	4,495	(29)	3	4,469
Retirement benefit assets	836	(1)	–	835
Non current assets classified as held for disposal	7,364	(1,959)	–	5,405
Total assets	1,120,012	(12,333)	2,507	1,110,186
Liabilities				
Deposits from banks	(47,080)	926	(1,002)	(47,156)
Items in the course of collection due to other banks	(1,013)	–	–	(1,013)
Customer accounts	(418,242)	–	1,774	(416,468)
Repurchase agreements and other similar secured borrowing	(25,035)	–	–	(25,035)
Trading portfolio liabilities	(33,967)	–	(2,549)	(36,516)
Financial liabilities designated at fair value	(91,745)	1,468	(550)	(90,827)
Derivative financial instruments	(324,252)	–	–	(324,252)
Debt securities in issue	(69,150)	5,761	–	(63,389)
Subordinated liabilities	(21,467)	–	(2)	(21,469)
Accruals, deferred income and other liabilities	(10,610)	2,101	(117)	(8,626)
Provisions	(4,142)	3	(1)	(4,140)
Current tax liabilities	(903)	20	(2)	(885)
Deferred tax liabilities	(122)	1	(48)	(169)
Retirement benefit liabilities	(423)	3	(8)	(428)
Liabilities included in disposal groups classified as held for sale	(5,997)	1,871	–	(4,126)
Total liabilities	(1,054,148)	12,154	(2,505)	(1,044,499)
Total equity				
Called up share capital and share premium	(21,586)	–	–	(21,586)
Other equity instruments	(5,305)	–	–	(5,305)
Other reserves	(1,898)	(52)	–	(1,950)
Retained earnings	(31,021)	141	(2)	(30,882)
Total equity excluding non-controlling interests	(59,810)	89	(2)	(59,723)
Non-controlling interests	(6,054)	90	–	(5,964)
Total equity	(65,864)	179	(2)	(65,687)
Total liabilities and equity	(1,120,012)	12,333	(2,507)	(1,110,186)

Scope of application of Basel rules
Risk and capital position review

Table 2: Regulatory calculation drivers split by IFRS account classification

	Driver for regulatory calculations		
IFRS classification	Credit risk page 27	Counterparty credit risk page 63	Market risk[a] page 71
Assets			
Cash and balances at central banks	●	○	○
Items in course of collection from other banks	●	○	○
Trading portfolio assets	○	○	●
Financial assets designated at fair value	●	●	●
Derivative financial instruments	○	●	●
Available for sale financial investments	●	○	○
Loans and advances to banks	●	○	○
Loans and advances to customers	●	○	○
Reverse repurchase agreements and other similar secured lending	○	●	○
Other assets[b]	●	○	●
Liabilities			
Deposits from banks	○	○	○
Items in course of collection due to other banks	○	○	○
Customer accounts	○	○	○
Repurchase agreements and other similar secured borrowing	○	●	○
Trading portfolio liabilities	○	○	●
Financial liabilities designated at fair value:	○	●	●
Derivative financial instruments	○	●	●
Debt securities in issue	○	○	○
Subordinated liabilities	○	○	○
Other liabilities[c]	○	○	○

Notes
a Includes credit valuation adjustment.
b Other assets consists of: prepayments, accrued income and other assets, investments in associates and joint ventures, property, plant and equipment, goodwill and intangible assets, current tax assets, deferred tax assets, retirement benefit assets and non current assets classified as held for sale.
c Other liabilities consists of: accruals, deferred income and other liabilities, provisions, current tax liabilities, deferred tax liabilities, retirement benefit liabilities, liabilities included in disposal groups classified as held for sale.

Scope of permission for calculation approaches

Barclays seeks permission from its regulators to use modelled approaches where possible, to enable risk differentiation.

Barclays has regulatory approval to use its internal models for the calculation of the majority of its banking and trading book as well as operational risks. The following table summarises the principal portfolios within Barclays that use the Standardised and Advanced IRB approaches as at 31 December 2015.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Table 3: The scope of the Standardised and IRB approaches for credit and counterparty credit risk

	Credit risk (see Table 13 and 14)			Counterparty credit risk (see Table 41 and 42)				
Business as at 31 December 2015	RWA £m	Average risk weight	EAD post-CRM £m	RWA £m	Average risk weight	EAD post-CRM £m	Advanced Internal Ratings Based (IRB) approaches	Standardised approach
Personal & Corporate Banking	102,858	33%	314,484	1,364	35%	3,890	UK managed retail and wholesale portfolios	Mainly non-UK managed retail (including Wealth) and wholesale portfolios (including legacy), UK asset and sales finance
Barclaycard	35,840	59%	60,412	–	n/a	–	UK, Germany and Spain retail credit cards	US retail credit cards, joint card issuance, partner finance, secure lending, commercial payment and any recent portfolio acquisitions.
Africa Banking	26,254	57%	46,109	509	37%	1,392	Retail mortgages, current accounts, personal loans and credit cards in Absa	Mainly retail and wholesale portfolios outside South Africa
Investment Bank	44,222	35%	127,863	21,152	31%	69,221	Most portfolios	Certain portfolios typically with low or no defaults, or other exposures by exception
Head Office	4,276	8%	55,692	91	33%	279	Small number of portfolios	Most portfolios including high quality liquidity pool assets
Non-Core	16,990	35%	48,736	10,628	50%	21,090	Certain legacy Investment Bank portfolios, models related to retail exposures in Continental Europe	Certain portfolios typically with low or no defaults, or insufficient historical data
Total	230,440	35%	653,296	33,744	35%	95,872		

Barclays' AIRB roll-out plans are discussed with our regulators and updated on an agreed schedule.

Barclays has permission to use the Internal Model Method (IMM) to calculate its counterparty credit risk exposures. The permission is comprehensive and applies to the majority of its trades and portfolios. Exceptions include certain contracts entered into by Barclays Capital Inc., for instance exchange traded derivatives and margin loans.

Table 4: Summary of the scope of application of regulatory methodologies for market and operational risk

As at 31 December 2015

Risk type	Risk weighted assets	Scope
Market risk	£37.6bn	As explained from page 132, the risk of loss from changes in the prices of assets in the trading book are captured by a combined RWA calculation for general and specific market risks. The regulatory permission for Barclays to use models considers risk types and legal entities; see table 9 on page 23 for capital requirements related to each approach and risk factor. Barclays has regulatory approval for VaR modelling for general market risk, which is designed to capture the risk of loss arising from changes in market interest rates, along with the risk of losses arising from changes in foreign exchange, commodities and equity market value. The capital charge for specific market risk is designed to protect against losses from adverse movements in the price of an individual security owing to factors related to the individual issuer. Barclays has permission to model specific market risk, including credit spread, migration, and default risks, for certain legal entities and product types. Where the Group does not have permission to use a model (notably in Barclays Capital Inc), the Standardised approach is applied.
Of which: Credit valuation adjustment (CVA)	£11.3bn	Barclays calculates CVA risk for all contracts in scope as defined by article 382 of the CRR. Barclays has permission to use an internal model for the specific risk of debt instruments and therefore is allowed to use the Advanced method for CVA for such instruments where applicable. The Standardised method for CVA is used otherwise.
Operational risk	£56.7bn	Barclays has regulatory approval to calculate its operational risk capital requirement using a CRD IV AMA, this accounts for 93% of operational risk RWAs as at 2015 year end. Recently acquired businesses are excluded from this approval. Barclays uses the BIA while it transitions these businesses to AMA, this accounts for 7% of operational risk RWAs as at 2015 year end.

Risk and capital position review
Contents

This section details Barclays' capital position providing information on both capital resources and capital requirements. It also provides detail of the leverage ratio and exposures.

Key metrics and movements in 2015

11.4% fully loaded Common Equity Tier 1 ratio

RWAs decreased by £43.5bn to £358.4bn. Non-Core RWAs decreased £28.7bn to £46.6bn as a result of the sale of the Spanish business and the rundown of legacy structured and credit products. Investment Bank RWAs decreased £14.1bn to £108.3bn mainly due to a reduction in securities and derivatives, and improved RWA efficiency.

CET1 capital decreased £0.7bn to £40.7bn after absorbing adjusting items and dividends paid and foreseen.

4.5% leverage ratio

The leverage ratio increased significantly to 4.5% (2014: 3.7%) driven by a reduction in the leverage exposures of £205bn to £1,028bn predominantly due to the rundown in Non-Core of £156bn to £121bn.

Table 5: Capital resources

This table shows the Group's capital resources. Table 7 presents the components of regulatory capital on both a transitional and fully loaded basis as at 31 December 2015.

Key capital ratios		
As at 31 December	**2015**	2014
Fully Loaded CET1	**11.4%**	10.3%
PRA Transitional CET1[a]	**11.4%**	10.2%
PRA Transitional Tier 1[b]	**14.7%**	13.0%
PRA Transitional Total Capital[b]	**18.6%**	16.5%

Capital resources (audited)		
As at 31 December	**2015 £m**	2014 £m
Shareholders' equity (excluding non-controlling interests) per the balance sheet	**59,810**	59,567
Less: other equity instruments (recognised as AT1 capital)	**(5,305)**	(4,322)
Adjustment to retained earnings for foreseeable dividends	**(631)**	(615)
Minority interests (amount allowed in consolidated CET1)	**950**	1,227
Other regulatory adjustments and deductions		
Additional value adjustments (PVA)	**(1,602)**	(2,199)
Goodwill and intangible assets	**(8,234)**	(8,127)
Deferred tax assets that rely on future profitability excluding temporary differences	**(855)**	(1,080)
Fair value reserves related to gains or losses on cash flow hedges	**(1,231)**	(1,814)
Excess of expected losses over impairment	**(1,365)**	(1,772)
Gains or losses on liabilities at fair value resulting from own credit	**127**	658
Defined benefit pension fund assets	**(689)**	–
Direct and indirect holdings by an institution of own CET1 instruments	**(57)**	(25)
Other regulatory adjustments	**(177)**	(45)
Fully loaded CET1 capital	**40,741**	41,453
Regulatory adjustments relating to unrealised gains	**–**	(583)
PRA transitional CET1 capital	**40,741**	40,870
Additional Tier 1 (AT1) capital		
Capital instruments and the related share premium accounts	**5,305**	4,322
Qualifying AT1 capital (including minority interests) issued by subsidiaries	**6,718**	6,870
Other regulatory adjustments and deductions	**(130)**	–
Transitional AT1 capital	**11,893**	11,192
PRA transitional Tier 1 capital	**52,634**	52,062
Tier 2 capital		
Capital instruments and the related share premium accounts	**1,757**	800
Qualifying Tier 2 capital (including minority interests) issued by subsidiaries	**12,389**	13,529
Other regulatory adjustments and deductions	**(253)**	(48)
PRA transitional total regulatory capital	**66,527**	66,343

Notes
a The CRD IV CET1 ratio (FSA October 2012 transitional statement) as applicable to Barclays' Tier 2 Contingent Capital Notes was 13.1% based on £46.8bn of transitional CRD IV CET1 capital and £358bn RWAs.
b The PRA transitional capital is based on the PRA Rulebook and accompanying supervisory statements.

Table 6: Summary of movements in capital resources

Movement in PRA transitional total capital	2015 £m
Opening fully loaded CET1 capital	**41,453**
Loss for the period attributable to equity holders	(49)
Own credit	(531)
Dividends paid and foreseen	(1,372)
Decrease in regulatory capital generated from earnings	**(1,952)**
Net impact of share awards	609
Available for sale reserves	(245)
Currency translation reserves	(41)
Other reserves	9
Increase in other qualifying reserves	**332**
Retirement benefit reserve	916
Defined benefit pension fund asset deduction	(689)
Net impact of pensions	**227**
Minority interests	(277)
Additional value adjustments (PVA)	597
Goodwill and intangible assets	(107)
Deferred tax assets that rely on future profitability excluding those arising from temporary differences	225
Excess of expected loss over impairment	407
Direct and indirect holdings by an institution of own CET1 instruments	(32)
Other regulatory adjustments	(132)
Decrease in regulatory adjustments and deductions	**681**
Closing fully loaded CET1 capital	**40,741**
Opening PRA transitional AT1 capital as at 1 January	**11,192**
Capital instruments and the related share premium accounts	983
Qualifying AT1 capital (including minority interests) issued by subsidiaries	(152)
Other regulatory adjustments and deductions	(130)
Increase in AT1 capital	**701**
Closing PRA transitional AT1 capital	**11,893**
Opening PRA transitional Tier 2 capital as at 1 January	**14,281**
Capital instruments and the related share premium accounts	957
Qualifying Tier 2 capital (including minority interests) issued by subsidiaries	(1,140)
Other regulatory adjustments and deductions	(205)
Decrease in Tier 2 capital	**(388)**
Closing PRA transitional Tier 2 capital	**13,893**
Total PRA transitional regulatory capital	**66,527**

- During 2015, the fully loaded CET1 ratio increased to 11.4% (2014: 10.3%) driven by a significant reduction in RWAs.
- CET1 capital decreased by £0.7bn to £40.7bn, after absorbing adjusting items, with the following significant movements:
  - a £1.4bn reduction for dividends paid and foreseen
  - a £0.2bn net increase as the retirement benefit reserve increased £0.9bn, partially offset by £0.7bn pension asset deduction
  - a £0.7bn increase due to lower regulatory deductions and adjustments including a £0.6bn decrease in PVA, a £0.4bn decrease in expected losses due to the sale of the Spanish business and disposals across the Investment Bank, partially offset by a £0.3bn decrease in eligible minority interests
- Transitional Tier 1 capital increased by £0.7bn to £11.9bn largely due to a £1.0bn issuance of AT1 securities.
- Transitional Tier 2 capital decreased by £0.4bn to £13.9bn due to redemptions in the period, an increase in capital deductions for own paper and decreased eligible minority interests. This was partly offset by an issuance of €1.25bn Fixed Rate Subordinated Notes.

Table 7: Regulatory capital

This table shows the components of regulatory capital presented on both a transitional and fully loaded basis as at 31 December 2015.

This disclosure has been prepared using the format set out in Annex IV and Annex VI of the final 'Implementing technical standards with regard to disclosure of own funds requirements for institution' (Commission implementing regulation – EU 1423/2013).

	Common Equity Tier 1 (CET1) capital: instruments and reserves	31 December 2015 Transitional position £m	Transitional impacts £m	31 December 2015 Fully loaded position £m
1	Capital instruments and the related share premium accounts	**21,586**	–	21,586
	of which: ordinary shares	***21,586***	–	*21,586*
2	Retained earnings	**31,021**	–	31,021
3	Accumulated other comprehensive income (and other reserves)	**1,898**	–	1,898
5	Minority interests (amount allowed in consolidated CET1)	**950**	–	950
5a	Independently reviewed interim net profits net of any foreseeable charge or dividend[a]	**(631)**	–	(631)
	Scope of consolidation adjustment	**(177)**	–	(177)
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**54,647**	–	54,647
	Common Equity Tier 1 (CET1) capital: regulatory adjustments			
7	Additional value adjustments	**(1,602)**	–	(1,602)
8	Intangible assets (net of related tax liability)	**(8,234)**	–	(8,234)
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability)	**(855)**	–	(855)
11	Fair value reserves related to gains or losses on cash flow hedges	**(1,231)**	–	(1,231)
12	Negative amounts resulting from the calculation of expected losses amounts	**(1,365)**	–	(1,365)
14	Gains or losses on liabilities at fair value resulting from changes in own credit standing	**127**	–	127
15	Defined-benefit pension fund assets	**(689)**	–	(689)
16	Direct and indirect holdings by an institution of own CET1 instruments	**(57)**	–	(57)
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1)**	**(13,906)**	–	(13,906)
29	**Common Equity Tier 1 (CET1) capital**	**40,741**	–	40,741
	Additional Tier 1 (AT1) capital: instruments			
30	Capital instruments and the related share premium accounts	**5,305**	–	5,305
31	*of which: classified as equity under IFRS*	***5,305***	–	*5,305*
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests) issued by subsidiaries and held by third parties	**6,718**	(6,461)	257
35	*of which: instruments issued by subsidiaries subject to phase out*	***6,683***	*(6,683)*	–
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**12,023**	(6,461)	5,562
	Additional Tier 1 (AT1) capital: regulatory adjustments			
37	Direct and indirect holdings by an institution of own AT1 instruments	**(130)**	–	(130)
43	Total regulatory adjustments to Additional Tier 1 (AT1) capital	**(130)**	–	(130)
44	**Additional Tier 1 (AT1) capital**	**11,893**	(6,461)	5,432
45	**Tier 1 capital (T1 = CET1 + AT1)**	**52,634**	(6,461)	46,173

Note
a Adjustment to retained earnings for foreseeable dividends only.

Table 7 Regulatory capital continued

		31 December 2015 Transitional position £m	Transitional impacts £m	31 December 2015 Fully loaded position £m
	Tier 2 (T2) capital: instruments and provisions			
46	Capital instruments and the related share premium accounts	1,757	–	1,757
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests) issued by subsidiaries and held by third parties	12,389	2,037	14,426
49	*of which: instruments issued by subsidiaries subject to phase out*	1,742	(1,742)	–
51	**Tier 2 (T2) capital before regulatory adjustments**	14,146	2,037	16,183
	Tier 2 (T2) capital: regulatory adjustments			
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans	(250)	–	(250)
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions)	(3)	–	(3)
57	**Total regulatory adjustments to Tier 2 (T2) capital**	(253)	–	(253)
58	**Tier 2 (T2) capital**	13,893	2,037	15,930
59	**Total capital (TC = T1 + T2)**	66,527	(4,424)	62,103
60	**Total risk weighted assets**	358,376	–	358,376
	Capital ratios and buffers			
61	Common Equity Tier 1 (as a percentage of risk exposure amount)	11.4%		11.4%
62	Tier 1 (as a percentage of risk exposure amount)	14.7%		12.9%
63	Total capital (as a percentage of risk exposure amount)	18.6%		17.3%
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	7.4%		6.9%
	Amounts below the thresholds for deduction (before risk weighting)			
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	2,743		2,743
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	604		604
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability)	4,016		4,016
	Applicable caps on the inclusion of provisions in Tier 2			
77	Cap on inclusion of credit risk adjustments in T2 under Standardised approach	1,007		1,007
79	Cap for inclusion of credit risk adjustments in T2 under Internal ratings based approach	1,092		1,092
	Capital instruments subject to phase out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)			
82	Current cap on AT1 instruments subject to phase out arrangements	6,717		
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	3		
84	Current cap on T2 instruments subject to phase out arrangements	2,480		

Table 8: Summary of terms and conditions of capital resources

This table breaks down the Additional Tier 1 and Tier 2 capital issued by instrument and provides selected key terms and conditions. All Tier 1 capital comprises perpetual instruments with no maturity date. Regulatory capital might differ from the amounts recorded under IFRS due to PRA requirements relating to: capital eligibility criteria, amortisation of principal in the final five years to maturity, and the exclusion of the impact of fair value hedging.

Transitional provisions contained within CRR Article 486 are not applicable on an instrument by instrument basis and therefore instruments have been included in their transitional tiers rather than their tiers under fully loaded rules.

Further details on the terms of each instrument of subordinated liabilities can be found on pages 314 to 317 of the Barclays PLC Annual Report and online at home.barclays/annualreport. The online disclosure has been prepared using the format set out in Annex II of the final 'Implementing technical standards with regard to disclosure of own funds requirements for institutions' (Commission implementing regulation – EU1423/2013).

		Regulatory balance		IFRS balance	
		2015	2014	**2015**	2014
Instrument	Initial call date	**£m**	£m	**£m**	£m
Additional Tier 1 Capital					
Additional Tier 1 Equity Instruments – Barclays PLC					
8.25% Perpetual Subordinated Contingent Convertible Securities (USD 2,000m)	2018	**1,229**	1229	**1,229**	1229
7.00% Perpetual Subordinated Contingent Convertible Securities	2019	**695**	695	**695**	695
6.625% Perpetual Subordinated Contingent Convertible Securities (USD 1,211m)	2019	**712**	712	**712**	712
6.5% Perpetual Subordinated Contingent Convertible Securities (EUR 1,077m)	2019	**844**	856	**844**	856
8.0% Perpetual Subordinated Contingent Convertible Securities (EUR 1,000m)	2020	**830**	830	**830**	830
7.875 % Perpetual Subordinated Contingent Convertible Securities	2022	**995**	–	**995**	–
Total Additional Tier 1 Equity Instruments		**5,305**	4,322	**5,305**	4,322
Preference Shares					
Barclays Bank PLC					
6.00% non cumulative callable preference shares	2017	**203**	203	**203**	203
4.75% non cumulative callable preference shares	2020	**211**	211	**211**	211
6.278% non cumulative callable preference shares	2034	**318**	318	**318**	318
6.625% non cumulative callable preference shares	Any dividend payment date	**406**	406	**406**	406
7.1% non cumulative callable preference shares	Any dividend payment date	**657**	657	**657**	657
7.75% non cumulative callable preference shares	Any dividend payment date	**550**	550	**550**	550
8.125% non cumulative callable preference shares	Any dividend payment date	**1,309**	1,309	**1,309**	1,309
Absa Bank Limited					
Absa Preference Shares		**201**	258	**201**	258
Total Preference Shares		**3,855**	3,912	**3,855**	3,912
Tier One Notes (TONs) – Barclays Bank PLC					
6% Callable Perpetual Core Tier One Notes	2032	**13**	13	**16**	16
6.86% Callable Perpetual Core Tier One Notes (USD 569m)	2032	**383**	365	**626**	604
Total Tier One Notes		**396**	378	**642**	620
Reserve Capital Instruments (RCIs) – Barclays Bank PLC					
5.926% Step-up Callable Perpetual Reserve Capital Instruments (USD 159m)	2016	**107**	102	**113**	112
7.434% Step-up Callable Perpetual Reserve Capital Instruments (USD 117m)	2017	**79**	75	**85**	85
6.3688% Step-up Callable Perpetual Reserve Capital Instruments	2019	**33**	33	**38**	39
14% Step-up Callable Perpetual Reserve Capital Instruments	2019	**2,178**	2,171	**3,062**	3,065
5.3304% Step-up Callable Perpetual Reserve Capital Instruments	2036	**35**	35	**51**	52
Total Reserve Capital Instruments		**2,432**	2,416	**3,349**	3,353

Table 8: Summary of terms and conditions of capital resources continued

Instrument	Initial call date	Regulatory balance 2015 £m	Regulatory balance 2014 £m	IFRS balance 2015 £m	IFRS balance 2014 £m
Tier 2 Capital					
Undated subordinated liabilities – Barclays Bank PLC					
6.875% Undated Subordinated Notes	2015	–	135	–	140
6.375% Undated Subordinated Notes	2017	**134**	133	**143**	146
7.7% Undated Subordinated Notes (USD 99m)	2018	**67**	63	**69**	69
8.25% Undated Subordinated Notes	2018	**140**	140	**149**	152
7.125% Undated Subordinated Notes	2020	**158**	158	**195**	202
6.125% Undated Subordinated Notes	2027	**195**	196	**245**	249
Junior Undated Floating Rate Notes (USD 109m)	Any interest payment date	**74**	70	**74**	70
Undated Floating Rate Primary Capital Notes Series 3	Any interest payment date	**145**	145	**145**	145
Bonds – Barclays Bank PLC					
9.25% Perpetual Subordinated Bonds (ex-Woolwich Plc)	2021	**75**	75	**91**	94
9% Permanent Interest Bearing Capital Bonds	At any time	**40**	40	**45**	46
Loans – Barclays Bank PLC					
5.03% Reverse Dual Currency Undated Subordinated Loan (JPY 8,000m)	2028	**45**	43	**42**	39
5% Reverse Dual Currency Undated Subordinated Loan (JPY 12,000m)	2028	**67**	64	**59**	54
Barclays SLCSM Funding B.V. guaranteed by the Bank					
6.14% Fixed Rate Guaranteed Perpetual Subordinated Notes	2015	–	265	–	261
Total undated subordinated liabilities		**1,140**	1,527	**1,257**	1,667

Table 8: Summary of terms and conditions of capital resources continued

Instrument	Initial call date	Maturity date	Regulatory balance 2015 £m	Regulatory balance 2014 £m	IFRS balance 2015 £m	IFRS balance 2014 £m
Barclays PLC issued						
2.625% Fixed Rate Subordinated Callable Notes (EUR 1,250m)	2020	2025	**916**	–	**918**	–
4.375% Fixed Rate Subordinated Notes (USD 1,250m)		2024	**842**	800	**883**	810
Barclays Bank PLC issued						
4.38% Fixed Rate Subordinated Notes (USD 75m)		2015	**–**	5	**–**	49
4.75% Fixed Rate Subordinated Notes (USD 150m)		2015	**–**	3	**–**	98
6.05% Fixed Rate Subordinated Notes (USD 1,556m)		2017	**404**	582	**1,124**	1,102
Floating Rate Subordinated Notes (EUR 40m)		2018	**15**	22	**29**	31
6% Fixed Rate Subordinated Notes (EUR 1,750m)		2018	**532**	836	**1,377**	1,462
CMS-Linked Subordinated Notes (EUR 100m)		2018	**30**	48	**77**	82
CMS-Linked Subordinated Notes (EUR 135m)		2018	**44**	68	**103**	109
Fixed/Floating Rate Subordinated Callable Notes	2018	2023	**500**	499	**555**	565
7.75% Contingent Capital Notes (USD 1,000m)	2018	2023	**672**	638	**679**	640
Floating Rate Subordinated Notes (EUR 50m)		2019	**29**	38	**36**	38
5.14% Lower Tier 2 Notes (USD 1,094m)		2020	**718**	701	**808**	767
6% Fixed Rate Subordinated Notes (EUR 1,500m)		2021	**1,104**	1,168	**1,252**	1,338
9.5% Subordinated Bonds (ex-Woolwich Plc)		2021	**200**	199	**293**	306
Subordinated Floating Rate Notes (EUR 100m)		2021	**74**	78	**73**	77
10% Fixed Rate Subordinated Notes		2021	**1,955**	1,954	**2,317**	2,363
10.179% Fixed Rate Subordinated Notes (USD 1,521m)		2021	**1,027**	975	**1,083**	1,062
Subordinated Floating Rate Notes (EUR 50m)		2022	**37**	39	**37**	39
6.625% Fixed Rate Subordinated Notes (EUR 1,000m)		2022	**733**	775	**891**	947
7.625% Contingent Capital Notes (USD 3,000m)		2022	**2,016**	1,913	**1,984**	1,856
Subordinated Floating Rate Notes (EUR 50m)		2023	**37**	39	**37**	39
5.75% Fixed Rate Subordinated Notes		2026	**604**	604	**802**	828
5.4% Reverse Dual Currency Subordinated Loan (JPY 15,000m)		2027	**84**	81	**80**	74
6.33% Subordinated Notes		2032	**50**	50	**60**	62
Subordinated Floating Rate Notes (EUR 100m)		2040	**74**	78	**74**	78
Absa Bank Limited issued						
8.1% Subordinated Callable Notes (ZAR 2,000m)	2015	2020	**–**	113	**–**	114
10.28% Subordinated Callable Notes (ZAR 600m)	2017	2022	**–**	–	**26**	34
Subordinated Callable Notes (ZAR 400m)	2017	2022	**–**	–	**18**	22
Subordinated Callable Notes (ZAR 1,805m)	2017	2022	**78**	101	**79**	101
Subordinated Callable Notes (ZAR 2,007m)	2018	2023	**87**	112	**88**	112
8.295% Subordinated Callable Notes (ZAR 1,188m)	2018	2023	**51**	66	**42**	64
5.50% CPI-linked Subordinated Callable Notes (ZAR 1,500m)	2023	2028	**–**	–	**86**	109
Barclays Africa Group Limited Issued						
Subordinated Callable Notes (ZAR 370m)	2019	2024	**16**	21	**16**	21
10.835% Subordinated Callable Notes (ZAR 130m)	2019	2024	**6**	7	**6**	7
Subordinated Callable Notes (ZAR 1,693m)		2025	**73**	–	**74**	–
10.05% Subordinated Callable Notes (ZAR 807m)		2025	**34**	–	**36**	–
11.4% Subordinated Callable Notes (ZAR 288m)		2025	**13**	–	**13**	–
11.365% Subordinated Callable Notes (ZAR 508m)	2020	2025	**22**	–	**23**	–
Subordinated Callable Notes (ZAR 437m)	2020	2025	**19**	–	**19**	–
11.81% Subordinated Callable Notes (ZAR 737m)	2022	2027	**32**	–	**33**	–
Subordinated Callable Notes (ZAR 30m)	2022	2027	**1**	–	**1**	–
Other capital issued by Barclays Africa and Japan		2016-2019	**–**	–	**87**	107
Total dated subordinated liabilities			**13,129**	12,613	**16,219**	15,513
Non controlling Tier 2 capital – Barclays Bank PLC						
Undated Floating Rate Primary Capital Notes Series 1 (USD 335m)	Any interest payment date		**222**	222	**222**	222
Undated Floating Rate Primary Capital Notes Series 2 (USD 415m)	Any interest payment date		**264**	264	**264**	264
Total non controlling Tier 2 capital			**486**	486	**486**	486

Table 9: Risk weighted assets (RWAs) by risk type and business

This table shows RWAs by risk type and business.

Risk weighted assets (RWAs) by risk type and business

	Credit risk			Counterparty credit risk					Market risk			Operational risk	
	Std £m	F-IRB £m	A-IRB £m	Std £m	F-IRB £m	A-IRB £m	Default fund £m	Settle-ment Risk	CVA £m	Std £m	IMA £m	£m	Total RWAs £m
As at 31 December 2015													
Personal & Corporate Banking	**31,506**	**–**	**71,352**	**242**	**–**	**1,122**	**–**	**–**	**30**	**–**	**–**	**16,176**	**120,428**
Barclaycard	**17,988**	**–**	**17,852**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**5,505**	**41,345**
Africa Banking	**8,556**	**–**	**17,698**	**22**	**–**	**479**	**–**	**8**	**325**	**560**	**682**	**5,604**	**33,934**
Investment Bank	**4,808**	**–**	**39,414**	**9,587**	**–**	**10,132**	**916**	**517**	**3,438**	**9,327**	**10,574**	**19,620**	**108,333**
Head Office	**1,513**	**–**	**2,763**	**20**	**–**	**59**	**12**	**–**	**57**	**–**	**1,221**	**2,104**	**7,749**
Total Core	**64,371**	**–**	**149,079**	**9,871**	**–**	**11,792**	**928**	**525**	**3,850**	**9,887**	**12,477**	**49,009**	**311,789**
Barclays Non-Core	**5,078**	**–**	**11,912**	**1,221**	**–**	**9,231**	**176**	**–**	**7,418**	**599**	**3,301**	**7,651**	**46,587**
Total risk weighted assets	**69,449**	**–**	**160,991**	**11,092**	**–**	**21,023**	**1,104**	**525**	**11,268**	**10,486**	**15,778**	**56,660**	**358,376**
As at 31 December 2014													
Personal & Corporate Banking	32,657	–	70,080	238	–	1,049	–	–	26	–	–	16,176	120,226
Barclaycard	15,910	–	18,492	–	–	–	–	–	–	–	–	5,505	39,907
Africa Banking	9,015	11,502	10,292	10	561	–	–	1	310	638	588	5,604	38,521
Investment Bank	5,773	–	36,829	12,445	–	11,328	1,249	498	6,680	16,014	11,965	19,621	122,402
Head Office	506	–	2,912	–	–	62	234	–	21	5	502	1,326	5,568
Total Core	63,861	11,502	138,605	12,693	561	12,439	1,483	499	7,037	16,657	13,055	48,232	326,624
Barclays Non-Core	10,679	–	19,416	2,619	–	18,403	369	38	8,470	1,575	5,279	8,428	75,276
Total risk weighted assets	74,540	11,502	158,021	15,312	561	30,842	1,852	537	15,507	18,232	18,334	56,660	401,900

Table 10: Movements in risk weighted assets (RWAs)

This table shows movements in RWAs, split by risk types and macro drivers

Movement analysis of risk weighted assets (RWAs)

	Credit risk £bn	Counterparty credit risk[a] £bn	Market risk[b] £bn	Operational risk £bn	Total £bn
As at 1 January 2015	244.0	49.1	52.1	56.7	401.9
Book size	8.3	(10.6)	(9.5)	–	(11.8)
Acquisitions and disposals	(14.2)	–	(0.4)	–	(14.6)
Book quality	0.1	(1.7)	0.7	–	(0.9)
Model updates	(2.1)	(1.1)	(2.7)	–	(5.9)
Methodology and policy	2.3	(1.9)	(2.6)	–	(2.2)
Foreign exchange movement[c]	(8.0)	(0.1)	–	–	(8.1)
Other	–	–	–	–	–
As at 31 December 2015	**230.4**	**33.7**	**37.6**	**56.7**	**358.4**

Notes
a RWAs in relation to default fund contributions are included in counterparty credit risk.
b RWAs in relation to CVA are included in market risk.
c Foreign exchange movement does not include FX for modelled counterparty credit risk or modelled market risk.

Risk and capital position review

Group capital resources, requirements and leverage

Total RWA movement

RWAs decreased £43.5bn to £358.4bn, driven by:

- Book size: RWAs decreased by £11.8bn primarily due to a reduction in holdings of US bonds and equities and a reduction in derivatives and securities financing transactions. This was partially offset by a growth in corporate lending, particularly in Africa and the UK
- Acquisitions and disposals: RWAs decreased by £14.6bn primarily due to disposals in Non-Core, including the sale of the Spanish business
- Model updates: RWAs decreased by £5.9bn primarily due to implementation of diversification benefits across advanced general and specific market risk, as well as a recalibration of a credit risk model within the Investment Bank and Non-Core
- Methodology and policy: RWAs decreased by £2.2bn primarily due to the implementation of collateral modelling for mismatched FX collateral and a transfer of securities financing transactions in certain businesses from the banking book to trading book, enabling further collateral offset
- Foreign exchange movements: RWAs decreased by £8.1bn primarily due to depreciation of ZAR against GBP.

Credit risk

RWAs decreased by £13.6bn, reflecting:

- Acquisitions and disposals: RWAs decreased by £14.2bn driven by disposals in Non-Core, including the sale of the Spanish business
- Foreign exchange movements: RWAs decreased by £8.0bn primarily due to depreciation of ZAR against GBP
- Model updates: RWAs decreased by £2.1bn primarily driven by the transition to a new model within PCB and following a model recalibration within the Investment Bank and Non-Core.

Offset by:

- Book size: RWAs increased by £8.3bn driven by a £3.4bn increase in Africa Banking due to an increase in corporate lending; £1.9bn increase in PCB primarily driven by UK corporate asset growth; and £1.9bn increase in Barclaycard primarily due to asset growth in the US
- Methodology and policy: RWAs increased by £2.3bn primarily driven by the Investment Bank and Non-Core in part due to a transfer of counterparties from the trading to the banking book following a change in the regulatory treatment for securitisation transactions.

Counterparty credit risk

RWAs decreased by £15.4bn, reflecting:

- Book size: RWAs decreased by £10.6bn primarily driven by a reduction in derivative and securities financing transaction exposures in the Investment Bank and Non-Core
- Methodology and policy: RWAs decreased by £1.9bn primarily due to the implementation of collateral modelling for mismatched FX collateral and a a transfer of securities financing transactions in certain businesses from the banking book to trading book, enabling further collateral offset. This was partially offset by an increase in RWAs due to the capture of an extended margin period of risk on securities financing transactions within the Investment Bank
- Book quality: RWAs decreased by £1.7bn, primarily due to counterparties no longer in default as a result of debt restructure
- Model updates: RWAs decreased by £1.1bn primarily driven by a model recalibration within the Investment Bank and Non-Core.

Market risk

RWAs decreased by £14.5bn, reflecting:

- Book size: RWAs reduced by £9.5bn driven by a reduction in the holdings of US bonds and equities trading book exposures within the Investment Bank and Non-Core
- Model updates: RWAs decreased by £2.7bn primarily due to implementation of diversification benefits across advanced general and specific market risk within the Investment Bank and Non-Core
- Methodology and policy: RWAs decreased by £2.6bn partly driven by a change in calculation methodology on CVA as a result of updated regulatory guidance.

Operational risk

- Barclays' operational risk RWA requirement has remained static at £56.7bn, pending regulatory approval for AMA model enhancements.

Basis of preparation for movements in risk weighted assets

This analysis splits RWA movement by credit, counterparty credit, market and operational risk. Seven categories of drivers have been identified and are described below. Not all the drivers are applicable to all risk types, however all categories have been listed below for completeness purposes.

Book size

Credit risk and counterparty risk

This represents RWA movements driven by changes in the size and composition of underlying positions, measured using EAD values for existing portfolios over the period. This includes, but is not exclusive to:

- new business and maturing loans
- changes in product mix and exposure growth for existing portfolios
- book size reductions owing to write-offs.

Market risk (inc CVA)

This represents RWA movements owing to the changes in trading positions and volumes driven by business activity.

Book quality

Credit risk and counterparty risk

This represents RWA movements driven by changes in the underlying credit quality and recoverability of portfolios and reflected through model calibrations or realignments where applicable. This includes, but is not exclusive to:

- PD migration and LGD changes driven by economic conditions
- ratings migration for standardised exposures
- changing lending practices, demographics and maturity.

Market risk (inc CVA)

This is the movement in RWAs owing to changing risk levels in the trading book, caused by fluctuations in market conditions.

Model updates

Credit risk and counterparty risk

This is the movement in RWAs as a result of both internal and external model updates. This includes, but is not exclusive to:

- updates to existing model inputs driven by both internal and external review
- model enhancements to improve model performance.

Market risk (inc CVA)

This is the movement in RWAs reflecting changes in model scope, changes to market data levels, volatilities, correlations, liquidity and ratings used as input for the internal modelled RWA calculations.

Methodology and policy

Credit risk and counterparty risk

This is the movement in RWAs as a result of both internal and external methodology, policy and regulatory changes. This includes, but is not exclusive to:

- updates to RWA calculation methodology, communicated by the regulator
- the implementation of credit risk mitigation to a wider scope of portfolios.

Market risk (inc CVA)

This is the movement in RWAs as a result of both internal and external methodology, policy and regulatory changes for market risk and CVA.

Acquisitions and disposals

This is the movement in RWAs as a result of the disposal or acquisition of business operations impacting the size of banking and trading portfolios. This includes credit RWA reductions relating to Non-Core.

Foreign exchange movements

This is the movement in RWAs as a result of changes in the exchange rate between the functional currency of the Barclays business area or portfolio and Barclays' presentational currency for consolidated reporting. It should be noted that foreign exchange movements shown in table 10 do not include the impact of foreign exchange for the counterparty credit risk IMM and modelled market risk RWAs.

Other

This is the movement in RWAs driven by items that cannot be reasonably assigned to the other driver categories. This category had a nil balance for the year ended 31 December 2015.

Leverage ratio and exposures

Table 11: Leverage ratio

The leverage calculation below uses the end-point CRR definition of Tier 1 capital for the numerator and the CRR definition of leverage exposure.

At 31 December 2015, Barclays' leverage ratio was 4.5%, which exceeds the expected end-point minimum requirement of 3.7% as outlined by the PRA Supervisory Statement SS45/15 and the updated PRA rulebook, comprising of the 3% minimum requirement, and the fully phased-in G-SII buffer.

Leverage ratio

Leverage exposure	As at 31.12.15 £bn	As at 31.12.14[a] £bn
Accounting assets		
Derivative financial instruments	**328**	440
Cash collateral	**62**	73
Reverse repurchase agreements and other similar secured lending	**28**	132
Financial assets designated at fair value[b]	**77**	38
Loans and advances and other assets	**625**	675
Total IFRS assets	**1,120**	1,358
Regulatory consolidation adjustments	**(10)**	(8)
Derivatives adjustments		
Derivatives netting	**(293)**	(395)
Adjustments to cash collateral	**(46)**	(53)
Net written credit protection	**15**	27
Potential Future Exposure (PFE) on derivatives	**129**	179
Total derivatives adjustments	**(195)**	(242)
Securities financing transactions (SFTs) adjustments	**16**	25
Regulatory deductions and other adjustments	**(14)**	(15)
Weighted off-balance sheet commitments	**111**	115
Total fully loaded leverage exposure	**1,028**	1,233
Fully loaded CET1 capital	**40.7**	41.5
Fully loaded AT1 capital	**5.4**	4.6
Fully loaded Tier 1 capital	**46.2**	46.0
Fully loaded leverage ratio	**4.5%**	3.7%

During 2015 the leverage ratio increased significantly to 4.5% (2014: 3.7%) driven by a reduction in the leverage exposure of £205bn to £1,028bn:

- total derivative exposures[c] decreased £76bn to £195bn:
  - PFE decreased £50bn to £129bn, mainly as a result of continued Non-Core rundown and optimisations including trade compressions and tear-ups
  - other derivative assets decreased £14bn to £51bn, driven by a net decrease in IFRS derivatives. The decrease was mainly within interest rate and foreign exchange derivatives due to net trade reduction and an increase in major interest forward curves
  - net written credit protection decreased £12bn to £15bn due to a reduction in business activity and improved portfolio netting
- taken together, reverse repurchase agreements and other similar secured lending and financial assets designated at fair value decreased £65bn to £105bn, reflecting a reduction in matched book trading and general firm financing due to balance sheet deleveraging
- loans and advances and other assets decreased by £50bn to £625bn driven by a £37bn reduction in trading portfolio assets primarily due to Non-Core rundown, a reduction in trading activities in the Investment Bank, as well as a £10bn decrease in settlement balances and a £9bn decrease in Africa Banking reflecting the depreciation of ZAR against GBP. This was partially offset by lending growth of £3bn in Barclaycard and £2bn in PCB
- SFT adjustments decreased by £9bn to £16bn due to maturity of trades and a reduction in trading volumes.

Notes
a 2014 comparatives have been prepared on a BCBS 270 basis. Barclays does not believe that there is a material difference between the BCBS 270 leverage exposure and a leverage exposure calculated in accordance with the EU delegated act.
b Included within financial assets designated at fair value are reverse repurchase agreements designated at fair value of £50bn (2014:£5bn).
c Total derivative exposures includes IFRS derivative financial instruments, cash collateral and total derivative adjustments.

This section details Barclays' credit risk profile, focusing on regulatory measures such as exposure at default and risk weighted assets. The risk profile is analysed by business segment, country and industry concentrations, residual maturities, probabilities of default and actual losses.

- RWAs decreased 5.6% to £230.4bn, primarily driven by disposals in Non-Core and foreign exchange movements, partially offset by exposure growth in Africa Banking, PCB and Barclaycard.

Risk weighted assets for credit risk reduced in the year

-£13.6bn total RWA
Driven by:

-£14.2bn
Disposals in Non-Core

-£8.0bn
Foreign exchange movement due to the depreciation of ZAR against GBP

-£2.1bn
Recalibration of a credit risk model within Investment Bank and Non-Core; offset by:

+£8.3bn
Corporate lending increase in Africa Banking and asset growth in PCB and Barclaycard

+£2.3bn
Counterparty transfer from the trading to banking book in Investment Bank and Non-Core due to a change in securitisation rules

Analysis of capital requirements for credit risk and exposures

Table 12: Minimum capital requirements and exposure for credit risk – Note on pre- and post credit risk mitigation (CRM) EAD

This table summarises credit risk information presented in the rest of this report and shows exposure at default pre and post-CRM, and the associated capital requirements. In accordance with regulatory requirements, credit risk mitigation is either reflected in regulatory measures for exposure at default (EAD), or in the risk inputs: probability of default (PD) and loss given default (LGD). For the majority of Barclays' exposures, in particular mortgages and those under the AIRB treatment, the impact of CRM is primarily reflected in the PD or LGD rather than EAD measures.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

RWAs and post-CRM exposures are analysed by business on pages 30 and 31. Pre-CRM exposures are further analysed by geography on page 35, industry on page 37 and residual maturity on page 39. Information on the impact of CRM on EAD is set out on page 126.

Credit exposure class	EAD pre-CRM[a]		EAD post-CRM[a]		Capital requirements		
As at 31 December 2015	Year end £m	Average[b] £m	Year end £m	Average[b] £m	RWA £m	Average RWA[b] £m	Capital reqs £m
Standardised approach							
Central governments or central banks	113,327	105,769	113,183	105,716	2,509	2,512	201
Regional governments or local authorities	881	638	881	638	121	46	10
Public sector entities	213	306	204	297	45	112	4
Multilateral development banks	4,181	4,145	4,181	4,145	–	7	–
International organisations	2,394	2,634	2,394	2,634	–	–	–
Institutions	7,735	8,004	7,663	7,863	1,990	2,160	161
Corporates	48,749	49,394	36,638	36,754	31,211	31,142	2,497
Retail	27,109	26,746	26,476	26,033	19,828	19,596	1,586
Secured by mortgages	13,860	14,913	13,860	14,913	5,714	6,130	457
Exposures in default	2,247	2,183	2,199	2,145	2,800	2,710	224
Items associated with high risk	2,034	1,625	2,034	1,625	3,339	2,722	267
Covered bonds	1,209	1,118	1,209	1,118	242	224	19
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	1	–	1	–	1	–	–
Equity positions	526	627	526	627	1,161	1,362	93
Other items	2,167	2,933	2,167	2,933	488	558	39
Total Standardised approach credit risk exposure	226,633	221,035	213,616	207,441	69,449	69,281	5,558
Foundation IRB approach							
Central governments or central banks	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–
Total Foundation approach credit risk exposure	–	–	–	–	–	–	–
Advanced IRB approach							
Central governments or central banks	14,782	13,135	14,782	13,135	2,648	3,054	212
Institutions	28,219	30,023	28,219	30,023	7,096	6,895	568
Corporates	159,011	155,311	151,520	147,720	72,926	73,460	5,833
Retail							
– Small and medium-sized enterprises (SMEs)	7,897	8,432	7,897	8,432	3,609	3,889	289
– Secured by real estate collateral	155,977	158,534	155,977	158,534	27,023	27,601	2,162
– Qualifying revolving retail	44,003	44,198	44,003	44,198	18,766	19,389	1,501
– Other retail	8,596	8,963	8,596	8,963	8,658	9,013	693
Equity	–	–	–	–	–	–	–
Securitisation positions	17,367	20,237	17,367	20,237	3,141	4,178	251
Non-credit obligation assets	11,319	11,663	11,319	11,663	17,124	17,080	1,370
Total Advanced IRB credit risk exposure	447,171	450,496	439,680	442,905	160,991	164,559	12,879
Total credit exposure	673,804	671,531	653,296	650,346	230,440	233,840	18,437

Notes
a Collateral and guarantees for Advanced IRB are not included within EAD as these are incorporated in loss given default (LGD) calculations.
b Averages are based on the past four quarter end positions.

Table 12: Minimum capital requirements and exposure for credit risk – Note on pre and post credit risk mitigation (CRM) EAD continued

Credit exposure class	EAD pre-CRM[a,c]		EAD post-CRM[a]		Capital requirements		
As at 31 December 2014	Year end £m	Average[b] £m	Year end £m	Average[b] £m	RWA £m	Average RWA[b] £m	Capital reqs £m
Standardised approach							
Central governments or central banks	104,499	103,061	104,499	103,046	2,828	2,480	226
Regional governments or local authorities	863	1,512	862	1,512	37	66	3
Public sector entities	365	267	354	263	190	120	15
Multilateral development banks	3,085	3,848	3,085	3,848	26	7	2
International organisations	2,609	1,623	2,609	1,623	–	–	–
Institutions	6,952	6,887	6,765	6,714	2,844	2,466	197
Corporates	49,953	48,808	37,344	35,617	32,798	33,091	2,611
Retail	27,711	26,688	26,879	25,788	20,506	19,572	1,640
Secured by mortgages	15,948	16,112	15,948	16,114	6,424	6,244	514
Exposures in default	3,086	2,862	3,061	2,827	3,885	3,504	311
Items associated with high risk	1,552	1,816	1,552	1,816	2,683	3,183	215
Covered bonds	858	837	858	837	172	187	14
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	–	132	–	126	–	38	–
Equity positions	660	890	660	890	1,524	1,791	110
Other items	2,852	2,975	2,852	2,975	623	659	50
Total Standardised approach credit risk exposure	220,993	218,318	207,328	203,996	74,540	73,408	5,908
Foundation IRB approach							
Central governments or central banks	176	212	176	212	95	102	8
Institutions	981	970	981	970	472	433	38
Corporates	14,761	14,458	14,761	14,458	10,935	10,766	875
Total Foundation approach credit risk exposure	15,918	15,640	15,918	15,640	11,502	11,301	921
Advanced IRB approach							
Central governments or central banks	6,704	8,662	6,704	8,662	744	1,039	57
Institutions	30,521	31,558	30,521	31,558	7,108	7,368	604
Corporates	138,168	134,952	129,547	126,049	64,987	63,506	5,191
Retail							
– Small and medium-sized enterprises (SMEs)	8,835	9,014	8,835	9,014	4,203	4,970	336
– Secured by real estate collateral	172,500	172,415	172,500	172,415	30,895	31,613	2,472
– Qualifying revolving retail	43,953	43,212	43,953	43,212	19,676	19,529	1,574
– Other retail	9,053	9,051	9,053	9,051	8,614	8,408	689
Equity	–	–	–	–	–	–	–
Securitisation positions	20,848	20,802	20,848	20,802	5,315	8,200	425
Non-credit obligation assets	11,729	12,204	11,729	12,204	16,479	14,973	1,319
Total Advanced IRB credit risk exposure	442,311	441,870	433,690	432,967	158,021	159,606	12,667
Total credit exposure	679,222	675,828	656,936	652,603	244,063	244,315	19,496

Exposure at default pre and post CRM and RWA decrease is primarily driven by the sale of the Spanish business and the UK Secured Lending portfolio and rundown of legacy portfolio assets.

The key movements by business are as shown in Table 13 and 14 while further details are provided in tables 16 to 32.

Notes
a Collateral and guarantees for advanced IRB are not included within EAD as these are incorporated in loss given default (LGD) calculations.
b Averages are calculated from the past four quarters. This is to show intra-year fluctuations.
c EAD Pre-CRM excludes the impact of balance sheet netting. Prior period balances on tables 12, 16, 17 and 18 have been revised to reflect this.

Credit risk exposures

The following tables analyse credit risk exposures and risk weighted assets.

Table 13: Detailed view of exposure at default, post-CRM by business

This table shows exposure at default post-CRM by business and credit exposure class for credit risk.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

EAD post-CRM credit exposure class								
As at 31 December 2015	Personal & Corporate Banking £m	Barclaycard £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Credit risk								
Standardised approach								
Central governments or central banks	43,261	2,558	3,765	18,760	39,729	108,073	5,110	113,183
Regional governments or local authorities	326	11	2	242	266	847	34	881
Public sector entities	176	–	–	3	–	179	25	204
Multilateral development banks	1,683	19	10	747	1,527	3,986	195	4,181
International organisations	963	11	6	428	874	2,282	112	2,394
Institutions	4,248	309	123	747	1,791	7,218	445	7,663
Corporates	23,925	289	3,553	7,021	56	34,844	1,794	36,638
Retail	782	22,861	2,046	–	–	25,689	787	26,476
Secured by mortgages	12,524	–	153	576	–	13,253	607	13,860
Exposures in default	1,205	333	125	167	–	1,830	369	2,199
Items associated with high risk	54	3	–	182	583	822	1,212	2,034
Covered bonds	413	5	2	183	434	1,037	172	1,209
Securitisation positions	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	1	–	–	1	–	1
Equity positions	33	–	222	45	–	300	226	526
Other items	1,666	100	287	11	20	2,084	83	2,167
Total Standardised approach credit risk exposure	91,259	26,499	10,295	29,112	45,280	202,445	11,171	213,616
Foundation IRB approach								
Central governments or central banks	–	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–	–
Total Foundation approach credit risk exposure	–	–	–	–	–	–	–	–
Advanced IRB approach								
Central governments or central banks	3,185	23	3,077	1,625	6,188	14,098	684	14,782
Institutions	6,735	27	640	10,461	2,603	20,466	7,753	28,219
Corporates	58,917	3	13,271	68,529	250	140,970	10,550	151,520
Retail	–	–	–	–	–	–	–	–
– Small and medium-sized enterprises (SMEs)	6,790	–	1,107	–	–	7,897	–	7,897
– Secured by real estate collateral	130,530	–	10,782	–	–	141,312	14,665	155,977
– Qualifying revolving retail	9,900	31,883	2,220	–	–	44,003	–	44,003
– Other retail	5,388	1	3,199	–	–	8,588	8	8,596
Equity	–	–	–	–	–	–	–	–
Securitisation positions	–	–	151	13,515	515	14,181	3,186	17,367
Non-credit obligation assets	1,780	1,976	1,367	4,621	856	10,600	719	11,319
Total Advanced IRB credit risk exposure	223,225	33,913	35,814	98,751	10,412	402,115	37,565	439,680
Total credit risk exposure	314,484	60,412	46,109	127,863	55,692	604,560	48,736	653,296

Table 13: Detailed view of exposure at default, post-CRM by business continued

EAD post-CRM credit exposure class As at 31 December 2014	Personal & Corporate Banking £m	Barclaycard £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Credit risk								
Standardised approach								
Central governments or central banks	37,745	1,710	7,295	16,629	30,653	94,032	10,467	104,499
Regional governments or local authorities	448	2	1	124	219	794	68	862
Public sector entities	181	–	–	163	–	344	10	354
Multilateral development banks	1,203	8	31	525	1,004	2,771	314	3,085
International organisations	1,026	7	5	448	856	2,342	267	2,609
Institutions	4,901	356	548	171	108	6,084	681	6,765
Corporates	23,714	464	2,756	6,708	188	33,830	3,514	37,344
Retail	1,075	20,049	2,224	–	–	23,348	3,531	26,879
Secured by mortgages	14,175	–	153	558	–	14,886	1,062	15,948
Exposures in default	1,243	293	232	21	–	1,789	1,272	3,061
Items associated with high risk	57	–	–	165	135	357	1,195	1,552
Covered bonds	–	–	–	–	698	698	160	858
Securitisation positions	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–	–
Equity positions	47	–	250	133	–	430	230	660
Other items	1,575	121	468	84	15	2,263	589	2,852
Total Standardised approach credit risk exposure	87,390	23,010	13,963	25,729	33,876	183,968	23,360	207,328
Foundation IRB approach								
Central governments or central banks	–	–	176	–	–	176	–	176
Institutions	–	–	981	–	–	981	–	981
Corporates	–	–	14,761	–	–	14,761	–	14,761
Total Foundation approach credit risk exposure	–	–	15,918	–	–	15,918	–	15,918
Advanced IRB Approach								
Central governments or central banks	1,947	8	5	1,632	1,763	5,355	1,349	6,704
Institutions	6,969	23	15	11,303	4,462	22,772	7,749	30,521
Corporates	55,611	2	6	58,908	264	114,791	14,756	129,547
Retail								
– Small and medium-sized enterprises (SMEs)	7,711	–	1,124	–	–	8,835	–	8,835
– Secured by real estate collateral	130,575	–	13,896	–	–	144,471	28,029	172,500
– Qualifying revolving retail	9,643	31,605	2,705	–	–	43,953	–	43,953
– Other retail	4,844	2	4,197	–	–	9,043	10	9,053
Equity	–	–	–	–	–	–	–	–
Securitisation positions	93	–	270	14,978	628	15,969	4,879	20,848
Non-credit obligation assets	2,054	1,785	1,543	4,023	927	10,332	1,397	11,729
Total Advanced IRB credit risk exposure	219,447	33,425	23,761	90,844	8,044	375,521	58,169	433,690
Total credit risk exposure	306,837	56,435	53,642	116,573	41,920	575,407	81,529	656,936

Exposure at default post- CRM decreased by £3.6bn to £653.3bn. The key movements by business were as follows:

- **PCB** increased by £7.6bn to £314.5bn, driven by an increase in corporate lending
- **Barclaycard** increased by £4.0bn to £60.4bn, driven by asset growth and the depreciation of GBP against USD
- **Africa Banking** decreased by £7.5bn to £46.1bn, driven by depreciation of ZAR against GBP
- **Investment Bank** increased by £11.3bn to £127.9bn, driven by new syndication facilities and movement in the Group liquidity pool
- **Head Office** increased by £13.8bn to £55.7bn, driven by movement in the Group liquidity pool, increased deferred tax assets and collateral pledges
- **Barclays Non-Core** decreased by £32.8bn to £48.7bn, driven by the sale of the Spanish business and the UK Secured Lending portfolio and the rundown of legacy portfolio assets.

The total Group liquidity pool composition has decreased £4bn to £145bn. This was primarily driven by a £14bn decrease in bonds sourced through reverse repurchase transactions, offset by a £10bn increase in bonds held on-balance sheet. These result in an increase in credit risk EAD and a decrease in counterparty credit risk EAD. The composition of the liquidity pool is efficiently and centrally managed, with further details provided in the Annual Report page 191.

Table 14: Detailed view of credit risk RWAs by business

This table shows RWAs for credit risk by business, broken down by credit exposure class for credit risk in the banking book.

Risk weighted assets credit exposure class								
As at 31 December 2015	Personal & Corporate Banking £m	Barclaycard £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Credit risk								
Standardised approach								
Central governments or central banks	–	1	2,441	14	52	2,508	1	2,509
Regional governments or local authorities	7	2	–	112	–	121	–	121
Public sector entities	39	–	–	1	–	40	5	45
Multilateral development banks	–	–	–	–	–	–	–	–
International organisations	–	–	–	–	–	–	–	–
Institutions	1,244	61	52	77	445	1,879	111	1,990
Corporates	22,520	341	3,533	3,759	51	30,204	1,007	31,211
Retail	583	17,146	1,535	–	–	19,264	564	19,828
Secured by mortgages	5,150	–	116	223	–	5,489	225	5,714
Exposures in default	1,488	413	163	229	1	2,294	506	2,800
Items associated with high risks	81	4	–	278	874	1,237	2,102	3,339
Covered bonds	83	1	–	37	87	208	34	242
Securitisation positions	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	1	–	–	1	–	1
Equity positions	82	–	497	68	–	647	514	1,161
Other items	229	19	218	10	3	479	9	488
Total Standardised approach credit risk exposure	31,506	17,988	8,556	4,808	1,513	64,371	5,078	69,449
Foundation IRB approach								
Central governments or central banks	–	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–	–
Total Foundation approach credit risk exposure	–	–	–	–	–	–	–	–
Advanced IRB approach								
Central governments or central banks	548	5	1,237	310	467	2,567	81	2,648
Institutions	2,758	5	309	1,243	431	4,746	2,350	7,096
Corporates	36,155	–	7,449	27,039	16	70,659	2,267	72,926
Retail								
– Small and medium-sized enterprises (SMEs)	3,000	–	609	–	–	3,609	–	3,609
– Secured by real estate collateral	19,399	–	3,019	–	–	22,418	4,605	27,023
– Qualifying revolving retail	1,579	15,754	1,433	–	–	18,766	–	18,766
– Other retail	6,160	1	2,496	–	–	8,657	1	8,658
Equity	–	–	–	–	–	–	–	–
Securitisation positions	–	–	21	1,720	46	1,787	1,354	3,141
Non-credit obligation assets	1,753	2,087	1,125	9,102	1,803	15,870	1,254	17,124
Total Advanced IRB credit risk exposure	71,352	17,852	17,698	39,414	2,763	149,079	11,912	160,991
Total credit risk weighted assets	102,858	35,840	26,254	44,222	4,276	213,450	16,990	230,440

Table 14: Detailed view of credit risk RWAs by business continued

Risk weighted assets credit exposure class As at 31 December 2014	Personal & Corporate Banking £m	Barclaycard £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Credit risk								
Standardised approach								
Central governments or central banks	3	–	2,518	–	51	2,572	256	2,828
Regional governments or local authorities	27	–	–	10	–	37	–	37
Public sector entities	45	–	–	135	–	180	10	190
Multilateral development banks	–	–	26	–	–	26	–	26
International organisations	–	–	–	–	–	–	–	–
Institutions	1,695	72	272	419	26	2,484	360	2,844
Corporates	22,537	479	2,755	4,337	85	30,193	2,605	32,798
Retail	817	15,038	2,091	–	–	17,946	2,560	20,506
Secured by mortgages	5,632	–	115	217	–	5,964	460	6,424
Exposures in default	1,561	296	316	32	–	2,205	1,680	3,885
Items associated with high risk	85	–	–	248	202	535	2,148	2,683
Covered bonds	–	–	–	–	140	140	32	172
Securitisation positions	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–	–
Equity positions	116	–	538	342	–	996	528	1,524
Other items	139	25	384	33	2	583	40	623
Total Standardised approach credit risk exposure	32,657	15,910	9,015	5,773	506	63,861	10,679	74,540
Foundation IRB approach								
Central governments or central banks	–	–	95	–	–	95	–	95
Institutions	–	–	472	–	–	472	–	472
Corporates	–	–	10,935	–	–	10,935	–	10,935
Total Foundation approach credit risk exposure	–	–	11,502	–	–	11,502	–	11,502
Advanced IRB approach								
Central governments or central banks	219	1	1	250	151	622	122	744
Institutions	2,134	5	4	1,370	1,352	4,865	2,243	7,108
Corporates	34,905	–	5	25,205	121	60,236	4,751	64,987
Retail								
– Small and medium-sized enterprises (SMEs)	3,530	–	673	–	–	4,203	–	4,203
– Secured by real estate collateral	19,747	–	3,622	–	–	23,369	7,526	30,895
– Qualifying revolving retail	1,423	16,539	1,714	–	–	19,676	–	19,676
– Other retail	5,626	2	2,983	–	–	8,611	3	8,614
Equity	–	–	–	–	–	–	–	–
Securitisation positions	28	–	51	2,187	57	2,323	2,992	5,315
Non-credit obligation assets	2,468	1,945	1,239	7,817	1,231	14,700	1,779	16,479
Total Advanced IRB credit risk exposure	70,080	18,492	10,292	36,829	2,912	138,605	19,416	158,021
Total credit risk weighted assets	102,737	34,402	30,809	42,602	3,418	213,968	30,095	244,063

Risk weighted assets decreased by £13.6bn to £230.4bn. The key movements by business were as follows:

- **PCB** remained stable at £102.9bn
- **Barclaycard** increased by £1.4bn to £35.8bn, driven by asset growth, especially within Barclaycard US
- **Africa Banking** decreased by £4.6bn to £26.3bn, driven by depreciation of ZAR against GBP, partly offset by underlying asset growth
- **Investment Bank** increased by £1.6bn to £44.2bn, driven by new syndication facilities
- **Head Office** increased by £0.9bn to £4.3bn, driven by increased deferred tax assets and collateral pledges
- **Barclays Non-Core** decreased by £13.1bn to £17.0bn, driven by the sale of the Spanish business and the UK Secured Lending portfolio and the rundown of legacy portfolio assets.

Table 15: Banking book reconciliation of IFRS balance sheet and credit risk calculation

This table provides a bridge between the IFRS balance sheet and regulatory exposures subject to credit risk calculation.

The table expands upon Table 1, which shows the difference between the IFRS and regulatory scope of consolidation. In addition, the following balances are excluded for the purpose of determining exposures subject to credit risk calculations:

- assets not subject to credit risk – this includes items subject to market risk and counterparty credit risk calculations, and settlement balances
- specific regulatory adjustments – this includes adjustments to account for differences in IFRS and regulatory netting, items treated as regulatory capital deductions and other adjustments to IFRS balances as prescribed by CRD IV
- off-balance sheet – this captures items that are off-balance sheet for the purpose of IFRS disclosures, but within the scope of credit risk calculations. These balances are shown after applying credit conversion factors to reflect the conversion of credit facilities into drawn balances.

The total regulatory exposure is disclosed pre-CRM, as the differences between EAD pre- and post-CRM are already expressed through other tables within the document.

As at 31 December 2015	Accounting balance sheet per published financial statements £m	Deconsolid-ation of insurance/ other entities £m	Consolidation of banking associates/ other entities £m	Balance sheet per regulatory scope of consolidation £m	Balances not subject to credit risk calculations £m	Specific Regulatory Adjustments and balances adjusted directly through Capital £m	Regulatory Exposure value of IFRS off balance sheet items post CCFs £m	Total £m
Assets								
Cash and balances at central banks and items in the course of collection from other banks	50,722	(10)	51	50,763	–	–	–	50,763
Trading portfolio assets	77,348	–	2,762	80,110	(80,110)	–	–	–
Financial assets designated at fair value	76,830	(2,414)	146	74,562	(52,149)	(177)	–	22,236
Derivative financial instruments	327,709	(2)	(1,642)	326,065	(326,065)	–	–	–
Available for sale investments	90,267	(2,152)	–	88,115	(3)	(801)	(9)	87,302
Loans and advances to banks	41,349	(146)	80	41,283	(19,127)	(9)	168	22,315
Loans and advances to customers	399,217	(5,878)	1,465	394,804	(67,430)	19,366	127,745	474,485
Reverse repurchase agreements and other similar secured lending	28,187	–	–	28,187	(28,187)	–	–	–
Other assets	28,383	(1,731)	(355)	26,297	(9,475)	(119)	–	16,703
Total assets	1,120,012	(12,333)	2,507	1,110,186	(582,546)	18,260	127,904	673,804

Table 16: Geographic analysis of credit exposure

This table shows exposure at default pre-CRM, broken down by credit exposure class and geographic location of the counterparty.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

EAD pre-CRM credit exposure class						
As at 31 December 2015	United Kingdom £m	Europe £m	Americas £m	Africa and Middle East £m	Asia £m	Total £m
Standardised approach						
Central governments or central banks	31,591	44,299	32,974	4,202	261	113,327
Regional governments or local authorities	41	728	11	101	–	881
Public sector entities	47	154	3	–	9	213
Multilateral development banks	–	2,866	1,147	86	82	4,181
International organisations	–	2,394	–	–	–	2,394
Institutions	3,569	981	753	120	2,312	7,735
Corporates	15,094	8,680	15,404	6,012	3,559	48,749
Retail	6,564	3,188	15,099	2,150	108	27,109
Secured by mortgages	9,235	2,231	1,451	596	347	13,860
Exposures in default	844	622	553	198	30	2,247
Items associated with high risk	998	409	603	3	21	2,034
Covered bonds	–	1,209	–	–	–	1,209
Securitisation positions	–	–	–	–	–	–
Collective investment undertakings	–	–	–	1	–	1
Equity positions	120	136	17	226	27	526
Other items	1,775	94	2	280	16	2,167
Total Standardised approach credit risk exposure	69,878	67,991	68,017	13,975	6,772	226,633
Foundation IRB approach						
Central governments or central banks	–	–	–	–	–	–
Institutions	–	–	–	–	–	–
Corporates	–	–	–	–	–	–
Total Foundation approach credit risk exposure	–	–	–	–	–	–
Advanced IRB approach						
Central governments or central banks	4,385	2,247	106	3,672	4,372	14,782
Institutions	11,695	5,425	7,342	925	2,832	28,219
Corporates	79,355	20,140	43,434	13,742	2,340	159,011
Retail	181,481	17,648	16	17,322	6	216,473
Equity	–	–	–	–	–	–
Securitisation positions	3,521	886	12,634	151	175	17,367
Non-credit obligation assets	7,976	329	1,618	1,210	186	11,319
Total Advanced IRB credit risk exposure	288,413	46,675	65,150	37,022	9,911	447,171
Total credit risk exposure	358,291	114,666	133,167	50,997	16,683	673,804

Table 16: Geographic analysis of credit exposure continued

EAD pre-CRM credit exposure class

As at 31 December 2014	United Kingdom £m	Europe £m	Americas £m	Africa and Middle East £m	Asia £m	Total £m
Standardised approach						
Central governments or central banks	35,243	31,248	29,218	7,828	962	104,499
Regional governments or local authorities	15	437	10	–	401	863
Public sector entities	1	190	–	128	46	365
Multilateral development banks	11	2,254	660	26	134	3,085
International organisations	–	2,609	–	–	–	2,609
Institutions	676	1,297	662	517	3,800	6,952
Corporates	15,657	10,831	15,293	4,750	3,422	49,953
Retail	7,561	4,430	13,147	2,360	213	27,711
Secured by mortgages	10,876	2,486	1,640	629	317	15,948
Exposures in default	858	1,500	395	307	26	3,086
Items associated with high risk	578	448	471	20	35	1,552
Covered bonds	–	858	–	–	–	858
Securitisation positions	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–
Equity positions	277	74	45	255	9	660
Other items	2,042	258	17	458	77	2,852
Total Standardised approach credit risk exposure	73,795	58,920	61,558	17,278	9,442	220,993
Foundation IRB approach	–	–	–	–	–	–
Central governments or central banks	–	–	–	176	–	176
Institutions	131	2	–	848	–	981
Corporates	151	185	142	14,283	–	14,761
Total Foundation approach credit risk exposure	282	187	142	15,307	–	15,918
Advanced IRB approach	–	–	–	–	–	–
Central governments or central banks	1,038	1,932	595	731	2,408	6,704
Institutions	10,835	7,132	9,378	912	2,264	30,521
Corporates	79,198	18,883	37,319	520	2,248	138,168
Retail	181,792	30,560	33	21,944	12	234,341
Equity	–	–	–	–	–	–
Securitisation positions	4,529	544	15,392	269	114	20,848
Non-credit obligation assets	7,614	803	1,742	1,395	175	11,729
Total Advanced IRB credit risk exposure	285,006	59,854	64,459	25,771	7,221	442,311
Total credit risk exposure	359,083	118,961	126,159	58,356	16,663	679,222

Exposure at default pre-CRM decreased by £5.4bn to £673.8bn. The key movements by geographical area were as follows:

- exposure in the UK decreased by £0.8bn to £358.3bn, driven by the sale of UK Secured Lending portfolio partially offset by increases in collateral pledges given and corporate lending
- exposure in Europe decreased by £4.3bn to £114.7bn, driven by the sale of the Spanish business and further rundown of legacy portfolio assets, offset by movement in the Group liquidity pool
- exposure in Americas increased by £7.0bn to £133.2bn, driven by new syndication facilities and asset growth in the US cards portfolio
- exposure in Africa and Middle East decreased by £7.4bn to £51.0bn, driven by depreciation of ZAR against GBP, offset by asset growth primarily in corporate and retail lending.

The total Group liquidity pool composition has decreased £4bn to £145bn. This was primarily driven by a £14bn decrease in bonds sourced through reverse repurchase transactions, offset by a £10bn increase in bonds held on-balance sheet. These result in an increase in credit risk EAD and a decrease in counterparty credit risk EAD. The composition of the liquidity pool is efficiently and centrally managed, with further details provided in the Annual Report page 191.

Table 17: Industry analysis of credit exposure

This table shows exposure at default pre-CRM, broken down by credit exposure class and the industrial sector associated with the obligor or counterparty.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

EAD pre-CRM credit exposure class													
As at 31 December 2015	Government and central banks £m	Banks £m	Other financial institutions £m	Manufacturing £m	Construction £m	Property £m	Energy and water £m	Wholesale and retail, distribution and leisure £m	Business and other services £m	Home loans £m	Cards, unsecured loans, other personal lending £m	Other £m	Total £m
Standardised approach													
Central governments or central banks	113,327	–	–	–	–	–	–	–	–	–	–	–	113,327
Regional governments or local authorities	109	–	–	–	–	–	11	–	753	–	8	–	881
Public sector entities	149	–	–	–	–	–	9	–	50	–	–	5	213
Multilateral development banks	–	4,181	–	–	–	–	–	–	–	–	–	–	4,181
International organisations	21	–	533	–	–	–	–	–	1,840	–	–	–	2,394
Institutions	86	6,953	284	–	–	–	–	114	195	–	102	1	7,735
Corporates	49	872	14,198	4,911	577	1,675	2,430	3,625	14,012	–	3,784	2,616	48,749
Retail	–	–	–	7	3	26	1	14	775	141	26,055	87	27,109
Secured by mortgages	–	154	781	11	9	669	–	315	2,504	3,649	5,713	55	13,860
Exposures in default	2	1	79	119	23	422	45	89	347	32	937	151	2,247
Items associated with high risk	–	3	685	235	–	110	189	76	336	–	–	400	2,034
Covered bonds	–	851	358	–	–	–	–	–	–	–	–	–	1,209
Securitisation positions	–	–	–	–	–	–	–	–	–	–	–	–	–
Collective investment undertakings	1	–	–	–	–	–	–	–	–	–	–	–	1
Equity positions	–	5	372	7	11	–	–	5	85	–	–	41	526
Other items	–	242	16	–	–	–	–	–	–	113	–	1,796	2,167
Total Standardised approach credit exposure	113,744	13,262	17,306	5,290	623	2,902	2,685	4,238	20,897	3,935	36,599	5,152	226,633
Foundation IRB approach													
Central governments or central banks	–	–	–	–	–	–	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Foundation IRB approach credit exposure	–	–	–	–	–	–	–	–	–	–	–	–	–
Advanced IRB approach													
Central governments or central banks	14,782	–	–	–	–	–	–	–	–	–	–	–	14,782
Institutions	6,312	17,902	1,374	–	–	2	87	–	2,499	–	–	43	28,219
Corporates	344	1,821	10,538	27,967	4,818	30,028	20,490	15,850	32,826	–	69	14,260	159,011
Retail	–	–	–	412	458	1,230	5	1,703	1,596	156,290	49,887	4,892	216,473
Equity	–	–	–	–	–	–	–	–	–	–	–	–	–
Securitisation positions	–	–	16,916	–	–	–	–	–	446	–	–	5	17,367
Non-credit obligation assets	–	1,138	–	–	–	–	–	–	–	–	–	10,181	11,319
Total Advanced IRB approach credit exposure	21,438	20,861	28,828	28,379	5,276	31,260	20,582	17,553	37,367	156,290	49,956	29,381	447,171
Total credit exposures	135,182	34,123	46,134	33,669	5,899	34,162	23,267	21,791	58,264	160,225	86,555	34,533	673,804

Table 17: Industry analysis of credit exposure continued

EAD pre-CRM credit exposure class													
As at 31 December 2014	Government and central banks £m	Banks £m	Other financial institutions £m	Manufacturing £m	Construction £m	Property £m	Energy and water £m	Wholesale and retail, distribution and leisure £m	Business and other services £m	Home loans £m	Cards, unsecured loans, other personal lending £m	Other £m	Total £m
Standardised approach													
Central governments or central banks	104,499	–	–	–	–	–	–	–	–	–	–	–	104,499
Regional governments or local authorities	221	–	–	–	–	–	26	–	607	–	–	9	863
Public sector entities	160	–	–	3	–	–	19	–	181	–	–	2	365
Multilateral development banks	–	3,085	–	–	–	–	–	–	–	–	–	–	3,085
International organisations	26	–	1,180	–	–	–	–	–	1,403	–	–	–	2,609
Institutions	79	5,232	772	–	8	1	–	177	569	–	110	4	6,952
Corporates	35	725	13,407	4,716	599	1,923	2,887	3,965	14,050	7	4,932	2,707	49,953
Retail	3	84	41	22	10	134	42	69	936	1,902	24,444	24	27,711
Secured by mortgages	–	135	1,091	13	8	779	3	308	2,212	4,244	7,105	50	15,948
Exposures in default	1	41	93	222	41	594	220	195	460	194	945	80	3,086
Items associated with high risk	–	–	566	206	–	–	199	51	511	–	–	19	1,552
Covered bonds	–	444	414	–	–	–	–	–	–	–	–	–	858
Securitisation positions	–	–	–	–	–	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–	–	–	–	–	–	–
Equity positions	–	6	410	26	14	2	–	20	144	–	–	38	660
Other items	–	414	9	–	–	345	–	–	–	–	–	2,084	2,852
Total Standardised approach credit exposure	105,024	10,166	17,983	5,208	680	3,778	3,396	4,785	21,073	6,347	37,536	5,017	220,993
Foundation IRB approach	–	–	–	–	–	–	–	–	–	–	–	–	–
Central governments or central banks	176	–	–	–	–	–	–	–	–	–	–	–	176
Institutions	–	818	–	–	–	–	–	–	163	–	–	–	981
Corporates	491	1,106	66	2,285	353	1,354	454	1,804	4,356	–	–	2,492	14,761
Total Foundation IRB approach credit exposure	667	1,924	66	2,285	353	1,354	454	1,804	4,519	–	–	2,492	15,918
Advanced IRB approach	–	–	–	–	–	–	–	–	–	–	–	–	–
Central governments or central banks	6,704	–	–	–	–	–	–	–	–	–	–	–	6,704
Institutions	6,785	21,742	1,424	–	–	–	–	–	570	–	–	–	30,521
Corporates	–	–	11,045	22,144	4,320	28,782	18,622	12,532	29,946	–	43	10,734	138,168
Retail	1	23	2	465	491	1,437	11	1,887	1,732	172,617	49,646	6,029	234,341
Equity	–	–	–	–	–	–	–	–	–	–	–	–	–
Securitisation positions	–	–	20,209	–	–	93	–	154	392	–	–	–	20,848
Non-credit obligation assets	–	1,268	–	–	–	–	–	–	–	–	–	10,461	11,729
Total Advanced IRB approach credit exposure	13,490	23,033	32,680	22,609	4,811	30,312	18,633	14,573	32,640	172,617	49,689	27,224	442,311
Total credit exposures	119,181	35,123	50,729	30,102	5,844	35,444	22,483	21,162	58,232	178,964	87,225	34,733	679,222

Exposure at default pre-CRM decreased by £5.4bn to £673.8bn. The key movements by industry sector were as follows:

- Governments and central banks increased by £16.0bn to £135.2bn, driven by movement in the Group liquidity pool
- Banks decreased by £1.0bn to £34.1bn, driven by bond positions maturing and a reduction in nostro positions, partly offset by increased collateral pledges given
- Other Financial Institutions decreased by £4.6bn to £46.1bn, driven by reduction in securitisation exposure in the Investment Bank
- Manufacturing increased by £3.6bn to £33.7bn, driven by new syndication facilities in the Investment Bank
- Property decreased by £1.3bn to £34.2bn with no material single movement
- Home loans decreased by £18.7bn to £160.2bn, driven by the sale of the Spanish business and further rundown of legacy portfolio assets.

The total Group liquidity pool composition has decreased £4bn to £145bn. This was primarily driven by a £14bn decrease in bonds sourced through reverse repurchase transactions, offset by a £10bn increase in bonds held on-balance sheet. These result in an increase in credit risk EAD and a decrease in counterparty credit risk EAD. The composition of the liquidity pool is efficiently and centrally managed, with further details provided in the Annual Report page 191.

Barclays' exposures to the oil and gas sector are further described in the Annual Report pages 153 and 154.

Table 18: Residual maturity analysis credit exposures

This table shows exposure at default pre-CRM, broken down by credit exposure class and residual maturity. Residual maturity is the remaining number of years before an obligation becomes due according to the existing terms of the agreement.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

EAD pre-CRM credit exposure class

As at 31 December 2015	On demand and qualifying revolving £m	Under one year £m	Over one year but not more than three years £m	Over three years but not more than five years £m	Over five years but not more than 10 years £m	Over 10 years or undated[a] £m	Total £m
Standardised approach							
Central governments or central banks	34,059	23,825	12,904	15,058	16,872	10,609	113,327
Regional governments or local authorities	–	111	572	105	93	–	881
Public sector entities	–	9	7	151	10	36	213
Multilateral development banks	–	93	1,316	1,067	1,573	132	4,181
International organisations	6	–	2,267	–	121	–	2,394
Institutions	655	6,685	122	122	114	37	7,735
Corporates	5,187	19,160	8,669	8,061	2,297	5,375	48,749
Retail	19,280	1,107	2,339	2,624	1,383	376	27,109
Secured by mortgages	27	2,970	2,862	2,130	3,067	2,804	13,860
Exposures in default	293	1,128	294	134	365	33	2,247
Items associated with high risk	–	640	157	43	–	1,194	2,034
Covered bonds	–	97	995	52	65	–	1,209
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	1	–	–	–	–	–	1
Equity positions	–	33	175	222	–	96	526
Other items	228	–	72	–	–	1,867	2,167
Total Standardised approach credit exposure	59,736	55,858	32,751	29,769	25,960	22,559	226,633
Foundation IRB approach							
Central governments or central banks	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–
Total Foundation IRB approach credit exposure	–	–	–	–	–	–	–
Advanced IRB approach							
Central governments or central banks	1,058	5,357	6,850	1,517	–	–	14,782
Institutions	3,053	9,499	5,126	2,664	178	7,699	28,219
Corporates	18,505	24,202	41,011	49,931	5,805	19,557	159,011
Retail	48,174	3,030	6,392	10,229	21,729	126,919	216,473
Equity	–	–	–	–	–	–	–
Securitisation positions	–	2,636	3,366	4	9,834	1,527	17,367
Non-credit obligation assets	351	764	202	–	–	10,002	11,319
Total Advanced IRB approach credit exposure	71,141	45,488	62,947	64,345	37,546	165,704	447,171
Total credit exposures	130,877	101,346	95,698	94,114	63,506	188,263	673,804

Note

a The 'Over 10 years or undated' category includes some items without contractual liquidity such as cash and tax assets. These are found in the 'Other items' and 'Non-credit obligations assets' lines.

Table 18: Residual maturity analysis credit exposures continued

EAD pre-CRM assets credit exposure class

As at 31 December 2014	On demand and qualifying revolving £m	Under one year £m	Over one year but not more than three years £m	Over three years but not more than five years £m	Over five years but not more than 10 years £m	Over 10 years or undated[a] £m	Total £m
Standardised approach							
Central governments or central banks	36,194	7,058	20,674	7,619	18,849	14,105	104,499
Regional governments or local authorities	7	324	444	–	86	2	863
Public sector entities	12	44	137	103	64	5	365
Multilateral development banks	–	466	859	498	955	307	3,085
International organisations	13	13	1,862	152	569	–	2,609
Institutions	499	5,875	255	244	44	35	6,952
Corporates	5,393	17,333	10,060	8,172	2,759	6,236	49,953
Retail	17,241	1,472	2,413	2,756	2,179	1,650	27,711
Secured by mortgages	25	2,634	3,025	3,265	3,458	3,541	15,948
Exposures in default	590	850	373	215	650	408	3,086
Items associated with high risk	–	29	160	87	22	1,254	1,552
Covered bonds	–	27	738	23	70	–	858
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–
Equity positions	–	47	173	250	–	190	660
Other items	204	–	78	–	–	2,570	2,852
Total Standardised approach credit exposure	60,178	36,172	41,251	23,384	29,705	30,303	220,993
Foundation IRB approach							
Central governments or central banks	–	48	13	114	–	1	176
Institutions	1	326	522	132	–	–	981
Corporates	1,535	6,554	3,965	2,374	306	27	14,761
Total Foundation IRB approach credit exposure	1,536	6,928	4,500	2,620	306	28	15,918
Advanced IRB approach							
Central governments or central banks	2,110	2,474	887	635	598	–	6,704
Institutions	4,482	12,565	3,794	1,261	1,735	6,684	30,521
Corporates	15,271	17,897	28,268	49,043	4,793	22,896	138,168
Retail	48,959	3,147	6,329	11,152	22,521	142,233	234,341
Equity	–	–	–	–	–	–	–
Securitisation positions	–	6,604	5,607	220	6,175	2,242	20,848
Non-credit obligation assets	579	345	198	–	–	10,607	11,729
Total Advanced IRB approach credit exposure	71,401	43,032	45,083	62,311	35,822	184,662	442,311
Total credit exposures	133,115	86,132	90,834	88,315	65,833	214,993	679,222

Exposure at default pre-CRM decreased by £5.4bn to £673.8bn. The key movements by maturity band were as follows:

- On demand and qualifying revolving decreased by £2.2bn to £130.9bn driven by the depreciation of ZAR against GBP, partially offset by underlying growth in Barclaycard
- Under one year increased by £15.2bn to £101.3bn driven by changes in the composition of the Group liquidity pool
- Exposure over one year but not more than three years increased by £4.9bn to £95.7bn driven by growth in Investment Bank syndication facilities and term lending in Corporate, offset by movement in the composition of the Group liquidity pool
- Exposure over three years but not more than five years increased by £5.8bn to £94.1bn, driven by movement in the composition of the Group liquidity pool
- Exposure over 5 years but not more than ten years decreased by £2.3bn to £63.5bn, driven by the sale of the Spanish business and rundown of legacy portfolios assets and movements in the composition of the Group liquidity pool
- Over ten years or undated decreased by £26.7bn to £188.3bn primarily driven by the sale of the Spanish business and the UK Secured Lending portfolio and rundown of legacy portfolio assets.

The total Group liquidity pool composition has decreased £4bn to £145bn. This was primarily driven by a £14bn decrease in bonds sourced through reverse repurchase transactions, offset by a £10bn increase in bonds held on-balance sheet. These result in an increase in credit risk EAD and a decrease in counterparty credit risk EAD. The composition of the liquidity pool is efficiently and centrally managed, with further details provided in the Annual Report page 191.

Note

a The 'Over 10 years or undated' category includes some items without contractual liquidity such as cash and tax assets. These are found in the 'Other items' and 'Non-credit obligation assets' lines.

Credit risk mitigation

Barclays employs a range of techniques and strategies to actively mitigate credit risks. Within the regulatory framework this is commonly referred to as credit risk mitigation (CRM) and is fully discussed on page 125 of this document. In the case of collateral, the recognition of the mitigant is reflected through regulatory calculations in several different ways. This is dependent on the nature of the collateral and the underlying approach applied to the exposure.

Table 19: Exposures covered by guarantees and credit derivatives

This table shows the proportion of credit risk exposures, covered by funded credit protection and unfunded credit protection in the form of guarantees or credit derivatives. Under the Standardised approach, the risk weight of the underlying exposure covered is substituted by that of the credit protection provider – generally a central government or institution. Any uncovered exposure is risk weighted using the normal framework.

Financial collateral, includes but is not exclusive of, cash, debt securities, equities and gold, that can be used to directly reduce credit exposures subject to the Standardised approach. The impact of financial collateral CRM can be observed on page 43 and 44, as a component of the difference between EAD pre-CRM and EAD-post CRM. The below table has been populated post substitution effect for the Standardised approach.

When an exposure is fully and completely secured or partially secured under the Standardised approach, this is considered in the risk weight applied, as discussed on page 125.

Where exposures are subject to Advanced calculations, Barclays typically recognises eligible collateral by reducing the modelled downturn loss given default (LGD) metric. The below table represents exposures covered by eligible collateral for Advanced calculations.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Credit exposure class	Exposures covered by unfunded credit protection			Exposures covered by funded credit protection	
	Standardised £m	Foundation IRB £m	Advanced IRB £m	Foundation IRB £m	Advanced IRB £m
As at 31 December 2015					
Central governments or central banks	–	–	436	–	–
Institutions	1,937	–	5,381	–	5,078
Corporates	1,183	–	6,225	–	35,811
Retail	3	–	5,016	–	415,180
Exposures in default	1	–	–	–	–
Equity	–	–	–	–	–
Securitisation positions	–	–	–	–	–
Non-credit obligation assets	–	–	–	–	–
Total	3,124	–	17,058	–	456,069
As at 31 December 2014[a]					
Central governments or central banks	–	–	613	–	–
Institutions	1,517	–	4,525	–	5,111
Corporates	1,183	11	5,996	3,954	29,769
Retail	7	–	5,567	–	468,914
Exposures in default	2	–	–	–	–
Equity	–	–	–	–	–
Securitisation positions	–	–	–	–	–
Non-credit obligation assets	–	–	–	–	–
Total	2,709	11	16,701	3,954	503,794

Exposures covered by unfunded credit protection increased by £0.8bn to £20.2bn. This was driven by a number of small counterparties exposure increases.

Exposures covered by funded credit protection decreased by £51.7bn to £456.1bn, primarily driven by:

- £68bn decrease due to the sale of the Spanish business and the UK Secured Lending portfolio and rundown of legacy portfolio assets offset by
- £15bn portfolio growth in PCB.

Note
a Prior year comparatives have been restated to more accurately reflect the form and impact of credit protection.

Credit quality analysis of Standardised exposures

Credit Rating Agencies

Under the Standardised approach, ratings assigned by External Credit Assessment Institutions (ECAIs) are used in the calculation of RWAs. The PRA determines which agencies may be used to determine the correct risk weight. Barclays uses ratings assigned by the following agencies for credit risk calculations:

- Standard & Poor's
- Moody's
- Fitch

These ratings are used in the calculation of risk weights for the central governments and central banks, institutions and corporate exposure classes[a].

Rated and unrated counterparties

The following section summarises the rules governing standardised calculations.

Each exposure must be assigned to one of six credit quality steps if a rating is available, as defined in the table below[b]. After assignment to a quality step, exposure class and maturity are then used to determine the risk weight percentage. Exposures cannot be assigned a risk weight lower than that of the sovereign risk of the country in which the asset is located. The following table is a simplified version of the risk weight allocation process.

Where a credit rating is not available, a default treatment is applied as specified by regulatory guidance. In most cases this default risk weight equates to that which is applied to credit quality step 3.

Table 20: Relationship of long-term external credit ratings to credit quality steps under the Standardised approach

Credit Quality Step	Standard and Poor's	Moody's	Fitch
Credit Quality Step 1	AAA to AA-	Aaa to Aa3	AAA to AA-
Credit Quality Step 2	A+ to A-	A1 to A3	A+ to A-
Credit Quality Step 3	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-
Credit Quality Step 4	BB+ to BB-	Ba1 to Ba3	BB+ to BB-
Credit Quality Step 5	B+ to B-	B1 to B3	B+ to B-
Credit Quality Step 6	CCC+ and below	Caa1 and below	CCC+ and below

Table 21: Credit quality steps and risk weights under the standardised approach

This table shows the prescribed risk weights associated with credit quality steps.

Credit Quality Step		Institution (includes banks)			
		Sovereign method	Credit assessment method		
	Corporates	Credit assessment method	Maturity > 3 months	Maturity 3 months or less	Central governments or central banks
Credit Quality Step 1	20%	20%	20%	20%	0%
Credit Quality Step 2	50%	50%	50%	20%	20%
Credit Quality Step 3	100%	100%	50%	20%	50%
Credit Quality Step 4	100%	100%	100%	50%	100%
Credit Quality Step 5	150%	100%	100%	50%	100%
Credit Quality Step 6	150%	150%	150%	150%	150%

Exposures to international organisations are generally assigned a risk weight of 0%.

If considered fully and completely secured by residential or commercial property, a retail exposure is assigned a risk weight of 35% or 50% respectively. If only partially secured, a more complex framework is applied. Other retail exposures are generally assigned a risk weight of 75%.

The unsecured portion of a past due exposure is assigned a risk weight of either 150% or 100%, depending on the specific credit risk adjustments recognised.

Items of high risk are assigned a risk weight of 150%, whereas Equity positions not subject to threshold calculations are generally assigned a risk weight of 100%.

Other Items are assigned a risk weight of 100%, unless they relate to cash in hand (0%) or items in the course of collection (20%).

Notes

a The rating agency DBRS is used to calculate risk weight for securitisation exposures only. Please see page 141 for further details.

b The mapping of external ratings to credit quality steps applicable as at year-end 2015 is found in Supervisory Statement SS10/13, published by the Prudential Regulation Authority in December 2013 (see http://www.bankofengland.co.uk/pra/Documents/publications/ss/2013/ss1013.pdf". Implementing technical standards that will update these mappings have been finalised by the Joint Committee of the three European Supervisory Authorities (EBA, ESMA and EIOPA) and are awaiting endorsement by the European Commission (see https://www.eba.europa.eu/regulation-and-policy/external-credit-assessment-institutions-ecai).

Table 22: Credit quality step analysis of pre-CRM exposure and capital deductions under the Standardised approach

This table shows exposure at default pre-CRM, broken down by credit exposure class and credit quality step. This table includes exposures subject to the Standardised approach only. The 'Uniform regulatory treatment' is equivalent, in most cases, to Credit Quality Step 3 and is applied where a rating is not available or has not been used for the RWA calculation. This is the case for the majority of retail and smaller business customers.

EAD pre-CRM Credit exposure class	Credit quality step 1 £m	Credit quality step 2 £m	Credit quality step 3 £m	Credit quality step 4 £m	Credit quality step 5 £m	Credit quality step 6 £m	Uniform regulatory treatment £m	Total £m
As at 31 December 2015								
Central governments or central banks	**110,288**	**202**	**451**	**–**	**1,077**	**1**	**1,308**	**113,327**
Regional governments or local authorities	**722**	**–**	**–**	**–**	**–**	**–**	**159**	**881**
Public sector entities	**3**	**9**	**–**	**–**	**–**	**–**	**201**	**213**
Multilateral development banks	**4,181**	**–**	**–**	**–**	**–**	**–**	**–**	**4,181**
International organisations	**2,394**	**–**	**–**	**–**	**–**	**–**	**–**	**2,394**
Institutions	**3,918**	**691**	**1,454**	**63**	**–**	**–**	**1,609**	**7,735**
Corporates	**882**	**1,708**	**1,466**	**420**	**48**	**102**	**44,123**	**48,749**
Retail	**–**	**–**	**–**	**–**	**–**	**–**	**27,109**	**27,109**
Secured by mortgages	**–**	**–**	**–**	**–**	**–**	**–**	**13,860**	**13,860**
Exposures in default	**–**	**–**	**–**	**–**	**–**	**–**	**2,247**	**2,247**
Items associated with high risk	**–**	**–**	**–**	**–**	**–**	**–**	**2,034**	**2,034**
Covered bonds	**1,085**	**124**	**–**	**–**	**–**	**–**	**–**	**1,209**
Securitisation positions	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Collective investment undertakings	**–**	**–**	**–**	**–**	**–**	**–**	**1**	**1**
Equity positions	**–**	**–**	**–**	**–**	**–**	**–**	**526**	**526**
Other items	**–**	**–**	**–**	**–**	**–**	**–**	**2,167**	**2,167**
Total Standardised approach credit exposure/capital	**123,473**	**2,734**	**3,371**	**483**	**1,125**	**103**	**95,344**	**226,633**
As at 31 December 2014								
Central governments or central banks	101,524	78	342	4	1,096	172	1,283	104,499
Regional governments or local authorities	619	–	–	8	–	–	236	863
Public sector entities	48	10	–	–	–	–	307	365
Multilateral development banks	3,060	–	–	–	–	–	25	3,085
International organisations	2,609	–	–	–	–	–	–	2,609
Institutions	1,022	1,258	1,352	59	–	3	3,258	6,952
Corporates	575	1,764	584	294	164	34	46,538	49,953
Retail	–	–	–	–	–	–	27,711	27,711
Secured by mortgages	–	–	–	–	–	–	15,948	15,948
Exposures in default	–	–	41	–	–	–	3,045	3,086
Items associated with high risk	–	–	–	–	–	–	1,552	1,552
Covered bonds	698	160	–	–	–	–	–	858
Securitisation positions	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–	–
Equity positions	–	–	–	–	–	–	660	660
Other items	345	–	–	–	–	–	2,507	2,852
Total Standardised approach credit exposure/capital	110,500	3,270	2,319	365	1,260	209	103,070	220,993

Exposures subject to the Standardised approach increased by £5.6bn to £226.6bn, primarily driven by movements in Credit Quality Step 1 partially offset by uniform regulatory treatment:

- 'Credit Quality Step 1' increased by £13.0bn to £123.5bn driven by movement in the Group liquidity pool
- 'Uniform regulatory treatment' decreased by £7.7bn to £95.3bn driven by a change in treatment of South Africa government bonds from Standardised to IRB approach.

The total Group liquidity pool composition has decreased £4bn to £145bn. This was primarily driven by a £14bn decrease in bonds sourced through reverse repurchase transactions, offset by a £10bn increase in bonds held on-balance sheet. These result in an increase in credit risk EAD and a decrease in counterparty credit risk EAD. The composition of the liquidity pool is efficiently and centrally managed, with further details provided in the Annual Report page 191.

Table 23: Credit quality step analysis of post-CRM exposure and capital deductions under the Standardised approach

The difference between exposure at default pre-CRM set out in Table 22 and exposures at default post-CRM in Table 23 below is the impact of financial collateral CRM as described at the bottom of Table 19 on page 41.

Year on year movements for Credit Quality Step analysis of post-CRM exposure and capital deductions under the Standardised approach have been driven by the same factors as for Credit Quality Step analysis of pre-CRM exposure and capital deductions under the Standardised approach (Table 22).

EAD post-CRM Credit exposure class	Credit quality step 1 £m	Credit quality step 2 £m	Credit quality step 3 £m	Credit quality step 4 £m	Credit quality step 5 £m	Credit quality step 6 £m	Uniform regulatory treatment £m	Total £m
As at 31 December 2015								
Central governments or central banks	110,288	202	451	–	1,077	1	1,164	113,183
Regional governments or local authorities	721	–	–	–	–	–	160	881
Public sector entities	3	–	–	–	–	–	201	204
Multilateral development banks	4,181	–	–	–	–	–	–	4,181
International organisations	2,394	–	–	–	–	–	–	2,394
Institutions	3,918	691	1,454	63	–	–	1,537	7,663
Corporates	882	1,708	1,419	420	48	102	32,059	36,638
Retail	–	–	–	–	–	–	26,476	26,476
Secured by mortgages	–	–	–	–	–	–	13,860	13,860
Exposures in default	–	–	–	–	–	–	2,199	2,199
Items associated with high risk	–	–	–	–	–	–	2,034	2,034
Covered bonds	1,085	124	–	–	–	–	–	1,209
Securitisation positions	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	1	1
Equity positions	–	–	–	–	–	–	526	526
Other items	–	–	–	–	–	–	2,167	2,167
Total Standardised approach credit exposure/capital	123,472	2,725	3,324	483	1,125	103	82,384	213,616
As at 31 December 2014								
Central governments or central banks	101,524	78	342	4	1,096	172	1,283	104,499
Regional governments or local authorities	618	–	–	8	–	–	236	862
Public sector entities	48	–	–	–	–	–	306	354
Multilateral development banks	3,060	–	–	–	–	–	25	3,085
International organisations	2,609	–	–	–	–	–	–	2,609
Institutions	1,022	1,258	1,352	59	–	–	3,074	6,765
Corporates	575	1,764	584	294	164	34	33,929	37,344
Retail	–	–	–	–	–	–	26,879	26,879
Secured by mortgages	–	–	–	–	–	–	15,948	15,948
Exposures in default	–	–	41	–	–	–	3,020	3,061
Items associated with high risk	–	–	–	–	–	–	1,552	1,552
Covered bonds	698	160	–	–	–	–	–	858
Securitisation positions	–	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–	–
Equity positions	–	–	–	–	–	–	660	660
Other items	345	–	–	–	–	–	2,507	2,852
Total Standardised approach credit exposure/capital	110,499	3,260	2,319	365	1,260	206	89,419	207,328

Credit quality analysis of IRB exposures

The following section provides breakdowns of inputs into risk weighted asset calculations. Please note that risk weights and risk factors may be volatile in granular breakdowns of wholesale exposures, especially in categories that are more sparsely populated. This is often due to the addition or removal of a relatively large exposure to or from narrow categories when its risk factors are different to the category average. This happens in the normal course of business, for instance, following new lending, repayments, or syndications. See page 116 for a discussion of IRB models.

Table 24: Internal default grade probabilities and mapping to external ratings

The table below illustrates the relationship between external rating agency grades and our own internal scale for default grade bands (DG bands) for wholesale exposures. Note that this relationship is dynamic, and, therefore, varies over time, region and industry. Specifically, the table below is intended to provide a broad indication of the current mapping between external agency ratings and through-the-cycle internal DG ratings for non-financial corporates in our main markets. For example, agency ratings for commercial banks generally correspond to less favourable DG ratings in comparison. Barclays DG system follows estimation rules and governance that may differ from those of ratings agencies.

	Default Probability			Financial statements description		
DG Band	>Min	Mid	<=Max		Standard and Poor's	Moody's
1	0.00%	0.01%	0.02%	Strong	AAA, AA+, AA	Aaa, Aa1, Aa2
2	0.02%	0.03%	0.03%		AA-	A1
3	0.03%	0.04%	0.05%		A+	A2
4	0.05%	0.08%	0.10%		A, A-	A3, Baa1
5	0.10%	0.13%	0.15%		BBB+	Baa2
6	0.15%	0.18%	0.20%		BBB	Baa3
7	0.20%	0.23%	0.25%		BBB-	
8	0.25%	0.28%	0.30%			Ba1
9	0.30%	0.35%	0.40%		BB+	
10	0.40%	0.45%	0.50%			
11	0.50%	0.55%	0.60%			Ba2
12	0.60%	0.90%	1.20%	Satisfactory	BB, BB-	Ba3
13	1.20%	1.38%	1.55%			B1
14	1.55%	1.85%	2.15%		B+	
15	2.15%	2.60%	3.05%			B2
16	3.05%	3.75%	4.45%		B	
17	4.45%	5.40%	6.35%			B3
18	6.35%	7.50%	8.65%		B-	Caa1
19	8.65%	10.00%	11.35%			
20	11.35%	15.00%	18.65%	Higher risk	CCC+	Caa2, Caa3, Ca, C
21	18.65%	30.00%	100.00%		CCC, CCC-, CC+, C	

IRB wholesale obligor grade disclosure

The following tables show credit risk and counterparty credit risk exposure at default post-CRM for the advanced IRB approach and foundation IRB approach for wholesale portfolios within both the trading and banking books. Separate tables are provided for the following credit exposure classes: central governments and central banks (Table 25), institutions (Table 26), corporates (Table 27), corporates subject to slotting (Table 28), SME (Table 29), secured retail (Table 30), revolving retail (Table 31) and other retail (Table 32).

PD boundaries for DG bands have been aligned in Pillar 3 to regulatory submissions. Prior period balances have been revised accordingly.

Table 25: IRB wholesale obligor grade disclosure for central governments and central banks

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Obligor grade disclosure for Advanced IRB

	Exposure value								
	Total £m	Of which: arising from counterparty credit risk £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2015									
DG1: 0.00-0.02%	**9,251**	**4,453**	**9,664**	**478**	**0.0%**	**45.0%**	**322**	**3.5%**	**–**
DG2: 0.02-0.03%	**203**	**118**	**262**	**–**	**0.0%**	**45.0%**	**22**	**10.9%**	**–**
DG3: 0.03-0.05%	**4,991**	**3,993**	**3,075**	**80**	**0.0%**	**45.9%**	**420**	**8.4%**	**1**
DG4: 0.05-0.10%	**4,639**	**287**	**6,628**	**730**	**0.1%**	**33.1%**	**490**	**10.6%**	**1**
DG5: 0.10-0.15%	**4,485**	**1,463**	**2,135**	**7**	**0.1%**	**45.0%**	**2,410**	**53.7%**	**3**
DG6: 0.15-0.20%	**549**	**73**	**1,617**	**–**	**0.2%**	**45.0%**	**292**	**53.2%**	**–**
DG7: 0.20-0.25%	**440**	**12**	**1,480**	**–**	**0.2%**	**7.0%**	**32**	**7.2%**	**–**
DG8: 0.25-0.30%	**425**	**32**	**125**	**–**	**0.3%**	**46.2%**	**306**	**72.0%**	**1**
DG9: 0.30-0.40%	**267**	**55**	**357**	**–**	**0.4%**	**45.7%**	**118**	**44.2%**	**–**
DG10: 0.40-0.50%	**63**	**63**	**46**	**–**	**0.5%**	**45.0%**	**37**	**59.1%**	**–**
DG11: 0.50-0.60%	**–**	**–**	**1**	**–**	**0.6%**	**53.0%**	**–**	**45.9%**	**–**
DG12: 0.60-1.20%	**4**	**3**	**51**	**–**	**0.7%**	**49.4%**	**3**	**73.5%**	**–**
DG13: 1.20-1.55%	**62**	**62**	**16**	**–**	**1.2%**	**45.0%**	**94**	**150.0%**	**–**
DG14: 1.55-2.15%	**–**	**–**	**–**	**–**	**1.9%**	**45.0%**	**–**	**76.7%**	**–**
DG15: 2.15-3.05%	**–**	**–**	**–**	**–**	**2.6%**	**60.4%**	**–**	**133.2%**	**–**
DG16: 3.05-4.45%	**–**	**–**	**–**	**–**	**0.0%**	**0.0%**	**–**	**0.0%**	**–**
DG17: 4.45-6.35%	**17**	**–**	**18**	**–**	**5.4%**	**45.1%**	**23**	**138.4%**	**–**
DG18: 6.35-8.65%	**–**	**–**	**–**	**–**	**7.5%**	**60.7%**	**–**	**212.4%**	**–**
DG19: 8.65-11.35%	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
DG20: 11.35-18.65%	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
DG21: 18.65-100%	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
In default	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Total	**25,396**	**10,614**	**25,475**	**1,295**	**0.1%**	**42.4%**	**4,569**	**18.0%**	**6**
As at 31 December 2014									
DG1: 0.00-0.02%	9,571	7,185	9,576	1,559	0.0%	45.0%	525	5.5%	–
DG2: 0.02-0.03%	726	683	2,846	–	0.0%	45.0%	61	8.4%	–
DG3: 0.03-0.05%	3,975	2,819	5,770	859	0.0%	41.4%	281	7.1%	1
DG4: 0.05-0.10%	5,438	3,169	3,387	–	0.1%	45.0%	2,293	42.2%	4
DG5: 0.10-0.15%	2	1	73	–	0.1%	50.5%	2	100.0%	–
DG6: 0.15-0.20%	815	220	1,227	11	0.2%	18.1%	104	12.8%	–
DG7: 0.20-0.25%	59	59	50	–	0.2%	48.2%	47	79.7%	–
DG8: 0.25-0.30%	–	–	33	–	0.0%	0.0%	–	0.0%	–
DG9: 0.30-0.40%	348	98	417	–	0.4%	46.9%	205	58.9%	1
DG10: 0.40-0.50%	–	–	29	–	0.0%	0.0%	–	0.0%	–
DG11: 0.50-0.60%	5	3	255	–	0.6%	47.0%	4	80.0%	–
DG12: 0.60-1.20%	64	64	62	–	0.9%	45.0%	96	150.0%	–
DG13: 1.20-1.55%	–	–	–	–	0.0%	0.0%	–	0.0%	–
DG14: 1.55-2.15%	–	–	–	–	0.0%	0.0%	–	0.0%	–
DG15: 2.15-3.05%	–	–	–	–	0.0%	0.0%	–	0.0%	–
DG16: 3.05-4.45%	–	–	–	–	0.0%	0.0%	–	0.0%	–
DG17: 4.45-6.35%	–	–	–	–	0.0%	0.0%	–	0.0%	–
DG18: 6.35-8.65%	1	1	–	–	7.5%	66.4%	1	100.0%	–
DG19: 8.65-11.35%	–	–	1	–	0.0%	0.0%	–	0.0%	–
DG20: 11.35-18.65%	–	–	6	–	17.0%	63.0%	–	0.0%	–
DG21: 18.65-100%	2	–	2	–	35.2%	78.0%	8	400.0%	–
In default	–	–	–	–	0.0%	0.0%	–	0.0%	–
Total	21,006	14,302	23,734	2,429	0.1%	43.3%	3,627	17.3%	6

Table 25: IRB wholesale obligor grade disclosure for central governments and central banks continued

Obligor grade disclosure for Foundation IRB

	Exposure value								
	Total £m	Of which: arising from counterparty credit risk £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2014									
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	–	–	–	–	–	–	–	–	–
DG4: 0.05-0.10%	–	–	–	–	–	–	–	–	–
DG5: 0.10-0.15%	–	–	–	–	–	–	–	–	–
DG6: 0.15-0.20%	92	1	155	9	0.2%	45.0%	41	44.6%	–
DG7: 0.20-0.25%	72	1	18	–	0.2%	45.0%	33	45.8%	–
DG8: 0.25-0.30%	–	–	–	–	–	–	–	–	–
DG9: 0.30-0.40%	–	–	–	–	–	–	–	–	–
DG10: 0.40-0.50%	–	–	5	–	0.0%	0.0%	–	0.0%	–
DG11: 0.50-0.60%	–	–	–	–	–	–	–	–	–
DG12: 0.60-1.20%	–	–	–	–	–	–	–	–	–
DG13: 1.20-1.55%	–	–	–	–	–	–	–	–	–
DG14: 1.55-2.15%	–	–	–	–	–	–	–	–	–
DG15: 2.15-3.05%	–	–	1	–	0.0%	0.0%	–	0.0%	–
DG16: 3.05-4.45%	–	–	3	–	0.0%	0.0%	–	0.0%	–
DG17: 4.45-6.35%	14	–	7	–	5.4%	45.0%	22	157.1%	–
DG18: 6.35-8.65%	–	–	24	–	0.0%	0.0%	–	0.0%	–
DG19: 8.65-11.35%	–	–	–	–	–	–	–	–	–
DG20: 11.35-18.65%	–	–	–	–	–	–	–	–	–
DG21: 18.65-100%	–	–	3	–	0.0%	0.0%	–	0.0%	–
In default	–	–	–	–	–	–	–	–	–
Total	178	2	216	9	0.6%	45.0%	96	53.9%	–

The exposure weighted average risk weight associated with IRB exposure to central governments and central banks remained broadly stable from 17.3% to 18.0%.

Table 26: IRB wholesale obligor grade disclosure for institutions

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Obligor grade disclosure for Advanced IRB

	Exposure value								
	Total £m	Of which: arising from counterparty credit risk £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2015									
DG1: 0.00-0.02%	235	159	340	169	0.0%	45.0%	24	10.4%	–
DG2: 0.02-0.03%	6,515	4,578	7,387	179	0.0%	40.6%	1,378	21.2%	1
DG3: 0.03-0.05%	15,959	3,502	23,345	1,320	0.0%	44.1%	3,938	24.7%	3
DG4: 0.05-0.10%	13,336	4,039	11,377	735	0.1%	29.0%	2,174	16.3%	2
DG5: 0.10-0.15%	948	636	1,481	169	0.1%	47.2%	456	48.0%	1
DG6: 0.15-0.20%	1,872	336	830	336	0.2%	31.2%	749	40.0%	1
DG7: 0.20-0.25%	673	157	1,204	174	0.2%	47.0%	341	50.6%	1
DG8: 0.25-0.30%	143	85	315	33	0.3%	52.4%	90	62.9%	–
DG9: 0.30-0.40%	433	164	942	79	0.3%	47.6%	284	65.7%	1
DG10: 0.40-0.50%	1,034	103	675	42	0.5%	45.4%	757	73.2%	2
DG11: 0.50-0.60%	194	64	132	44	0.6%	51.6%	182	93.5%	1
DG12: 0.60-1.20%	348	36	185	90	0.9%	45.8%	439	126.4%	1
DG13: 1.20-1.55%	30	4	29	11	1.4%	46.3%	33	109.4%	–
DG14: 1.55-2.15%	164	55	91	5	1.8%	42.7%	165	100.4%	1
DG15: 2.15-3.05%	71	10	86	14	2.6%	36.5%	83	117.0%	1
DG16: 3.05-4.45%	43	16	38	8	3.6%	44.2%	67	154.0%	1
DG17: 4.45-6.35%	106	5	56	6	5.4%	44.3%	195	183.0%	2
DG18: 6.35-8.65%	19	1	9	1	7.5%	38.7%	34	182.3%	1
DG19: 8.65-11.35%	4	2	5	–	9.8%	38.0%	6	175.6%	–
DG20: 11.35-18.65%	36	24	53	–	13.3%	44.9%	101	277.3%	3
DG21: 18.65-100%	14	–	7	–	30.0%	35.8%	33	231.8%	2
In default	18	–	14	1	100.0%	30.4%	27	153.3%	3
Total	42,195	13,976	48,600	3,415	0.2%	38.4%	11,556	27.4%	28
As at 31 December 2014									
DG1: 0.00-0.02%	370	278	1,296	160	0.0%	45.0%	46	12.6%	–
DG2: 0.02-0.03%	13,205	8,109	15,134	832	0.0%	46.7%	3,177	24.1%	3
DG3: 0.03-0.05%	21,657	4,075	24,822	1,037	0.0%	39.0%	4,901	22.6%	4
DG4: 0.05-0.10%	9,410	4,559	6,849	112	0.1%	41.9%	2,913	31.0%	4
DG5: 0.10-0.15%	1,043	691	1,319	71	0.1%	45.8%	471	45.2%	1
DG6: 0.15-0.20%	745	253	547	14	0.2%	45.6%	333	44.7%	1
DG7: 0.20-0.25%	587	315	404	96	0.2%	46.9%	292	49.8%	1
DG8: 0.25-0.30%	580	99	456	40	0.3%	43.6%	302	52.1%	1
DG9: 0.30-0.40%	1,450	402	1,011	108	0.4%	46.4%	949	65.5%	2
DG10: 0.40-0.50%	189	137	177	15	0.5%	48.4%	193	101.9%	1
DG11: 0.50-0.60%	30	23	146	7	0.6%	45.3%	22	74.2%	–
DG12: 0.60-1.20%	201	159	197	24	0.8%	47.5%	255	126.6%	1
DG13: 1.20-1.55%	61	57	63	3	1.3%	45.0%	97	158.7%	1
DG14: 1.55-2.15%	11	9	102	–	2.0%	50.7%	15	140.8%	–
DG15: 2.15-3.05%	36	31	43	2	2.7%	44.5%	55	153.2%	1
DG16: 3.05-4.45%	49	21	24	9	3.8%	45.5%	69	140.2%	1
DG17: 4.45-6.35%	76	70	41	1	5.1%	44.4%	184	242.0%	5
DG18: 6.35-8.65%	24	22	36	–	8.4%	44.0%	53	221.8%	1
DG19: 8.65-11.35%	5	2	4	1	9.7%	39.6%	10	193.6%	–
DG20: 11.35-18.65%	7	–	10	7	15.0%	37.4%	15	207.4%	–
DG21: 18.65-100%	7	3	5	–	27.9%	37.2%	16	235.1%	1
In default	92	–	70	–	100.0%	24.3%	266	289.3%	–
Total	49,835	19,314	52,754	2,539	0.3%	42.3%	14,635	29.4%	29

Table 26: IRB wholesale obligor grade disclosure for institutions continued

Obligor grade disclosure for Foundation IRB

	Exposure value								
	Total £m	Of which: arising from counterparty credit risk £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2014									
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	766	507	867	327	0.0%	45.0%	103	13.4%	–
DG4: 0.05-0.10%	492	292	293	95	0.1%	45.0%	91	18.5%	–
DG5: 0.10-0.15%	–	–	74	321	0.1%	45.0%	–	0.0%	–
DG6: 0.15-0.20%	85	84	151	1	0.2%	45.0%	44	51.8%	–
DG7: 0.20-0.25%	181	72	193	–	0.2%	45.0%	122	67.4%	–
DG8: 0.25-0.30%	–	–	15	–	0.0%	0.0%	–	0.0%	–
DG9: 0.30-0.40%	169	70	43	6	0.3%	45.0%	130	76.9%	–
DG10: 0.40-0.50%	1	1	14	–	0.4%	45.0%	1	100.0%	–
DG11: 0.50-0.60%	6	–	2	–	0.5%	45.0%	4	66.7%	–
DG12: 0.60-1.20%	172	–	65	2	0.9%	45.0%	114	66.3%	–
DG13: 1.20-1.55%	7	–	130	9	1.4%	45.0%	7	100.0%	–
DG14: 1.55-2.15%	27	3	9	84	1.8%	45.0%	32	118.5%	–
DG15: 2.15-3.05%	83	67	27	–	2.6%	45.0%	91	109.6%	1
DG16: 3.05-4.45%	88	–	24	–	3.8%	45.0%	58	65.9%	–
DG17: 4.45-6.35%	–	–	1	–	0.0%	0.0%	–	0.0%	–
DG18: 6.35-8.65%	–	–	1	–	0.0%	0.0%	–	0.0%	–
DG19: 8.65-11.35%	–	–	2	1	0.0%	0.0%	–	0.0%	–
DG20: 11.35-18.65%	–	–	–	–	–	–	–	–	–
DG21: 18.65-100%	–	–	1	–	0.0%	0.0%	–	0.0%	–
In default	–	–	–	–	–	–	–	–	–
Total	2,077	1,096	1,910	846	0.5%	45.0%	798	38.4%	1

The exposure weighted average risk weight associated with advanced IRB exposures to financial institutions decreased from 29.4% to 27.4%.

Table 27: IRB wholesale obligor grade disclosure for corporates

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Obligor grade disclosure for Advanced IRB

	Exposure value								
	Total £m	Of which: arising from counterparty credit risk £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2015									
DG1: 0.00-0.02%	176	138	323	–	0.0%	40.1%	31	17.5%	–
DG2: 0.02-0.03%	34,999	18,009	27,055	26,965	0.0%	43.9%	5,337	15.2%	5
DG3: 0.03-0.05%	31,392	9,392	45,365	19,114	0.0%	36.2%	5,695	18.1%	6
DG4: 0.05-0.10%	29,484	7,059	29,932	24,601	0.1%	40.5%	7,417	25.2%	9
DG5: 0.10-0.15%	14,984	3,016	15,241	11,087	0.1%	41.9%	5,558	37.1%	8
DG6: 0.15-0.20%	10,060	2,230	9,230	6,566	0.2%	41.2%	4,447	44.2%	7
DG7: 0.20-0.25%	7,796	1,475	7,295	4,928	0.2%	44.6%	3,941	50.5%	8
DG8: 0.25-0.30%	4,559	382	5,091	3,841	0.3%	42.0%	2,427	53.2%	5
DG9: 0.30-0.40%	4,952	399	5,429	2,918	0.3%	38.6%	2,843	57.4%	7
DG10: 0.40-0.50%	4,858	727	4,906	2,622	0.5%	40.5%	3,196	65.8%	9
DG11: 0.50-0.60%	4,712	272	4,866	3,609	0.5%	39.7%	3,306	70.2%	10
DG12: 0.60-1.20%	12,004	606	12,103	6,704	0.9%	37.0%	8,813	73.4%	40
DG13: 1.20-1.55%	3,914	166	3,837	2,928	1.4%	36.6%	3,183	81.3%	20
DG14: 1.55-2.15%	4,300	267	3,931	2,486	1.8%	32.7%	3,489	81.2%	26
DG15: 2.15-3.05%	4,530	339	5,192	2,599	2.6%	34.9%	4,380	96.7%	44
DG16: 3.05-4.45%	5,412	223	3,863	2,947	3.6%	24.4%	4,516	83.4%	53
DG17: 4.45-6.35%	2,471	130	2,871	832	5.3%	34.4%	2,757	111.6%	45
DG18: 6.35-8.65%	1,009	23	902	648	7.5%	32.2%	1,106	109.6%	23
DG19: 8.65-11.35%	391	61	370	122	10.1%	34.9%	509	130.1%	13
DG20: 11.35-18.65%	838	35	661	446	14.6%	26.4%	1,000	119.3%	33
DG21: 18.65-100%	548	9	573	302	32.4%	35.7%	1,026	187.3%	60
In default	1,691	48	1,569	404	100.0%	31.9%	3,185	188.4%	298
Total	185,080	45,006	190,605	126,669	1.6%	39.3%	78,162	42.2%	729
As at 31 December 2014									
DG1: 0.00-0.02%	294	263	1,495	–	0.0%	45.0%	53	18.1%	–
DG2: 0.02-0.03%	36,676	23,130	36,045	21,956	0.0%	45.3%	6,050	16.5%	5
DG3: 0.03-0.05%	33,419	10,108	32,844	19,033	0.0%	37.7%	6,910	20.7%	6
DG4: 0.05-0.10%	26,813	7,139	26,027	23,138	0.1%	41.2%	8,252	30.8%	9
DG5: 0.10-0.15%	14,248	4,217	14,706	10,161	0.1%	41.7%	5,632	39.5%	8
DG6: 0.15-0.20%	7,502	1,892	7,441	4,759	0.2%	44.7%	3,485	46.4%	6
DG7: 0.20-0.25%	6,652	2,154	6,369	4,053	0.2%	45.5%	3,473	52.2%	6
DG8: 0.25-0.30%	3,991	824	4,043	2,188	0.3%	44.0%	2,475	62.0%	5
DG9: 0.30-0.40%	5,003	706	5,317	3,569	0.3%	45.3%	3,738	74.7%	7
DG10: 0.40-0.50%	4,407	489	4,349	2,193	0.4%	42.7%	3,062	69.5%	9
DG11: 0.50-0.60%	3,469	306	4,626	1,995	0.5%	40.3%	2,531	73.0%	8
DG12: 0.60-1.20%	10,785	1,143	10,375	6,598	0.9%	38.8%	9,053	83.9%	39
DG13: 1.20-1.55%	2,801	193	2,982	1,752	1.4%	36.1%	2,350	83.9%	14
DG14: 1.55-2.15%	3,423	338	3,711	1,430	1.9%	33.2%	2,946	86.1%	23
DG15: 2.15-3.05%	4,276	356	4,590	2,793	2.6%	32.2%	4,120	96.4%	39
DG16: 3.05-4.45%	2,558	285	3,351	1,487	3.6%	33.4%	2,608	102.0%	34
DG17: 4.45-6.35%	2,839	241	2,335	1,083	5.3%	31.8%	3,013	106.1%	50
DG18: 6.35-8.65%	602	36	1,111	383	7.4%	34.2%	727	120.8%	16
DG19: 8.65-11.35%	251	45	538	90	10.0%	43.7%	452	179.9%	11
DG20: 11.35-18.65%	446	26	490	282	14.8%	23.9%	452	101.3%	15
DG21: 18.65-100%	267	22	450	75	29.7%	36.9%	488	182.7%	28
In default	1,171	140	1,223	329	100.0%	32.7%	2,633	224.8%	174
Total	171,893	54,053	174,418	109,347	1.2%	41.0%	74,502	43.3%	512

Table 27 continued

Obligor grade disclosure for Foundation IRB

	Exposure value								
	Total £m	Of which: arising from counterparty credit risk £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2014									
DG1: 0.00-0.02%	–	–	17	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	6	–	–	–	–	–	–
DG3: 0.03-0.05%	1,223	107	1,133	459	0.0%	44.4%	237	19.4%	1
DG4: 0.05-0.10%	945	14	960	1,093	0.1%	44.9%	246	26.0%	–
DG5: 0.10-0.15%	1,079	27	826	847	0.1%	42.6%	385	35.7%	1
DG6: 0.15-0.20%	1,587	42	1,859	403	0.2%	42.2%	641	40.4%	1
DG7: 0.20-0.25%	1,033	98	829	453	0.2%	40.8%	436	42.2%	1
DG8: 0.25-0.30%	727	47	637	402	0.3%	44.7%	377	51.9%	1
DG9: 0.30-0.40%	784	8	979	212	0.3%	44.5%	446	56.9%	1
DG10: 0.40-0.50%	689	21	605	279	0.5%	42.5%	427	62.0%	1
DG11: 0.50-0.60%	768	8	650	650	0.5%	44.3%	561	73.0%	2
DG12: 0.60-1.20%	1,954	19	1,702	575	0.9%	43.9%	1,596	81.7%	12
DG13: 1.20-1.55%	988	10	1,600	757	1.4%	44.1%	985	99.7%	6
DG14: 1.55-2.15%	596	18	582	221	1.9%	43.4%	629	105.5%	5
DG15: 2.15-3.05%	1,035	4	981	479	2.6%	43.4%	1,176	113.6%	12
DG16: 3.05-4.45%	414	5	376	112	3.7%	43.4%	492	118.8%	7
DG17: 4.45-6.35%	367	3	279	175	5.3%	43.7%	498	135.7%	9
DG18: 6.35-8.65%	154	–	171	166	7.4%	42.8%	234	151.9%	5
DG19: 8.65-11.35%	44	–	40	13	10.0%	44.4%	75	170.5%	2
DG20: 11.35-18.65%	178	6	126	69	15.3%	43.5%	378	212.4%	12
DG21: 18.65-100%	67	–	48	61	33.7%	43.8%	156	232.8%	11
In default	324	–	323	130	100.0%	37.1%	985	304.0%	107
Total	14,956	437	14,729	7,556	3.4%	43.3%	10,960	73.3%	197

The exposure weighted average risk weight associated with advanced IRB exposures to corporates decreased to 42.2% from 43.3%. This is mainly due to migration from FIRB to AIRB. This is partially offset by an increase in corporate term loans over the period and move to higher default grades.

Table 28: Corporate exposures subject to the slotting approach

Slotting, also known as specialised lending, is an approach that is applied to financing of individual projects where the repayment is highly dependent on the performance of the underlying pool or collateral. It uses a standard set of rules for the calculation of RWAs, based upon an assessment of factors such as the financial strength of the counterparty. The requirements for the application of the Slotting approach are detailed in CRR article 153.

Obligor grade	Remaining maturity <2.5 years		Remaining maturity >2.5 years	
	EAD post-CRM £m	Risk weighted assets £m	EAD post-CRM £m	Risk weighted assets £m
As at 31 December 2015				
Strong	**2,231**	**1,114**	**5,220**	**3,654**
Good	**1,707**	**1,195**	**1,710**	**1,541**
Satisfactory	**320**	**368**	**487**	**560**
Weak	**125**	**311**	**73**	**184**
Default[a]	**396**	**–**	**89**	**–**
Total	**4,779**	**2,988**	**7,579**	**5,939**
As at 31 December 2014				
Strong	2,343	1,172	5,101	3,571
Good	1,728	1,210	1,731	1,558
Satisfactory	558	641	490	563
Weak	421	1,054	429	1,073
Default[a]	390	–	291	–
Total	5,440	4,077	8,042	6,765

Exposures subject to the slotting approach decreased RWAs by £1.9bn to £8.9bn, driven by a rundown of the legacy portfolio assets.

Note
a Exposures in default do not generate risk weighted assets as they are already reflected in deductions to capital resources.

Table 29: IRB retail obligor grade disclosure for SME

Obligor grade disclosure for Advanced IRB

	Exposure value £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2015								
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	997	992	231	0.0%	26.9%	118	11.8%	2
DG4: 0.05-0.10%	293	309	36	0.1%	24.6%	42	14.5%	1
DG5: 0.10-0.15%	239	246	58	0.1%	34.2%	43	18.0%	–
DG6: 0.15-0.20%	228	242	74	0.2%	38.0%	48	21.0%	–
DG7: 0.20-0.25%	184	204	56	0.2%	37.3%	42	23.1%	–
DG8: 0.25-0.30%	176	159	50	0.3%	34.4%	42	23.7%	–
DG9: 0.30-0.40%	335	345	100	0.3%	38.9%	90	26.7%	1
DG10: 0.40-0.50%	286	298	81	0.4%	38.4%	80	27.9%	1
DG11: 0.50-0.60%	248	255	72	0.5%	40.0%	85	34.4%	1
DG12: 0.60-1.20%	1,075	1,196	278	0.9%	38.9%	413	38.4%	5
DG13: 1.20-1.55%	583	606	158	1.4%	42.8%	259	44.4%	4
DG14: 1.55-2.15%	575	619	120	1.9%	39.1%	290	50.5%	5
DG15: 2.15-3.05%	710	750	142	2.6%	40.3%	393	55.4%	8
DG16: 3.05-4.45%	559	637	83	3.7%	42.6%	344	61.6%	9
DG17: 4.45-6.35%	339	408	50	5.4%	45.4%	230	67.9%	9
DG18: 6.35-8.65%	199	224	36	7.5%	47.0%	147	73.8%	7
DG19: 8.65-11.35%	119	137	15	10.0%	49.4%	99	82.9%	6
DG20: 11.35-18.65%	146	150	16	14.9%	48.4%	135	92.4%	11
DG21: 18.65-100%	240	230	23	30.3%	41.0%	241	100.6%	30
In default	366	425	9	100.0%	25.0%	468	128.0%	81
Total	7,897	8,432	1,688	7.3%	37.5%	3,609	45.7%	181
As at 31 December 2014								
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	1,005	980	269	0.0%	27.9%	106	10.5%	2
DG4: 0.05-0.10%	324	308	49	0.1%	24.7%	41	12.7%	–
DG5: 0.10-0.15%	271	251	70	0.1%	31.7%	43	15.9%	1
DG6: 0.15-0.20%	271	255	86	0.2%	35.5%	51	18.8%	1
DG7: 0.20-0.25%	203	205	59	0.2%	36.9%	44	21.7%	–
DG8: 0.25-0.30%	169	172	46	0.3%	36.2%	39	23.1%	–
DG9: 0.30-0.40%	354	363	114	0.3%	39.5%	91	25.7%	1
DG10: 0.40-0.50%	316	324	91	0.4%	38.6%	84	26.6%	1
DG11: 0.50-0.60%	263	270	79	0.5%	38.6%	84	31.9%	1
DG12: 0.60-1.20%	1,239	1,251	313	0.9%	39.0%	460	37.1%	6
DG13: 1.20-1.55%	572	579	155	1.4%	46.0%	251	43.9%	4
DG14: 1.55-2.15%	646	652	137	1.9%	38.4%	297	46.0%	5
DG15: 2.15-3.05%	789	818	137	2.6%	43.9%	430	54.5%	10
DG16: 3.05-4.45%	707	725	98	3.7%	37.3%	379	53.6%	10
DG17: 4.45-6.35%	468	416	65	5.4%	41.8%	276	59.0%	11
DG18: 6.35-8.65%	243	303	39	7.5%	45.1%	166	68.3%	9
DG19: 8.65-11.35%	133	143	13	10.0%	45.5%	286	215.0%	6
DG20: 11.35-18.65%	149	157	16	15.0%	49.3%	136	91.3%	11
DG21: 18.65-100%	221	221	18	30.2%	42.5%	224	101.4%	29
In default	492	593	9	100.0%	27.9%	715	145.3%	110
Total	8,835	8,984	1,863	8.2%	37.5%	4,203	47.6%	218

The exposure weighted average risk weight associated with retail SME exposures decreased to 45.7% from 47.6%. This decrease is driven by the migration to lower default grades, reflecting an improved risk performance across the portfolio.

Table 30: IRB retail obligor grade disclosure for secured retail

Obligor grade disclosure for Advanced IRB

	Exposure value £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2015								
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	1,797	1,977	727	0.0%	10.2%	20	1.1%	–
DG4: 0.05-0.10%	3,082	3,333	86	0.1%	18.7%	259	8.4%	1
DG5: 0.10-0.15%	8,226	8,676	203	0.1%	21.9%	1,110	13.5%	3
DG6: 0.15-0.20%	2,613	3,034	327	0.2%	20.9%	461	17.7%	1
DG7: 0.20-0.25%	2,510	2,360	591	0.2%	14.6%	227	9.1%	1
DG8: 0.25-0.30%	1,971	2,136	602	0.3%	16.0%	223	11.3%	1
DG9: 0.30-0.40%	12,002	11,861	1,481	0.4%	9.3%	723	6.0%	4
DG10: 0.40-0.50%	19,434	21,189	1,493	0.5%	10.4%	1,552	8.0%	9
DG11: 0.50-0.60%	15,214	18,755	902	0.6%	10.3%	1,426	9.4%	9
DG12: 0.60-1.20%	60,944	57,871	3,216	0.8%	11.5%	8,113	13.3%	55
DG13: 1.20-1.55%	8,789	7,909	310	1.3%	14.6%	2,082	23.7%	17
DG14: 1.55-2.15%	6,233	5,764	215	1.9%	15.7%	1,949	31.3%	18
DG15: 2.15-3.05%	4,642	4,742	247	2.6%	16.4%	2,350	50.6%	32
DG16: 3.05-4.45%	1,955	1,963	116	3.7%	14.6%	842	43.1%	10
DG17: 4.45-6.35%	2,248	2,180	122	5.0%	18.4%	1,429	63.6%	20
DG18: 6.35-8.65%	707	732	41	7.6%	14.0%	423	59.9%	7
DG19: 8.65-11.35%	296	298	18	9.9%	13.7%	213	71.9%	4
DG20: 11.35-18.65%	351	352	19	14.5%	15.2%	329	94.0%	8
DG21: 18.65-100%	1,025	1,076	24	44.1%	15.0%	1,010	98.5%	73
In default	1,938	2,326	3	100.0%	21.4%	2,282	117.7%	322
Total	155,977	158,534	10,743	2.4%	12.8%	27,023	17.3%	595
As at 31 December 2014								
DG1: 0.00-0.02%	–	1	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	5,585	5,861	922	0.0%	17.3%	107	1.9%	–
DG4: 0.05-0.10%	5,905	6,133	365	0.1%	20.2%	342	5.8%	1
DG5: 0.10-0.15%	10,124	10,506	548	0.1%	22.0%	1,042	10.3%	4
DG6: 0.15-0.20%	5,067	5,289	536	0.2%	21.0%	584	11.5%	2
DG7: 0.20-0.25%	2,626	2,729	688	0.2%	16.9%	244	9.3%	1
DG8: 0.25-0.30%	2,511	2,563	784	0.3%	14.9%	244	9.7%	1
DG9: 0.30-0.40%	11,691	13,748	2,252	0.4%	10.5%	804	6.9%	4
DG10: 0.40-0.50%	25,991	23,521	2,840	0.4%	10.9%	2,148	8.3%	13
DG11: 0.50-0.60%	18,405	18,788	2,406	0.6%	11.2%	1,819	9.9%	11
DG12: 0.60-1.20%	56,843	55,562	5,240	0.8%	12.2%	8,420	14.8%	58
DG13: 1.20-1.55%	6,673	6,691	321	1.4%	16.2%	1,773	26.6%	15
DG14: 1.55-2.15%	4,825	4,606	286	1.9%	15.6%	1,494	31.0%	14
DG15: 2.15-3.05%	5,052	4,548	433	2.6%	18.1%	2,134	42.2%	22
DG16: 3.05-4.45%	2,065	2,275	126	3.8%	16.8%	1,059	51.3%	13
DG17: 4.45-6.35%	2,048	2,040	133	5.2%	16.2%	1,179	57.6%	17
DG18: 6.35-8.65%	941	867	35	7.6%	15.1%	614	65.2%	11
DG19: 8.65-11.35%	283	299	5	9.9%	13.5%	197	69.6%	4
DG20: 11.35-18.65%	504	569	2	14.5%	18.3%	541	107.3%	14
DG21: 18.65-100%	1,545	1,795	25	44.1%	18.7%	1,623	105.0%	135
In default	3,816	4,060	66	100.0%	20.6%	4,527	118.6%	556
Total	172,500	172,446	18,013	3.4%	13.9%	30,895	17.9%	896

The exposure weighted average risk weight associated with retail mortgages remained broadly stable from 17.9% to 17.3%. This is primarily driven by disposal of the Spanish business, rundown of legacy portfolio assets and positive FX impact in the period reducing exposures.

Table 31: IRB retail obligor grade disclosure for revolving retail

Obligor grade disclosure for Advanced IRB

	Exposure value £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2015								
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	6,600	6,563	8,290	0.0%	80.5%	139	2.1%	2
DG4: 0.05-0.10%	3,841	3,854	7,503	0.1%	79.0%	153	4.0%	2
DG5: 0.10-0.15%	2,948	2,973	5,813	0.1%	78.0%	182	6.2%	3
DG6: 0.15-0.20%	1,977	1,964	4,004	0.2%	77.6%	157	8.0%	3
DG7: 0.20-0.25%	1,410	1,373	2,820	0.2%	77.9%	139	9.9%	2
DG8: 0.25-0.30%	1,220	1,196	2,417	0.3%	77.6%	141	11.6%	3
DG9: 0.30-0.40%	1,885	1,861	3,415	0.3%	77.6%	266	14.1%	5
DG10: 0.40-0.50%	1,460	1,400	2,403	0.4%	77.5%	252	17.2%	5
DG11: 0.50-0.60%	1,231	1,209	1,899	0.5%	77.5%	250	20.3%	6
DG12: 0.60-1.20%	5,178	5,067	6,271	0.9%	77.7%	1,523	29.4%	39
DG13: 1.20-1.55%	1,967	1,901	1,708	1.4%	78.2%	855	43.5%	27
DG14: 1.55-2.15%	2,386	2,308	1,822	1.8%	77.8%	1,241	52.0%	38
DG15: 2.15-3.05%	2,234	2,232	1,299	2.6%	77.0%	1,440	64.4%	47
DG16: 3.05-4.45%	3,133	3,361	1,776	3.7%	75.8%	2,550	81.4%	92
DG17: 4.45-6.35%	1,671	1,698	476	5.3%	75.6%	1,719	102.9%	70
DG18: 6.35-8.65%	1,143	1,229	220	7.4%	75.3%	1,440	126.0%	66
DG19: 8.65-11.35%	660	676	98	9.9%	75.1%	987	149.5%	51
DG20: 11.35-18.65%	690	765	85	14.3%	74.9%	1,245	180.5%	76
DG21: 18.65-100%	651	678	60	37.6%	75.5%	1,417	217.7%	196
In default	1,718	1,890	497	100.0%	75.0%	2,670	155.4%	1,108
Total	44,003	44,198	52,876	6.0%	77.7%	18,766	42.6%	1,841
As at 31 December 2014								
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	6,316	6,092	8,077	0.0%	79.4%	129	2.0%	2
DG4: 0.05-0.10%	3,779	3,667	7,611	0.1%	78.5%	147	3.9%	2
DG5: 0.10-0.15%	2,932	2,864	5,862	0.1%	77.6%	175	6.0%	3
DG6: 0.15-0.20%	1,970	1,911	4,110	0.2%	77.4%	153	7.8%	3
DG7: 0.20-0.25%	1,340	1,307	2,750	0.2%	77.9%	131	9.8%	2
DG8: 0.25-0.30%	1,183	1,156	2,429	0.3%	77.5%	135	11.4%	3
DG9: 0.30-0.40%	1,834	1,823	3,410	0.3%	77.5%	253	13.8%	5
DG10: 0.40-0.50%	1,349	1,333	2,301	0.4%	77.3%	228	16.9%	5
DG11: 0.50-0.60%	1,171	1,147	1,857	0.5%	77.1%	232	19.8%	5
DG12: 0.60-1.20%	4,904	4,857	6,112	0.9%	77.4%	1,407	28.7%	36
DG13: 1.20-1.55%	1,874	1,845	1,688	1.4%	78.0%	767	40.9%	22
DG14: 1.55-2.15%	2,222	2,192	1,708	1.8%	77.6%	1,121	50.5%	34
DG15: 2.15-3.05%	2,288	2,211	1,420	2.5%	76.9%	1,450	63.4%	48
DG16: 3.05-4.45%	3,026	3,180	1,507	3.8%	75.6%	2,464	81.4%	89
DG17: 4.45-6.35%	2,100	1,906	838	5.2%	75.5%	2,124	101.1%	85
DG18: 6.35-8.65%	1,306	962	279	7.4%	74.9%	1,624	124.3%	74
DG19: 8.65-11.35%	701	526	112	9.9%	74.7%	1,032	147.2%	53
DG20: 11.35-18.65%	869	649	111	14.2%	74.4%	1,542	177.4%	94
DG21: 18.65-100%	714	542	60	36.0%	75.4%	1,561	218.6%	205
In default	2,075	1,602	689	100.0%	74.5%	3,001	144.6%	1,349
Total	43,953	41,771	52,931	6.9%	77.3%	19,676	44.8%	2,119

The exposure weighted average risk weight associated with qualifying revolving retail exposures, mainly comprising credit cards and overdrafts, decreased from 44.8% to 42.6%. This was primarily due to disposal of various exposures within higher DG bands and exposure growth in lower grade bands.

Table 32: IRB retail obligor grade disclosure for other retail exposures

Obligor grade disclosure for Advanced IRB

	Exposure value £m	Average exposure value £m	Undrawn commitments £m	Average probability of default (PD) %	Exposure weighted average LGD %	Risk weighted exposure amount £m	Exposure weighted average risk weight %	Expected loss £m
As at 31 December 2015								
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	69	53	1	0.0%	55.5%	4	6.5%	–
DG4: 0.05-0.10%	33	39	–	0.1%	38.3%	3	9.4%	–
DG5: 0.10-0.15%	72	78	–	0.1%	54.0%	12	16.0%	–
DG6: 0.15-0.20%	7	9	–	0.2%	75.3%	2	29.4%	–
DG7: 0.20-0.25%	3	4	–	0.2%	82.4%	1	38.2%	–
DG8: 0.25-0.30%	18	20	–	0.3%	73.5%	7	39.2%	–
DG9: 0.30-0.40%	66	70	–	0.3%	78.3%	31	46.7%	–
DG10: 0.40-0.50%	193	214	–	0.5%	50.1%	71	36.5%	–
DG11: 0.50-0.60%	140	148	–	0.5%	73.0%	82	58.4%	1
DG12: 0.60-1.20%	1,193	1,213	13	1.0%	79.0%	984	82.6%	9
DG13: 1.20-1.55%	798	815	1	1.4%	79.7%	776	97.2%	9
DG14: 1.55-2.15%	1,413	1,408	–	1.8%	74.4%	1,402	99.2%	19
DG15: 2.15-3.05%	1,549	1,546	16	2.5%	73.1%	1,591	102.7%	33
DG16: 3.05-4.45%	1,108	1,155	6	3.7%	78.5%	1,395	125.8%	41
DG17: 4.45-6.35%	504	599	–	5.2%	76.7%	607	120.5%	20
DG18: 6.35-8.65%	347	420	–	7.8%	57.8%	332	95.9%	15
DG19: 8.65-11.35%	109	120	–	9.6%	61.6%	118	108.5%	6
DG20: 11.35-18.65%	237	277	–	15.3%	60.3%	301	126.9%	22
DG21: 18.65-100%	198	223	–	45.9%	70.3%	311	157.2%	70
In default	539	552	–	100.0%	77.3%	628	116.4%	379
Total	8,596	8,963	37	10.0%	73.8%	8,658	100.7%	624
As at 31 December 2014								
DG1: 0.00-0.02%	–	–	–	–	–	–	–	–
DG2: 0.02-0.03%	–	–	–	–	–	–	–	–
DG3: 0.03-0.05%	51	42	2	0.0%	66.5%	4	7.8%	–
DG4: 0.05-0.10%	46	47	–	0.1%	38.3%	4	8.7%	–
DG5: 0.10-0.15%	84	86	–	0.1%	54.0%	13	15.5%	–
DG6: 0.15-0.20%	15	26	–	0.2%	80.6%	5	33.3%	–
DG7: 0.20-0.25%	13	28	–	0.2%	88.1%	5	38.5%	–
DG8: 0.25-0.30%	34	51	–	0.3%	79.9%	14	41.2%	–
DG9: 0.30-0.40%	105	139	–	0.3%	82.1%	52	49.5%	–
DG10: 0.40-0.50%	270	297	–	0.5%	54.6%	107	39.6%	1
DG11: 0.50-0.60%	195	218	–	0.5%	75.4%	119	61.0%	1
DG12: 0.60-1.20%	1,348	1,379	43	0.9%	77.7%	1,103	81.8%	11
DG13: 1.20-1.55%	730	688	1	1.4%	77.4%	697	95.5%	9
DG14: 1.55-2.15%	1,299	1,172	–	1.9%	70.6%	1,238	95.3%	19
DG15: 2.15-3.05%	1,596	1,595	–	2.5%	65.1%	1,496	93.7%	28
DG16: 3.05-4.45%	1,111	991	4	3.7%	71.0%	1,329	119.6%	38
DG17: 4.45-6.35%	542	494	–	5.3%	73.1%	629	116.1%	22
DG18: 6.35-8.65%	349	290	–	7.7%	61.3%	358	102.6%	17
DG19: 8.65-11.35%	119	95	–	9.7%	67.4%	143	120.2%	8
DG20: 11.35-18.65%	305	249	–	15.3%	59.4%	382	125.2%	28
DG21: 18.65-100%	218	155	–	40.5%	67.2%	349	160.1%	66
In default	623	544	–	100.0%	76.0%	567	91.0%	437
Total	9,053	8,585	50	10.5%	70.4%	8,614	95.2%	685

The exposure weighted average risk weight associated with other retail exposures, primarily comprised of unsecured personal loans, increased from 95.2% to 100.7%. This is mainly driven by overall movements in DG bands, due to growth in consumer lending.

IFRS Impairment

The following tables are presented using the IFRS consolidation rather than the regulatory consolidation basis. See pages 112 and 113 for background on impairment, and page 9 explaining the scope of regulatory consolidation.

Table 33: Analysis of impaired and past due exposures and allowance for impairment by exposure type

This table shows total loans and advances to customers and banks, past due balances and impaired loan balances, split by exposure type.

	Neither Past due nor Impaired £m	Past Due but not Impaired £m	Impaired Loans		Total £m	Allowance for Impairment £m
			Individually £m	Collectively £m		
As at 31 December 2015						
Traded loans	**2,474**	**–**	**–**	**–**	**2,474**	**–**
Financial assets designated at fair value	**17,620**	**293**	**–**	**–**	**17,913**	**–**
Loans and advances to banks	**40,640**	**709**	**–**	**–**	**41,349**	**–**
Home Loans	**149,431**	**140**	**648**	**6,162**	**156,381**	**518**
Credit card receivables	**36,501**	**3**	**387**	**2,539**	**39,430**	**1,870**
Other personal lending	**28,690**	**527**	**577**	**2,010**	**31,804**	**1,524**
Wholesale and Corporate loans and advances	**162,818**	**6,760**	**1,766**	**346**	**171,690**	**953**
Finance lease receivables	**4,612**	**3**	**20**	**198**	**4,833**	**56**
Total	**442,786**	**8,435**	**3,398**	**11,255**	**465,874**	**4,921**
As at 31 December 2014						
Traded loans	2,693	–	–	–	2,693	–
Financial assets designated at fair value	19,522	676	–	–	20,198	–
Loans and advances to banks	41,241	870	–	–	42,111	–
Home Loans	158,313	434	455	8,434	167,636	546
Credit card receivables	34,236	27	306	2,929	37,498	1,918
Other personal lending	26,416	411	456	1,851	29,134	1,372
Wholesale and Corporate loans and advances[a]	181,829	6,462	2,679	511	191,481	1,564
Finance lease receivables	5,270	2	38	210	5,520	55
Total	469,520	8,882	3,934	13,935	496,271	5,455

- **Individually impaired loans** decreased by £0.5bn to £3.4bn primarily due to the transfer of impaired loans in the Portuguese business to 'held for sale'.
- **Collectively impaired loans** decreased by £2.7bn to £11.3bn, predominantly driven by a £1.3bn reduction as a result of changes in forbearance criteria for Mortgage Current Accounts (MCA) during the year.

Note
a Corporate loan balances past due but not impaired have been revised down to better reflect the ageing of the loans.

Table 34: Geographic analysis of impaired and past due exposures and allowance for impairment

This table shows past due and impaired loans and advances to customers and banks, split by geographic location of the counterparty.

	Past due but not Impaired[a] £m	Impaired Loans		Allowance for Impairment £m
		Individually £m	Collectively £m	
As at 31 December 2015				
UK	**3,198**	**1,236**	**7,782**	**2,492**
Europe	**524**	**908**	**922**	**816**
Americas	**4,389**	**568**	**909**	**725**
Africa and Middle East	**241**	**603**	**1,602**	**839**
Asia	**83**	**83**	**40**	**49**
Total	**8,435**	**3,398**	**11,255**	**4,921**
As at 31 December 2014				
UK	4,214	1,534	9,806	2,653
Europe	656	1,341	1,183	1,219
Americas	3,293	312	481	499
Africa and Middle East	444	676	2,459	1,001
Asia	275	71	6	83
Total	8,882	3,934	13,935	5,455

Past due but not impaired

- Americas increased £1.1bn to £4.4bn, primarily relating to wholesale and corporate lending within IB. The increase was predominantly within the past due up to 1 month category.
- UK decreased £1.0bn to £3.2bn primarily relating to wholesale and corporate lending within PCB, which has seen lower defaults as a result of the economic environment in the UK.

Individually impaired loans

- Europe decreased by £0.4bn to £0.9bn, primarily as a result of the transfer to held for sale of impaired loans in the Portuguese businesses.

Collectively impaired loans

- UK decreased by £2.0bn to £7.8bn, primarily driven by a £1.3bn decrease in collective impairment against MCA forbearance cases as a result of changes in forbearance criteria.
- Africa and Middle East decreased by £0.9bn to £1.6bn due to depreciation of ZAR against GBP.

Further analysis of impairment allowance is presented below.

Table 35: Analysis of movement on impairment and amounts taken directly to profit and loss

This table shows the movement in the impairment allowance between 2014 and 2015 year-end. Please refer to pages 112 and 113 of this document and Note 7 of the 2015 Annual Report for further information on impairment.

Impairment movement

	Allowance for Impairment	
	Year Ended 31 December 2015 £m	Year Ended 31 December 2014 £m
Starting period	**5,455**	7,258
Acquisitions and disposals	**–**	13
Exchange and other adjustments	**(617)**	(1,047)
Unwind of discount	**(149)**	(153)
Amounts written off	**(2,277)**	(3,037)
Recoveries	**400**	221
Amounts charged against profit (see below)	**2,109**	2,200
Ending period	**4,921**	5,455

Amounts charged against profit

	Profit and loss impact	
	£m	£m
New and increased impairment allowances	**3,056**	3,230
Releases	**(547)**	(809)
Recoveries	**(400)**	(221)
Total Impairment on loans and advances	**2,109**	2,200

Loan impairment fell by 4.1% to £2,109m, due to lower impairment in Non-Core and PCB. This was partially offset by higher charges in Investment Banking and Barclaycard.

Note
a Corporate loan balances past due but not impaired have been revised down to better reflect the ageing of the loans.

Regulatory adjustments to statutory Impairment

The IFRS impairment allowance is adjusted to reflect a regulatory view, which is used to calculate the provision misalignment adjustment to regulatory capital. The primary differences are detailed below:

- Scope of consolidation– adjustments driven by differences between the IFRS and regulatory consolidation, as highlighted on page 9. These include, but are not exclusive to, impairments relating to securitisation vehicles and associates
- Other value adjustments– adjustments over and above specific or general provisions, to correct asymmetry within the provision misalignment adjustment to regulatory capital or certain credit risk calculations. Examples include adjustments for fair value loans
- Securitisation positions– expected loss is not calculated for securitisation positions. As such, impairments associated with these positions are removed from the regulatory view.

Table 36: Regulatory adjustments to statutory Impairment

As at 31 December 2015	£m
IFRS allowance for impairment	**4,921**
Regulatory adjustments	
Scope of consolidation	**246**
AFS impairments	**72**
Other regulatory adjustments	**349**
Regulatory impairment allowance	**5,588**

The tables within this section are based on the regulatory consolidation.

Table 37: Analysis of regulatory impairment allowance by regulatory exposure class

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Regulatory impairment allowance	Impairment As at 31 December 2015 £m	Impairment As at 31 December 2014 £m
Standardised approach		
Central governments or central banks	**3**	–
Regional governments or local authorities	**–**	–
Public sector entities	**–**	1
Multilateral development banks	**–**	–
International organisations	**–**	–
Institutions	**4**	1
Corporates	**250**	350
Retail	**268**	357
Secured by mortgages	**–**	–
Exposures in default	**1,984**	2,524
Items associated with high risk	**118**	155
Covered bonds	**–**	–
Securitisation positions	**–**	–
Collective investment undertakings	**–**	–
Equity positions	**–**	–
Other items	**–**	–
Total Standardised approach credit exposure	**2,627**	3,388
Foundation IRB approach		
Central governments or central banks	**–**	–
Institutions	**–**	–
Corporates	**–**	139
Total Foundation IRB approach credit exposure	**–**	139
Advanced IRB approach		
Central governments or central banks	**1**	–
Institutions	**4**	3
Corporates	**560**	326
Retail	**–**	–
– Small and medium enterprises (SME)	**187**	198
– Secured by real estate collateral	**465**	637
– Qualifying revolving retail	**1,252**	1,506
– Other retail	**492**	565
Equity	**–**	–
Securitisation positions	**–**	–
Non-credit obligation assets	**–**	–
Total Advanced IRB approach credit exposure	**2,961**	3,235
Total credit exposures	**5,588**	6,762

Impairment allowance under the Standardised approach decreased by £0.8bn to £2.6bn. This was primarily driven by the sale of the Spanish business.

Impairment allowance under the Advanced IRB decreased by £0.3bn to £3.0bn. This was driven by:

- Retail exposures secured by real estate collateral decreased by £0.2bn to £0.5bn due to the sale of the Spanish business
- Qualifying revolving retail exposures decreased by £0.3bn to £1.3bn, primarily driven by a reduction in UK Cards due to debt sale activities.

Table 38: Impairment charges, other value adjustments and individual impairment charges for IRB exposures
This table represents a regulatory view of impairment charged directly against profits during the period, for portfolios that are subject to IRB calculations and individually assessed. The impact of other value adjustments are provided on the same basis. These charges are included within net trading income and net investment income within the financial statements

The total impairment charged against profits will not reconcile directly to table 35 owing to differences in regulatory scope, as highlighted in table 1. Furthermore, table 38 does not analyse portfolios subject to standardised calculations or IRB portfolios that are assessed collectively.

IRB Exposure Class	As at 31 December 2015 £m	As at 31 December 2014 £m
Central governments or central banks	–	–
Institutions	1	–
Corporates	163	89
Retail	–	–
– Retail SME	–	4
– Retail exposures secured by real estate collateral	64	43
– Qualifying revolving retail	4	–
– Other retail	1	–
Equity	–	–
Securitisation positions	–	–
Non-credit obligation assets	–	–
Total	233	136

Individual impairment charges for portfolios subject to IRB calculations increased by £0.1bn, primarily due to an increase in impairment charges for corporate exposures. This is driven by a number of immaterial counterparties.

Loss analysis – regulatory expected loss (EL) versus actual losses

The following table compares Barclays expected loss (EL) measure against the regulatory view of actual loss for those portfolios where credit risk is calculated using the IRB approach.

As expected loss best estimate (ELBE) represents a charge for assets already in default, it has been separately disclosed from total EL. This facilitates comparison of actual loss during the period to the expectation of future loss or EL, as derived by our IRB models in the prior period.

The following should be considered when comparing EL and actual loss metrics:

- the purpose of EL is not to represent a prediction of future impairment charges
- whilst the impairment charge and the EL measure respond to similar drivers, they are not directly comparable
- the EL does not reflect growth of portfolios or changes in the mix of exposures. In forecasting and calculating impairment, balances and trends in the cash flow behaviour of customer accounts are considered.

It should be noted that Barclays' EL models and regulatory estimations present a conservative view compared to actual loss.

Regulatory expected loss
EL is an input to the capital adequacy process which can be seen as an expectation of average future loss derived from IRB models over a one year period as follows:

- Non-defaulted assets: EL is calculated using probability of default and downturn loss given default estimates
- Defaulted assets: EL is based upon an estimate of likely recovery levels for each asset and is generally referred to as ELBE.

Actual loss
Actual loss represents a regulatory view of the amount charged against profit.

Table 39: Analysis of expected loss versus actual losses for IRB exposures

IRB exposure class	EL £m	ELBE £m	Total expected loss at 31 December 2014 £m	Total actual loss at 31 December 2015 £m
Central governments or central banks	7	–	7	–
Institutions	29	–	30	–
Corporates	567	621	1,188	271
Retail				
– SME	108	110	219	2
– Secured by real estate collateral	340	556	896	161
– Qualifying revolving retail	769	1,349	2,117	643
– Other retail	247	437	683	192
Equity	–	–	–	–
Securitisation positions	–	–	–	–
Non-credit obligation assets	–	–	–	–
Total IRB	2,067	3,073	5,140	1,269

	EL £m	ELBE £m	Total expected loss at 31 December 2013 (CRD III basis) £m	Total actual loss at 31 December 2014 £m
Central governments or central banks	7	–	7	–
Institutions	6	4	10	2
Corporates	685	648	1,333	130
Retail				
– SME	133	140	273	6
– Secured by real estate collateral	388	644	1,032	205
– Qualifying revolving retail	747	965	1,712	728
– Other retail	236	699	935	194
Equity	2	–	2	–
Securitisation positions	n/a	n/a	n/a	n/a
Non-credit obligation assets	n/a	n/a	n/a	n/a
Total IRB	2,204	3,100	5,304	1,265

Actual loss remained broadly stable at £1.3bn with an offsetting movement between Corporate and Qualifying revolving retail exposures.

Expected loss has decreased for most of the asset classes as a result of greater write offs and exposure reductions offset by introduction of CRD IV and increases in Qualifying revolving retail exposures following the migration of portfolios to IRB.

Non-trading book equity investments

For non-trading book equity investments, the group calculates credit risk RWAs using both standardised and advanced calculations. However, the Advanced IRB approach is only available where regulatory approval has been given.

Table 40: Fair value of, and gains and losses on equity investments

This table shows the fair value of non trading book equity positions subject to credit risk calculations, plus associated gains and losses.

The holding of non-trading book equity positions is primarily related to the holding of investments by the Private Equity business.

Non-trading book equity positions	As at 31 December 2015		As at 31 December 2014	
	Fair Value £m	RWAs £m	Fair Value £m	RWAs £m
Exchange Traded	**198**	**297**	152	236
Private Equity	**1,983**	**3,680**	1,136	1,846
Other	**–**	**–**	36	52
Total	**2,181**	**3,977**	1,324	2,134
Realised gains/(losses) from sale and liquidations of equity investments	**57**		36	
Unrealised gains	**685**		119	
Unrealised gains included in PRA transitional CET1 Capital	**685**		–	

Non-trading book fair value equity balance increased primarily due to movements in the value of Barclays' holding in Visa Europe Limited, following the proposed acquisition by Visa Inc.

This section details Barclays' counterparty credit risk profile, focusing on regulatory measures such as exposure at default and risk weighted assets. The risk profile is analysed by business segment, financial contract type, approach and notional value.

- Risk weighted assets decreased 31.3% to £33.7bn, driven by risk reductions in the Investment Bank and Non-Core.
- Counterparty credit risk RWAs are primarily generated by the following IFRS account classifications: financial assets designated at fair value; derivative financial instruments; reverse repurchase agreements and other similar secured lending.

Risk weighted assets for counterparty credit risk reduced in the year

-£15.4bn total RWA

Driven by:

-£10.6bn

Reduction in derivative and securities financing transaction risks in the Investment Bank and Non-Core

-£1.9bn

The implementation of collateral modelling for mismatched FX collateral and a transfer of securities financing transactions in certain businesses from the banking book to trading book, enabling further collateral offset

-£1.7bn

Counterparties no longer in default as a result of debt restructure

-£1.1bn

Following a model recalibration within the Investment Bank and Non-Core.

Counterparty risk exposures

Counterparty credit risk (CCR) is the risk related to a counterparty defaulting before the final settlement of a transaction's cash flows. Barclays calculate CCR using three methods: Internal Model Method (IMM), Financial Collateral Comprehensive Method (FCCM), and Mark to Market Method (MTM).

The following tables analyse counterparty credit risk exposures and risk weighted assets.

Table 41: Exposure at default associated with counterparty credit risk by business

This table summarises EAD post-credit risk mitigation by business and exposure class for counterparty credit risk.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Post-CRM EAD							
As at 31 December 2015	Personal & Corporate Banking £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Counterparty credit risk exposure class							
Standardised approach							
Central governments or central banks	–	–	2	–	2	–	2
Regional governments or local authorities	–	–	5	–	5	–	5
Public sector entities	–	–	77	–	77	623	700
Multilateral development banks	–	–	–	–	–	–	–
International organisations	–	–	14	–	14	–	14
Institutions	–	17	11,570	128	11,715	512	12,227
Corporates	279	11	6,502	–	6,792	1,013	7,805
Retail	–	–	–	–	–	–	–
Secured by mortgages	–	–	–	–	–	–	–
Exposures in default	–	–	–	–	–	–	–
Items associated with high risk	–	–	2,104	–	2,104	15	2,119
Covered bonds	–	–	–	–	–	–	–
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–
Equity positions	–	–	–	–	–	–	–
Other items	–	–	–	–	–	–	–
Total Standardised approach credit risk exposure	279	28	20,274	128	20,709	2,163	22,872
Foundation IRB approach							
Central governments or central banks	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–
Total Foundation approach credit risk exposure	–	–	–	–	–	–	–
Advanced IRB approach							
Central governments or central banks	–	–	7,880	35	7,915	2,699	10,614
Institutions	–	881	9,759	79	10,719	3,257	13,976
Corporates	3,611	483	30,078	21	34,193	11,725	45,918
Securitisation positions	–	–	26	–	26	1,033	1,059
Total Advanced IRB credit risk exposure	3,611	1,364	47,743	135	52,853	18,714	71,567
Default fund contributions	–	–	1,204	16	1,220	213	1,433
Total counterparty credit risk	3,890	1,392	69,221	279	74,782	21,090	95,872

Table 41 continued

Post-CRM EAD

As at 31 December 2014	Personal & Corporate Banking £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Counterparty credit risk exposure class							
Standardised approach							
Central governments or central banks	–	–	4	–	4	8	12
Regional governments or local authorities	–	–	22	–	22	4	26
Public sector entities	–	–	53	–	53	670	723
Multilateral development banks	–	–	–	–	–	–	–
International organisations	–	–	72	–	72	27	99
Institutions	–	5	14,347	7	14,359	2,639	16,998
Corporates	284	7	7,026	15	7,332	1,584	8,916
Retail	–	–	–	–	–	–	–
Secured by mortgages	–	–	–	–	–	–	–
Exposures in default	–	–	–	–	–	–	–
Items associated with high risk	–	–	3,318	11	3,329	595	3,924
Covered bonds	–	–	–	–	–	–	–
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–
Equity positions	–	–	–	–	–	–	–
Other items	–	–	–	–	–	–	–
Total Standardised approach credit risk exposure	284	12	24,842	33	25,171	5,527	30,698
Foundation IRB approach							
Central governments or central banks	–	2	–	–	2	–	2
Institutions	–	1,096	–	–	1,096	–	1,096
Corporates	–	437	–	–	437	–	437
Total Foundation approach credit risk exposure	–	1,535	–	–	1,535	–	1,535
Advanced IRB approach							
Central governments or central banks	–	–	5,351	34	5,385	8,917	14,302
Institutions	–	–	10,929	143	11,072	8,242	19,314
Corporates	2,782	–	29,156	49	31,987	23,599	55,586
Securitisation positions	–	–	24	–	24	1,033	1,057
Total Advanced IRB credit risk exposure	2,782	–	45,460	226	48,468	41,791	90,259
Default fund contributions	–	–	801	150	951	236	1,187
Total counterparty credit risk	3,066	1,547	71,103	409	76,125	47,554	123,679

Counterparty credit risk exposure post-CRM decreased by £27.8bn to £95.9bn, primarily due to:

- Investment Bank decreased by £1.9bn to £69.2bn primarily driven by business reductions in the OTC derivative portfolio, offset by an extended margin period of risk on securities financing transactions (SFTs) in certain businesses
- Non-Core decreased by £26.4bn to £21.1bn primarily driven by the active rundown of the fixed income financing business, reduction of the OTC derivative portfolio and the implementation of collateral modelling for mismatched FX collateral following PRA approval.

Table 42: Risk weighted assets of counterparty credit risk exposures by business units
This table summarises risk weighted assets by business and exposure class for counterparty credit risk.

The Africa Banking wholesale portfolio previously reported under the FIRB approach, moved to AIRB during 2015; as such, 2015 FIRB balances are nil.

Risk weighted assets							
As at 31 December 2015	Personal & Corporate Banking £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Counterparty credit risk exposure class							
Standardised approach							
Central governments or central banks	–	–	2	–	2	–	2
Regional governments or local authorities	–	–	5	–	5	–	5
Public sector entities	–	–	15	–	15	128	143
Multilateral development banks	–	–	–	–	–	–	–
International organisations	–	–	–	–	–	–	–
Institutions	–	11	420	20	451	19	470
Corporates	242	11	6,550	–	6,803	1,008	7,811
Retail	–	–	–	–	–	–	–
Secured by mortgages	–	–	–	–	–	–	–
Exposures in default	–	–	–	–	–	–	–
Items associated with high risk	–	–	3,112	–	3,112	66	3,178
Covered bonds	–	–	–	–	–	–	–
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–
Equity positions	–	–	–	–	–	–	–
Other items	–	–	–	–	–	–	–
Total Standardised approach credit risk exposure	242	22	10,104	20	10,388	1,221	11,609
Foundation IRB approach							
Central governments or central banks	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–
Total Foundation approach credit risk exposure	–	–	–	–	–	–	–
Advanced IRB approach							
Central governments or central banks	–	–	431	14	445	1,476	1,921
Institutions	–	234	2,552	34	2,820	1,640	4,460
Corporates	1,122	253	7,129	11	8,515	5,707	14,222
Securitisation positions	–	–	20	–	20	408	428
Total Advanced IRB credit risk exposure	1,122	487	10,132	59	11,800	9,231	21,031
Default fund contributions	–	–	916	12	928	176	1,104
Total counterparty credit risk	1,364	509	21,152	91	23,116	10,628	33,744

Table 42: Risk weighted assets of counterparty credit risk exposures by business units continued

Risk weighted assets

As at 31 December 2014	Personal & Corporate Banking £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Barclays Non-Core £m	Total £m
Counterparty credit risk exposure class							
Standardised approach							
Central governments or central banks	–	–	17	–	17	14	31
Regional governments or local authorities	–	–	7	–	7	4	11
Public sector entities	–	–	25	–	25	136	161
Multilateral development banks	–	–	–	–	–	–	–
International organisations	–	–	–	–	–	–	–
Institutions	–	3	533	–	536	14	550
Corporates	238	7	6,908	–	7,153	1,594	8,747
Retail	–	–	–	–	–	–	–
Secured by mortgages	–	–	–	–	–	–	–
Exposures in default	–	–	–	–	–	–	–
Items associated with high risk	–	–	5,000	–	5,000	892	5,892
Covered bonds	–	–	–	–	–	–	–
Securitisation positions	–	–	–	–	–	–	–
Collective investment undertakings	–	–	–	–	–	–	–
Equity positions	–	–	–	–	–	–	–
Other items	–	–	–	–	–	–	–
Total Standardised approach credit risk exposure	238	10	12,490	–	12,738	2,654	15,392
Foundation IRB approach							
Central governments or central banks	–	1	–	–	1	–	1
Institutions	–	326	–	–	326	–	326
Corporates	–	235	–	–	235	–	235
Total Foundation approach credit risk exposure	–	562	–	–	562	–	562
Advanced IRB approach							
Central governments or central banks	–	–	336	18	354	2,529	2,883
Institutions	–	–	3,434	6	3,440	4,087	7,527
Corporates	1,049	–	7,881	38	8,968	11,179	20,147
Securitisation positions	–	–	130	–	130	611	741
Total Advanced IRB credit risk exposure	1,049	–	11,781	62	12,892	18,406	31,298
Default fund contributions	–	–	1,249	234	1,483	369	1,852
Total counterparty credit risk	1,287	572	25,520	296	27,675	21,429	49,104

Counterparty credit risk weighted assets decreased by £15.4bn to £33.7bn, primarily due to:

- Investment Bank decreased by £4.4bn to £21.2bn primarily driven by improved matching of SFT collateral to agent lenders, offset by an extended margin period of risk on SFTs in certain businesses
- Non-Core decreased by £10.8bn to £10.6bn primarily driven by trade reduction in the OTC derivative portfolio and the implementation of collateral modelling for mismatched FX collateral following PRA approval.

Table 43: Counterparty credit exposures analysed by financial contract type

This table shows the Group's counterparty credit risk exposure at default post-CRM analysed by the type of financial contract. The nature of the calculation of credit exposure under the Internal Model Method (IMM) precludes the identification of individual product exposures. As such, the split per financial contract type for IMM is not shown in the table below. This table excludes exposure values related to default fund contributions.

Financial contract type	EAD post CRM under Internal Model Method £m	EAD post CRM under other approaches £m	EAD post CRM under Mark to Market approach £m
As at 31 December 2015			
Interest rate contracts		–	2,027
Foreign currency contracts		–	996
Equities contracts		–	3,262
Precious metal other than cold contracts		–	10
Commodities other than precious metal contracts		–	746
Securities financing transactions		11,828	–
Credit derivatives		–	788
Other		930	2
Total	73,848	12,758	7,831
As at 31 December 2014			
Interest rate contracts		–	2,700
Foreign currency contracts		–	760
Equities contracts		–	4,256
Precious metal other than cold contracts		–	92
Commodities other than precious metal contracts		–	2,118
Securities financing transactions		13,088	–
Credit derivatives		–	1,607
Other		1,095	1
Total	96,254	14,183	11,534

Exposure under the IMM approach decreased by £22.4bn to £73.8bn, primarily driven by:

- the implementation of collateral modelling for mismatched FX collateral following PRA approval
- the active rundown of derivative positions and trade unwinds in Non-Core
- transfer of securities financing transactions in certain businesses from the banking book to trading book, enabling further collateral offset.

Exposure under other approaches decreased £1.4bn to £12.8bn, primarily driven by:

- the active rundown of the SFT portfolio and improved matching of SFT collateral to previously unmatched agent lender positions

Offset by:

- an extended margin period of risk on SFTs in certain businesses.

Exposures under the MTM method decreased by £3.7bn to £7.8bn, primarily driven by:

- the continued rundown of OTC derivative portfolios in Non-Core.

Table 44: Counterparty credit exposure by approach
This table shows counterparty credit risk trading book exposures for derivative exposures. The population does not include CCR relating to securities financing or other categories.

Exposures reported under the Mark to Market (MTM) method refer to credit exposures arising from derivatives that are not measured using a modelled approach. Such exposures are subject to appropriate netting and collateral offsets and require adjustment for market driven movements that may lead to increased replacement cost at the time of default (potential future credit exposure).

Internal Model Method (IMM) is the most risk sensitive approach available for the calculation of CCR exposures. Please note that as the IMM considers the interactions of different factors such as collateral and market movements within a statistical simulation across a range of asset classes, the output cannot be split across the categories shown in the columns below.

Outstanding amount of exposure held						
As at 31 December 2015	Gross positive fair value of contracts £m	Potential future credit exposure £m	Netting benefits £m	Net current credit exposure £m	Collateral held £m	Net derivatives credit exposure £m
Mark to Market Method	11,196	10,143	(12,313)	9,026	(1,195)	7,831
Internal Model Method	–	–	–	–	–	49,955
As at 31 December 2014						
Mark to Market Method	12,626	14,686	(15,292)	12,020	(486)	11,534
Internal Model Method	–	–	–	–	–	60,545

The IMM derivative credit exposure decreased by £10.6bn to £50.0bn, primarily driven by:

- the active rundown of derivative positions and trade unwinds in Non-Core
- the implementation of collateral modelling for mismatched FX collateral following PRA approval.

The MTM method net derivative credit exposure decreased by £3.7bn to £7.8bn, primarily driven by:

- the continued rundown of OTC derivative portfolios in Non-Core.

Credit derivative notionals

The following table shows the notional of the credit derivative transactions outstanding as at 31 December 2015.

Table 45: Notional exposure associated with credit derivative contracts
This table splits the notional values of credit derivatives, credit default swaps (CDS) and total return swaps (TRS), by two categories: own credit portfolio and intermediation activities.

Own credit portfolio consists of trades used for hedging and credit management. Intermediation activities cover all other credit derivatives.

Credit derivatives booked arising from clearing activities performed on behalf of external counterparties (for example within Barclays subsidiaries) are not reported in this table as the Group does not have any long/short exposures to the underlying reference obligations.

Own credit for the purposes of this note is different from own credit used for accounting disclosures purposes, which represents the change in fair value due to Barclays' own credit standing.

Outstanding amount of exposure held:				
	Own credit portfolio		Intermediation activities	
Credit derivative product type As at 31 December 2015	As protection purchaser £m	As protection seller £m	As protection purchaser £m	As protection seller £m
Credit default swaps	2,673	1,578	430,315	424,442
Total return swaps	–	–	18,577	–
Total	2,673	1,578	448,892	424,442
Credit derivative product type As at 31 December 2014				
Credit default swaps	3,077	1,554	545,510	523,456
Total return swaps	–	–	19,633	–
Total	3,077	1,554	565,143	523,456

Own credit portfolio, which mainly comprises derivatives used to manage the banking book, reduced by £0.4bn to £4.3bn, reflecting a reduction to £2.7bn in relation to protection purchaser of credit default swaps, principally driven by improving market conditions leading to close-out of positions.

Intermediation activities, which mainly comprises derivatives used to manage the trading book, reduced by £215.3bn to £873.3bn, reflecting a decrease of £115.2bn to £430.3bn in relation to credit default swap protection purchased and a £99.0bn decrease to £424.4bn in relation to credit default swaps protection sold, driven principally by the closing out of positions and unwinding of bilateral trades.

Table 46: Notional value of credit derivative contracts held for hedging purposes

Risk methodology	As at 31 December 2015 £m	As at 31 December 2014 £m
Notional value of credit derivative hedges for Mark to Market method	**1,418**	771
Notional value of credit derivative hedges under the Internal Model Method	**809**	1,271
Total	**2,227**	2,042

The notional value of credit derivative hedges has increased by £0.2bn to £2.2bn driven by the increases in new credit derivative hedges under the MTM method, partly offset by decreases in IMM due to lower hedges and maturities.

This section contains key disclosures describing the Group's market risk profile, highlighting regulatory as well as management measures. This includes risk weighted assets by major business line, as well as Value at Risk measures.

- Risk weighted assets decreased 27.9% to £37.6bn, driven by reduced trading book exposures in the Investment Bank and Non-Core
- Measures of traded market risk, such as Value at Risk (VaR), decreased in the year primarily due to the removal of certain banking book assets from VaR, reduced client activity, and risk reduction in Non-Core businesses
- Market risk RWAs are primarily generated by the following IFRS account classifications: Trading portfolio assets and liabilities; and derivative financial instruments assets and liabilities

Risk weighted assets for market risk reduced in the year

-£14.5bn Total RWAs
Driven by:

-£9.5bn
Risk reductions within the Investment Bank and Non-Core, primarily as a result of reduced holdings of US bonds and equities

-£2.7bn
Implementation of diversification benefits across advanced general and specific market risk within the Investment Bank and Non-Core

-£2.6bn
Change in calculation methodology on credit valuation adjustments (CVA) as a result of updated regulatory guidance

Reduction in associated risk measures and lower income from reduced activity

85%
Of days generated positive trading revenue

-23%
Reduction in management Value at Risk

10%
Increase in average daily trading revenue

Market risk is the risk of a reduction in earnings or capital due to volatility of the trading book positions or as a consequence of running a banking book balance sheet and liquidity pools.

Overview of market risk

This section contains key statistics describing the market risk profile of the Group. This includes risk weighted assets by major business line, as well as Value at Risk (VaR) measures. A distinction is made between regulatory and management measures within the section. The market risk management section on pages 128 to 138 provides descriptions of these metrics:

- page 73 provides a view of market risk in the context of the Group's balance sheet
- pages 131 to 136 cover the management of traded market risk. Management measures are shown from page 131 and regulatory equivalent measures are shown from page 133
- non-traded market risk, arising from our banking books, is reviewed from page 136.

Measures of market risk in the Group and accounting measures

Traded market risk measures such as VaR and balance sheet exposure measures have fundamental differences:

- balance sheet measures show accruals-based balances or marked to market values as at the reporting date
- VaR measures also take account of current marked to market values, but in addition hedging effects between positions are considered
- market risk measures are expressed in terms of changes in value or volatilities as opposed to static values.

For these reasons, it is not possible to present direct reconciliations of traded market risk and accounting measures. The table 'Balance sheet split by trading and banking books', on page 73, helps the reader understand the main categories of assets and liabilities subject to regulatory market risk measures.

Summary of performance in the period

The Group has seen a decrease in market risk from reduced risk positions, notably in equities and interest rates, in addition to risk reduction in Non-Core businesses:

- measures of traded market risk, such as VaR, decreased in the year mainly due to the removal of certain banking book assets from the measure (now reported as non-traded market risks), reduced client activity , and risk reduction in Non-Core businesses
- average trading revenue, in contrast, increased 10% compared with the previous year
- market risk RWAs fell from 2014 levels due to the implementation of diversification of the general and specific market risk VaR charges, partially offset by the inclusion of cost of funding RNIV into VaR
- Annual Earnings at Risk (AEaR), a key measure of interest rate risk volatility in the banking book (IRRBB), decreased in 2015, primarily driven by PCB due to increased hedging; and in Treasury driven by increased exposure in the short dated available for sale bond portfolio, partially offset by reduced mismatch between assets and liabilities in the wholesale funding portfolio
- other market risks, such as pension risk and insurance risk, are disclosed from page 137 onwards.

Balance sheet view of trading and banking books

As defined by the regulatory rules, a trading book consists of positions held for trading intent or to hedge elements of the trading book. Trading intent must be evidenced in the basis of the strategies, policies and procedures set up by the firm to manage the position or portfolio. The table below provides a Group-wide overview of where assets and liabilities on the Group's balance sheet are managed within regulatory traded and non-traded books.

The balance sheet split by trading book and banking books is shown on an IFRS scope of consolidation. The reconciliation between the accounting and regulatory scope of consolidation is shown in table 1 on page 10. The reconciling items are all part of the banking book.

Table 47: Balance sheet split by trading and banking books

As at 31 December 2015	Banking book[a] £m	Trading book £m	Total £m
Cash and balances at central banks	49,711	–	49,711
Items in course of collection from other banks	1,011	–	1,011
Trading portfolio assets	3,355	73,993	77,348
Financial assets designated at fair value	25,263	51,567	76,830
Derivative financial instruments	296	327,413	327,709
Available for sale financial investments	90,267	–	90,267
Loans and advances to banks	39,779	1,570	41,349
Loans and advances to customers	380,406	18,811	399,217
Reverse repurchase agreements and other similar secured lending	28,187	–	28,187
Prepayments, accrued income and other assets	3,010	–	3,010
Investments in associates and joint ventures	573	–	573
Property, plant and equipment	3,468	–	3,468
Goodwill and intangible assets	8,222	–	8,222
Current tax assets	415	–	415
Deferred tax assets	4,495	–	4,495
Retirement benefit assets	836	–	836
Non-current assets classified as held for disposal	7,364	–	7,364
Total assets	646,658	473,354	1,120,012
Deposits from banks	45,344	1,736	47,080
Items in course of collection due to other banks	1,013	–	1,013
Customer accounts	401,927	16,315	418,242
Repurchase agreements and other similar secured borrowing	25,035	–	25,035
Trading portfolio liabilities	–	33,967	33,967
Financial liabilities designated at fair value:	7,027	84,718	91,745
Derivative financial instruments	1,699	322,553	324,252
Debt securities in issue	69,150	–	69,150
Subordinated liabilities	21,467	–	21,467
Accruals, deferred income and other liabilities	10,610	–	10,610
Provisions	4,142	–	4,142
Current tax liabilities	903	–	903
Deferred tax liabilities	122	–	122
Retirement benefit liabilities	423	–	423
Liabilities included in disposal groups classified as held for sale	5,997	–	5,997
Total liabilities	594,859	459,289	1,054,148

Included within the trading book are assets and liabilities which are included in the market risk regulatory measures. For more information on these measures (VaR, SVaR, IRC and APR) see the risk management section on page 133.

Note
a The primary risk factors for banking book assets and liabilities are interest rates and, to a lesser extent, foreign exchange rates. Credit spreads and equity prices will also be a factor where the Group holds debt and equity securities respectively, either as financial assets designated at fair value or as available for sale, shown in Note 14 and Note 16 of the Barclays PLC 2015 Annual Report.

Traded market risk review

Review of management measures

The table below shows the Total management VaR on a diversified basis by risk factor. Total management VaR includes all trading positions in the Investment Bank, Non-Core, Africa Banking and Head Office.

Limits are applied against each risk factor VaR as well as Total management VaR, which are then cascaded further by risk managers to each business.

Table 48:The daily average, maximum and minimum values of management VaR

Management VaR (95%)

	2015			2014		
For the year ended 31 December	Average £m	High[a] £m	Low[a] £m	Average £m	High[a] £m	Lowa £m
Credit risk	11	17	8	11	15	9
Interest rate risk	6	14	4	11	17	6
Equity risk	8	18	4	10	16	6
Basis risk	3	4	2	4	8	2
Spread risk	3	6	2	4	8	3
Foreign exchange risk	3	6	1	4	23	1
Commodity risk	2	3	1	2	8	1
Inflation risk	3	5	2	2	4	2
Diversification effect[a]	(22)	n/a	n/a	(26)	n/a	n/a
Total management VaR	17	25	12	22	36	17

Average interest rate VaR decreased by £5m to £6m (Dec 14: £11m) during 2015 as certain banking book positions were transferred from the Investment Bank to Head Office Treasury reflecting the operational transfer of responsibility (see page 77). These are high quality and liquid banking book assets now reported as non-traded market risk exposures. Similarly, lower spread risk and basis VaR in 2015 reflect reduced risk taking.

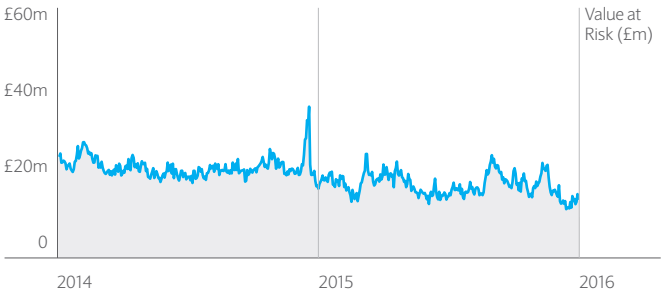
Average equities VaR reduced by 20% to £8m, reflecting reduced cash portfolio activities and a more conservative risk profile maintained in the derivatives portfolio.

Average foreign exchange VaR decreased by 25% to £3m as a result of lower activity in the first half of the year, partially offset by higher volatility in the global foreign exchange market seen in the second half of the year.

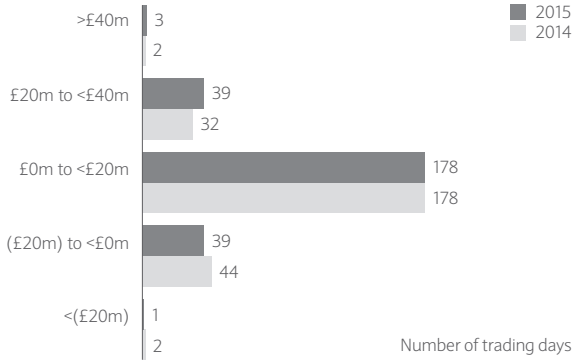
Inflation risk VaR increased by £1m to £3m, primarily due to increased volatility in the inflation market.

Average commodity VaR remained stable at £2m, but the high levels reduced significantly year-on-year due to the portfolio having been largely divested, and reduced client flows impacted by lower oil prices.

Group Management VaR



Daily trading revenue



The chart above presents the frequency distribution of our daily trading revenues for all material positions included in VaR for 2015. This includes daily trading revenue generated in the Investment Bank (except for Private Equity and Principal Investments), Treasury, Africa Banking and Non-Core.

The basis of preparation for trading revenue was changed in 2015 to better align and reflect the portfolio structure included in Group Management VaR. 2014 figures have been presented on a comparable basis. Disclosed trading revenue includes realised and unrealised mark to market gains and losses from intraday market moves, but excludes commission and advisory fees. The trading revenue measure is based on actual trading results and holding periods. In contrast, the VaR shows the volatility of a hypothetical measure. To construct this measure, positions are assumed to be held for one day, and the aggregate unrealised gain or loss is the measure. VaR and the actual revenue figure are not directly comparable. VaR informs risk managers of the risk implications of current portfolio decisions.

The average daily net revenue increased by 10% to £10.1m; there were more positive trading revenue days in 2015 than in 2014, with 85% (2014: 82%) of days generating positive trading revenue.

The daily VaR chart illustrates an average declining trend in 2015. Intermittent VaR increases were due to increased client flow in periods of heightened volatility in specific markets and subsequent risk management of the position.

Note

a Diversification effects recognise that forecast losses from different assets or businesses are unlikely to occur concurrently, hence the expected aggregate loss is lower than the sum of the expected losses from each risk factor area. Historic correlations between losses are taken into account in making these assessments. The high and low VaR reported for each category did not necessarily occur on the same day as the high and low VaR reported as a whole. Consequently a diversification effect balance for the high and low VaR would not be meaningful and is therefore omitted from the above table.

Business scenario stresses
As part of the Group's risk management framework, on a regular basis the performance of the trading business in hypothetical scenarios characterised by severe macroeconomic conditions is modelled. Up to six global scenarios are modelled on a regular basis, for example, a sharp deterioration in liquidity, a slowdown in the global economy, terrorist attacks and a sovereign peripheral crisis.

Throughout 2015, the scenario analyses showed the biggest market risk related impact would be due to a severe deterioration in market liquidity and a sovereign peripheral crisis.

Review of regulatory measures
The following disclosures provide details on regulatory measures of market risk. See pages 133 and 136 for more detail on regulatory measures and the differences when compared to management measures.

The Group's market risk capital requirement comprises of two elements:

- trading book positions booked to legal entities within the scope of the Group's PRA waiver where the market risk is measured under a PRA approved internal models approach, including Regulatory VaR, Stressed Value at Risk (SVaR), Incremental Risk Charge (IRC) and All Price Risk (APR) as required
- trading book positions that do not meet the conditions for inclusion within the approved internal models approach. The capital requirement for these positions is calculated using standardised rules.

The table below summarises the regulatory market risk measures under the internal models approach. See Table "Minimum capital requirement for market risk", on page 76 for a breakdown of capital requirements by approach.

Table 49: Analysis of Regulatory VaR, SVaR, IRC and APR

	Year-end £m	Avg. £m	Max £m	Min £m
As at 31 December 2015				
Regulatory VaR	**26**	**28**	**46**	**20**
SVaR	**44**	**54**	**68**	**38**
IRC	**129**	**142**	**254**	**59**
APR	**12**	**15**	**27**	**11**
As at 31 December 2014				
Regulatory VaR	29	39	66	29
SVaR	72	74	105	53
IRC	80	118	287	58
APR	24	28	39	24

Overall, there was a lower risk profile during 2015:

- **Regulatory VaR/SVaR:** reduction in Regulatory VaR/SVaR is driven by the application of diversification to the general and specific market risk VaR charges which resulted in an overall RWA reduction
- **IRC:** the IRC increase was mainly driven by the implementation of an updated IRC model in Q4 2015 which features a more refined correlation structure, adoption of a continuous transition matrix and a local currency adjustment for sovereign issuance
- **APR** reduced as a result of further reductions in a specific legacy portfolio.

Table 50: Breakdown of the major regulatory risk measures by portfolio

As at 31 December 2015	Macro £m	Equities £m	Credit £m	Client Capital Management £m	Treasury £m	Africa £m	Non-Core £m
Regulatory VaR	**10**	**8**	**5**	**12**	**4**	**4**	**3**
SVaR	**25**	**33**	**15**	**18**	**11**	**6**	**12**
IRC	**197**	**5**	**79**	**99**	**13**	**–**	**62**
APR	**–**	**–**	**–**	**–**	**–**	**–**	**12**

The table above shows the primary portfolios which are driving the trading businesses' modelled capital requirement as at 2015 year end. The standalone portfolio results diversify at the total level and are not necessarily additive. Regulatory VaR, SVaR, IRC and APR in the prior table show the diversified results at a group level.

Capital requirements for market risk

The table below breaks down the elements of capital requirements and risk weighted assets under the market risk framework as defined in the CRR. The Group is required to hold capital for the market risk exposures arising from regulatory trading books. Inputs for the modelled components include the measures on table 49 'Analysis of regulatory VaR, SVaR, IRC and APR', using the higher of the end of period value or an average over the past 60 days (times a multiplier in the case of VaR and SVaR).

It should be noted that the disclosure below excludes CVA which is shown separately on page 81

Table 51: Minimum capital requirement for market risk

	Capital requirements		Risk weighted assets	
Market risk	As at 31 December 2015 £m	As at 31 December 2014 £m	As at 31 December 2015 £m	As at 31 December 2014 £m
VaR model-based PRR	311	329	3,884	4,113
SVaR model-based PRR	548	632	6,852	7,900
APR measure requirement	12	27	144	338
RNIV	262	387	3,275	4,838
Incremental risk charge requirement	129	91	1,611	1,138
Interest rate PRR	531	968	6,643	12,100
Equity PRR	185	308	2,315	3,850
Option non delta risk	79	68	991	850
Collective investment schemes PRR	28	86	348	1,075
Commodity PRR	–	2	–	25
Foreign exchange PRR	16	27	201	339
Total market risk	2,101	2,925	26,264	36,566
Of which:				
Specific interest rate risk of securitisation positions	87	300	1,088	3,750

In the table above, VaR and SVaR model-based position risk requirement (PRR), APR measure, RNIV and the incremental risk charge represent the modelled RWA component, with the remainder contributing towards the standardised approach.

Overall market risk RWAs decreased £10.3bn to £26.3bn, driven by:

- £1.3bn decrease in VaR and SVaR model-based PRR, primarily driven by the implementation of diversification of the general and specific market risk VaR charges. This was partially offset by the inclusion of the cost of funding RNIV into VaR.
- £1.6bn decrease in RNIV primarily driven by methodology enhancements to cost of funding RNIV which switched from Non-VaR type RNIV to a VaR type calculation. This was partially offset by increases in the Fixing Exposure RNIV and the Event Risk for pegged currencies RNIV. Please see below for more details on RNIVs.
- £5.5bn decrease in interest rate PRR due to business driven reductions in Non-Agency RMBS securitisation positions and US Agency positions
- £1.5bn decrease in equity PRR due to business driven reduction in US equities.

Cost of Funding RNIV captures the potential variation of the fair value adjustment in the uncollateralised derivatives portfolio arising from funding spread risks.

Fixing Exposure RNIV relates to indices which do not trade directly through exchange traded futures or are not liquid OTC contracts. Exposures to such indices are risk managed via a model which decomposes them into liquid and hedgeable instruments. The RNIV captures the residual risk which is the difference between the index level implied through these contracts and the published fixing.

Event Risk for pegged currencies RNIV captures the potential understatement in VaR for managed currencies with low realised volatilities that are actively managed by local central banks (via outright pegs, crawling pegs or other targeted ranges within specific bands).

Non-traded market risk

Overview

The non-traded market risk framework covers exposures in the banking book, mostly consisting of exposures relating to accrual accounted and AFS instruments. The potential volatility of the net interest income of the bank is measured by an Annual Earnings at Risk (AEaR) metric that is monitored regularly and reported to Senior Management and the Board Risk Committee as part of the limit monitoring framework.

Net interest income sensitivity

The table below shows a sensitivity analysis on pre-tax net interest income for non-trading financial assets and financial liabilities including the effect of any hedging. The sensitivity has been measured using the Annual Earnings at Risk (AEaR) methodology as described on page 136. Note that this metric is simplistic in that it assumes a large parallel shock occurs instantaneously across all major currencies and ignores the impact of any management actions on customer products.

Table 52: Net interest income sensitivity (AEaR) by business unit

	Personal & Corporate Banking £m	Barclaycard £m	Africa Banking £m	Non-Core[a] £m	Treasury[b] £m	Total £m
As at 31 December 2015						
+200bps	**305**	**(31)**	**28**	**27**	**(131)**	**198**
+100bps	**152**	**(14)**	**14**	**14**	**(63)**	**103**
-100bps	**(385)**	**10**	**(11)**	**–**	**(26)**	**(412)**
-200bps	**(433)**	**14**	**(14)**	**–**	**(36)**	**(469)**
As at 31 December 2014[c]						
+200bps	464	(59)	26	6	14	451
+100bps	239	(27)	13	3	10	238
-100bps	(426)	26	(9)	(1)	(29)	(439)
-200bps	(430)	29	(17)	(1)	(39)	(458)

Overall the NII sensitivity of the Group to sudden changes in interest rates has decreased. The main drivers of the change in NII sensitivities are:

- **PCB:** The reduction in NII sensitivity was due to increased hedging of certain deposit products exposure to interest rate changes
- **Barclaycard:** The reduction in NII is due to a decrease in the period of time that the book can be re-priced post a change in interest rates
- **Non-Core:** The increase is predominantly due to a change in the hedge profile following the announced disposals in Europe
- **Treasury:** The increase in NII sensitivity is primarily driven by an increased exposure in the short dated available for sale bond portfolio. This results in a higher duration mismatch between assets and liabilities which in an up-shock scenario creates a negative impact. In a down shock scenario the full benefit of this is not realised due to the rates being floored at zero, resulting in a net negative NII impact from Treasury under these simple modelling assumptions.

Table 53: Net interest income sensitivity (AEaR) by currency

	2015		2014	
As at 31 December	+100 basis points £m	-100 basis points £m	+100 basis points £m	-100 basis points £m
GBP	**94**	**(368)**	184	(406)
USD	**(15)**	**(30)**	(11)	(11)
EUR	**(6)**	**(8)**	21	3
ZAR	**6**	**(5)**	10	(8)
Other currencies	**24**	**(1)**	34	(17)
Total	**103**	**(412)**	238	(439)
As percentage of net interest income	**0.82%**	**(3.28)%**	1.97%	(3.63)%

Economic Capital by business unit

Barclays measures some non-traded market risks using an economic capital (EC) methodology. EC is predominantly calculated using a daily VaR model and then scaled up to a one-year EC confidence interval (99.98%). For more information on definitions of prepayment, recruitment and residual risk, and on how EC is used to manage market risk, see the market risk management section on page 137.

Table 54: Economic capital for non-traded risk by business unit

	Personal & Corporate Banking £m	Barclaycard £m	Africa Banking £m	Non-Core[d] £m	Total £m
As at 31 December 2015					
Prepayment risk	**35**	**7**	**–**	**–**	**42**
Recruitment risk	**64**	**1**	**–**	**5**	**70**
Residual risk	**7**	**2**	**126**	**5**	**140**
Total	**106**	**10**	**126**	**10**	**252**
As at 31 December 2014					
Prepayment risk	32	15	–	–	47
Recruitment risk	148	1	–	–	149
Residual risk	12	3	34	16	65
Total	192	19	34	16	261

PCB recruitment risk: The reduction of EC for PCB is driven by lower levels of recruitment risk associated with hedging mismatch for savings and mortgage products as at December 2015. The mortgage book in particular saw significant falls in recruitment risk due to lower levels of pre-hedging, particularly within mortgages of longer tenor.

Africa Banking residual risk: The significant changes in EC for Africa Banking are mainly due to the adoption of new behavioural assumptions for residual risk which went live on 1 January 2015.

Notes
a Only retail exposures within Non-Core are included in the calculation.
b Treasury includes both accrual and fair value accounted positions modelled with an appropriate holding period. It excludes hedge accounting ineffectiveness. Although hedge accounting ineffectiveness is recorded within Net interest income, it is excluded in this analysis as it is driven by fair value movements rather than interest accruals.
c 2014 comparatives have been revised to reflect the inclusion of all Treasury banking books and the exclusion of hedge ineffectiveness.
d Only the retail exposures within Non-Core are captured in the measure.

Risk and capital position review
Analysis of market risk

Analysis of equity sensitivity
The table below measures the overall impact of a +/- 100bps movement in interest rates on available for sale and cash flow hedge reserves. This data is captured using PV01 which is an indicator of the shift in asset value for a 1 basis point shift in the yield curve. Note that the methodology used to estimate the impact of the negative movement applied a 0% floor to interest rates.

Table 55: Analysis of equity sensitivity

	2015		2014	
As at 31 December	+100 basis points £m	-100 basis points £m	+100 basis points £m	-100 basis points £m
Net interest income	103	(412)	238	(439)
Taxation effects on the above	(31)	124	(57)	105
Effect on profit for the year	72	(288)	181	(334)
As percentage of net profit after tax	11.56%	(46.23)%	21.42%	(39.53)%
Effect on profit for the year (per above)	72	(288)	181	(334)
Available for sale reserve	(751)	1,052	(698)	845
Cash flow hedge reserve	(3,104)	1,351	(3,058)	2,048
Taxation effects on the above	1,157	(721)	901	(694)
Effect on equity	(2,626)	1,394	(2,674)	1,865
As percentage of equity	(3.99)%	2.12%	(4.05)%	2.83%

As discussed in relation to the net interest income sensitivity table on page 77, the impact of a 100bps movement in rates is largely driven by PCB and Treasury. The available for sale reserve change in sensitivity was mainly driven by changes in the portfolio composition, primarily due to an increase in available for sale assets held on a shorter dated outright basis. Note that the movement in the available for sale reserve would impact CRD IV fully loaded CET1 capital, but the movement in the cash flow hedge reserve would not impact CET1 capital.

Volatility of the available for sale portfolio in the liquidity pool
Changes in value of available for sale exposures flow directly through capital via equity reserve. The volatility of the value of the available for sale investments in the liquidity pool is captured and managed through a value measure rather than an earning measure, i.e. the non traded market risk VaR.

Although the underlying methodology to calculate the non-traded VaR is the same as the one used to calculate traded management VaR, the two measures are not directly comparable. The non-traded VaR represents the volatility to capital driven by the available for sale exposures. This is used for internal management purposes and although it is not formally backtested like the regulatory VaR (as shown on page 134), it is reviewed on a regular basis by risk managers to ensure it remains adequate for risk appetite and monitoring purposes.

These exposures are in the banking book and do not meet the criteria for trading book treatment. As such available for sale volatility is a risk which is taken into account in the broader IRRBB internal capital assessment, which is covered by the Pillar 2 capital framework.

Volatility of the available for sale portfolio in liquidity pool

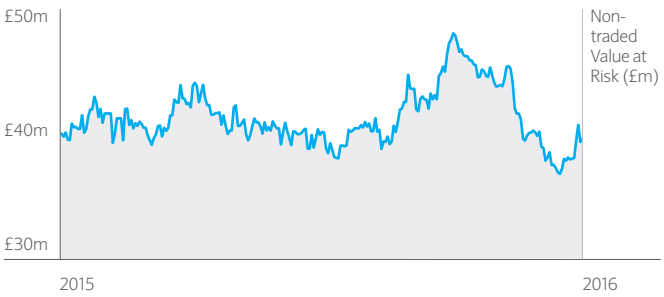


Table 56: Analysis of volatility of the available for sale portfolio in liquidity pool

	2015		
For the year ended 31 December	Average £m	High £m	Low £m
Non Traded Market Value at Risk (daily, 95%)	41.6	48.5	37.0

The Non Traded VaR is mainly driven by volatility of interest rates in developed markets in the chart above.

The increase in VaR in H2 is due to the volatility in the government and swap rate markets observed in that period, particularly in the US and the UK. The subsequent decrease was due to subsiding market volatility in combination with a reduction in exposure.

Foreign exchange risk

The Group is exposed to two sources of foreign exchange risk.

a) Transactional foreign currency exposure
Transactional foreign exchange exposures represent exposure on banking assets and liabilities denominated in currencies other than the functional currency of the transacting entity.

The Group's risk management policies prevent the holding of significant open positions in foreign currencies outside the trading portfolio managed by the Investment Bank which is monitored through VaR.

Banking book transactional foreign exchange risk outside of the Investment Bank is monitored on a daily basis by the market risk functions and minimised by the businesses.

b) Translational foreign exchange exposure
The Group's investments in overseas subsidiaries and branches create capital resources denominated in foreign currencies, principally USD, EUR and ZAR. Changes in the GBP value of the net investments due to foreign currency movements are captured in the currency translation reserve, resulting in a movement in CET1 capital.

The Group's strategy is to minimise the volatility of the capital ratios caused by foreign exchange movements, by ensuring that the CET1 capital movements broadly match the revaluation of the Group's foreign currency RWA exposures.

The economic hedges primarily represent the USD and EUR preference shares and Additional Tier 1 (AT1) instruments that are held as equity, which are accounted for at historic cost under IFRS and do not qualify as hedges for accounting purposes.

Table 57: Functional currency of operations

Functional currency of operations

	Foreign currency net investments £m	Borrowings which hedge the net investments £m	Derivatives which hedge the net investments £m	Structural currency exposures pre-economic hedges £m	Economic hedges £m	Remaining structural currency exposures £m
As at 31 December 2015						
US Dollar	**24,712**	**8,839**	**1,158**	**14,715**	**7,008**	**7,707**
Euro	**2,002**	**630**	**14**	**1,358**	**1,764**	**(406)**
Rand	**3,201**	**4**	**99**	**3,098**	**–**	**3,098**
Japanese Yen	**383**	**168**	**205**	**10**	**–**	**10**
Other	**2,927**	**–**	**1,294**	**1,633**	**–**	**1,633**
Total	**33,225**	**9,641**	**2,770**	**20,814**	**8,772**	**12,042**
As at 31 December 2014						
US Dollar	23,728	5,270	1,012	17,446	6,655	10,791
Euro	3,056	328	238	2,490	1,871	619
Rand	3,863	–	103	3,760	–	3,760
Japanese Yen	364	164	208	(8)	–	(8)
Other	2,739	–	1,198	1,541	–	1,541
Total	33,750	5,762	2,759	25,229	8,526	16,703

During 2015, total structural currency exposure net of hedging instruments decreased by £4.7bn to £12.0bn. The decrease is broadly in line with the overall RWA currency profile, with a reduction in USD RWAs in the year. Foreign currency net investments remained stable at £33.2bn (2014: £33.8bn).

Pension risk review

The UK Retirement Fund (UKRF) represents approximately 92% (2014: 92%) of the Group's total retirement benefit obligations globally. The other material overseas schemes are in South Africa and in the US where they represent approximately 4% (2014: 4%) and 2% (2014: 2%) respectively of the Group's total retirement benefit obligations. As such, this risk review section will focus exclusively on the UKRF. Note that the scheme is closed to new entrants.

Pension risk arises as the estimated market value of the pension fund assets might decline, or the investment returns might reduce; or the estimated value of the pension liabilities might increase.

See page 137 for more information on how pension risk is managed.

Assets

The Board of Trustees defines an overall long-term investment strategy for the UKRF, with investments across a broad range of asset classes. This ensures an appropriate mix of return seeking assets to generate future returns as well as liability matching assets to better match the future pension obligations. The main market risks within the asset portfolio are against interest rates and equities, as shown by the analysis of scheme assets within Note 35 in the Barclays PLC Annual Report.

The fair value of the UKRF plan assets was £26.8bn. See Note 35 in the Barclays PLC Annual Report for details.

Liabilities

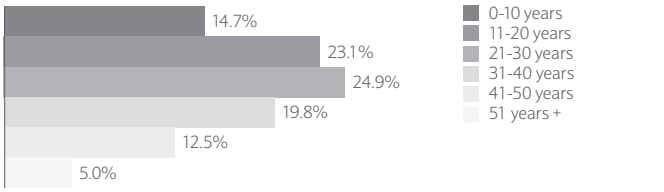
The retirement benefit obligations are a series of future cash flows with relatively long duration. On an IAS19 basis these cash flows are sensitive to changes in the expected long-term inflation rate and the discount rate (AA corporate bond yield curve):

- An increase in long-term inflation corresponds to an increase in liabilities
- An increase in the discount rate corresponds to a decrease in liabilities

Pension risk is generated through the Group's defined benefit schemes and this risk is set to reduce over time as our main defined benefit schemes are closed to new entrants, and in many cases closed to future accruals. The chart below outlines the shape of the UKRF's liability cash flow profile that takes account of future inflation indexing of payments to beneficiaries, with the majority of the cash flows (approximately 83%) falling between 0 and 40 years, peaking within the 21 to 30 year band and reducing thereafter. The shape may vary depending on changes in inflation expectation and mortality and it is updated in line with the triennial valuation process.

For more detail on liability assumptions see Note 35 in the Barclays PLC Annual Report.

Proportion of IAS 19 liability cash flows



Risk measurement

In line with Barclays' risk management framework, the assets and liabilities of the UKRF are modelled within a VaR framework to show the volatility of the pension positions on a total portfolio level. This ensures that the risks, diversification and liability matching characteristics of the UKRF obligations and investments are adequately captured. VaR is measured and monitored on a monthly basis. It is discussed at pension risk fora such as the Market Risk Committee, Pensions Management Group and Pension Executive Board. The VaR model takes into account the valuation of the liabilities following an IAS 19 basis. The trustees receive quarterly VaR measures on a funding basis.

The pension liability is also sensitive to post-retirement mortality assumptions. See Note 35 in the Barclays PLC Annual Report for more details.

In addition to this, the impact of pension risk to the Group is taken into account as part of the stress testing process. Stress testing is performed internally at least on an annual basis. The UKRF exposure is also included as part of the regulatory stress tests and exercises indicated that the UKRF risk profile is resilient to severe stress events.

The defined benefit pension scheme affects capital in two ways. An IAS 19 deficit impacts the CET1 capital ratio, and pension risk is also taken into account in the Pillar 2A capital assessment.

Triennial valuation

Please see Note 35 in the Barclays PLC Annual Report for information on the funding position of the UKRF.

Insurance risk review

Insurance risk is managed within Africa Banking primarily in the Wealth, Investment Management & Insurance (WIMI) portfolios and is reported across four significant categories. Please see page 138 for more information on the definitions and governance procedure.

The risk types below mainly determine the regulatory capital requirements. The year-on-year decreases in appetite were agreed as part of the medium-term planning process.

Table 58: Analysis of insurance risk[a]

	2015		2014	
As at 31 December	Position £m	Appetite £m	Position £m	Appetite £m
Short-term insurance underwriting risk	**30**	**32**	40	44
Life insurance underwriting risk	**17**	**20**	21	28
Life insurance mismatch risk	**12**	**20**	16	40
Life and short-term insurance investment risk	**11**	**18**	12	14

In 2015, the largest year-on-year movement was in short-term insurance underwriting risk where the reduction in the position reflected the closure of the Agriculture book to new insurance business.

For mismatch risk, the 2015 Appetite was materially lower than the 2014 Appetite as the level of mismatch between policyholder assets and policyholder liabilities decreased following the adoption of improved reserving methodologies and sign off by the independent statutory actuary function. As a result, while 2015 Position has reduced in absolute terms, the utilisation against appetite has increased.

From 2016 onwards, the methodology for assessment of Insurance Risk will change from a CAR-based approach to a Solvency Assessment and Management (SAM) based approach (the Solvency II equivalent) which is considered to be a more robust risk management approach with well-developed methodologies.

Credit value adjustments

The Credit Value Adjustment (CVA) measures the risk from MTM losses due to deterioration in the credit quality of a counterparty to over-the-counter derivative transactions with Barclays. It is a complement to the counterparty credit risk charge, that accounts for the risk of outright default of a counterparty.

CVA is shown as part of the market risk section, which is consistent with other regulatory disclosures.

See page 7 for a high-level description of the approach, and page 13 for a description of the scope of our permissions.

Table 59: Credit valuation adjustment capital charge

Two approaches can be used to calculate the adjustment:

- Standardised approach: this approach takes account of the external credit rating of each counterparty, and incorporates the effective maturity and EAD from the calculation of the CCR
- Advanced approach: this approach requires the calculation of the charge as a) a 10-day 99% Value at Risk (VaR) measure for the current one-year period and b) the same measure for a stressed period. The sum of the two VaR measures is tripled to yield the capital charge.

Credit valuation adjustment capital charge

Total portfolios subject to the Advanced CVA capital charge	EAD post-CRM £m	RWA £m	Capital requirements £m
As at 31 December 2015			
(i) VaR component (including the 3x multiplier)	**19,332**	**1,670**	**134**
(ii) Stressed VaR component (including 3x multiplier)	**22,419**	**8,817**	**706**
All portfolios subject to the standardised CVA capital charge	**1,755**	**781**	**62**
Total subject to the CVA capital charge	**–**	**11,268**	**902**
As at 31 December 2014			
(i) VaR component (including the 3x multiplier)	25,689	2,244	180
(ii) Stressed VaR component (including 3x multiplier)	29,620	10,098	808
All portfolios subject to the standardised CVA capital charge	3,318	3,163	253
Total subject to the CVA capital charge	–	15,505	1,241

CVA risk weighted assets decreased by £4.2bn to £11.3bn, primarily due to the implementation of collateral modelling for mismatched FX collateral following PRA approval and the removal of client clearing business exposures following EBA guidance.

Note
a The figures in the table are reported using Capital Adequacy Requirement (CAR) approach.

This section shows the credit, counterparty credit and market risk arising from securitisation positions. These are already included in previous related sections.

Securitisation positions are subject to a specific risk weighted assets calculation framework, which is why these are disclosed separately.

- Securitisation exposures have reduced by 22.3% to £19.8bn this year, primarily driven by continued reduction in Non-Core and reduced trading activity.

-£3.5bn
reduction in Banking book exposures

-£2.3bn
reduction in Trading book exposures

For regulatory disclosures purposes, a securitisation is defined as a transaction or scheme where the payments are dependent upon the performance of a single exposure or pool of exposures and where the subordination of tranches determines the distribution of losses during the on-going life of the transaction or scheme. Such transactions are undertaken for a variety of reasons including the transfer of risk for Barclays or on behalf of a client.

The tables below detail exposures from securitisation trades entered into by the Group and cover banking book and trading book exposures. Only transactions that achieved significant risk transfer (SRT) are included in these tables. Where securitisations do not achieve SRT (for instance when they are entered into for funding purposes), the associated exposures are presented alongside the rest of the banking book or trading book positions in other sections of the Pillar 3 Report.

Please see page 140 for further details on Barclays' securitisation activities.

Barclays completes the Pillar 3 disclosures in accordance with the Basel framework, which prescribes minimum disclosure requirements. The following quantitative disclosures are not applicable or result in a nil return for the current and prior reporting period:

- securitised facilities subject to an early amortisation period – there were no securitisation positions backed by revolving credit exposures, where Barclays acted as the originator and capital relief was sought
- re-securitisation exposures subject to hedging insurance or involving financial guarantors – there were no such exposures in the current or prior reporting period
- a separate table for capital deduction is no longer applicable, in line with CRD IV.

Barclays PLC Balance sheet – summary versus regulatory view for securitisation exposures

Table 1 shows a reconciliation between Barclays PLC balance sheet for statutory purposes versus a regulatory view. Specifically for securitisation positions, the regulatory balance sheet will differ from the statutory balance sheet due to the following:

- deconsolidation of certain securitisation entities that are considered for accounting purposes, but not for regulatory purposes (refer to page 142 for a summary of accounting policies for securitisation activities)
- securitised positions are treated in accordance with the Group's accounting policies, as set out in the 2015 Annual Report. Securitisation balances will therefore be disclosed in the relevant asset classification according to their accounting treatment
- some securitisation positions are considered to be off-balance sheet and relate to undrawn liquidity lines to securitisation vehicles, market risk derivative positions and where Barclays is a swap provider to a Special Purposes Vehicle (SPV). These balances are disclosed in table 64.

Location of securitisation risk disclosures

Securitisation exposures are subject to a different risk weighted asset framework, therefore further granular disclosures are provided in addition to the exposure balances disclosed in the credit, counterparty and market risk sections.

This table shows a reconciliation of securitisation exposures in the following section and where the balance can be found in the relevant credit, counterparty and market risk sections.

Table 60: Reconciliation of exposures and capital requirements relating to securitisations

As at 31 December 2015	Table number in this document	Exposure value £m	RWAs £m	Capital requirement £m
Banking book				
Standardised approach				
Credit risk	Tables 12,13,14	–	–	–
Total Standardised approach		–	–	–
Advanced IRB				
Credit risk	Tables 12,13,14	17,367	3,141	252
Counterparty credit risk	Tables 41,42	1,059	428	34
Total IRB		18,426	3,569	286
Total banking book		18,426	3,569	286
Trading book				
Trading book – specific interest rate market risk				
Standardised approach	Tables 51	1,355	1,082	87
Total trading book		1,355	1,082	87

Table 61: Securitisation activity during the year

This table discloses a summary of the securitisation activity during 2015, including the amount of exposures securitised and recognised gain or loss on sale in the banking book. Barclays is involved in the origination of traditional and synthetic securitisations. A securitisation is considered to be a synthetic securitisation where the transfer of risk is achieved through the use of credit derivatives or guarantees, and the exposure remains on Barclays' balance sheet.

	Banking book				Trading book			
	Traditional £m	Synthetic £m	Total banking book £m	Gain/loss on sale £m	Traditional £m	Synthetic £m	Total trading book £m	Gain/loss on sale £m
As at 31 December 2015								
Originator								
Residential mortgages	–	–	–	–	–	–	–	–
Commercial mortgages	3,536	–	3,536	47	–	–	–	–
Credit card receivables	–	–	–	–	–	–	–	–
Leasing	–	–	–	–	–	–	–	–
Loans to corporates or SMEs	277	–	277	7	–	–	–	–
Consumer loans	–	–	–	–	–	–	–	–
Trade receivables	–	–	–	–	–	–	–	–
Securitisations/Re-securitisations	30	–	30	–	945	–	945	1
Other assets	–	–	–	–	–	–	–	–
Total	3,843	–	3,843	54	945	–	945	1
As at 31 December 2014								
Originator								
Residential mortgages	–	93	93	–	–	–	–	–
Commercial mortgages	2,389	–	2,389	37	–	–	–	–
Credit card receivables	–	–	–	–	–	–	–	–
Leasing	–	–	–	–	–	–	–	–
Loans to corporates or SMEs	247	–	247	7	–	–	–	–
Consumer loans	–	–	–	–	–	–	–	–
Trade receivables	–	–	–	–	–	–	–	–
Securitisations/Re-securitisations	–	–	–	–	1,839	–	1,839	8
Other assets	–	–	–	–	–	–	–	–
Total	2,636	93	2,729	44	1,839	–	1,839	8

The value of assets securitised in the banking book increased by £1.1bn to £3.8bn:

- Barclays continues to be involved in the securitisation of commercial mortgage loans, alongside third party banks. Barclays' role in these transactions is to contribute the underlying mortgage loan to the securitisation and to act as lead manager, book runner or underwriter to distribute the issued securities. The amount shown in table 61 represents Barclays share of assets contributed to the securitisation.
- As part of these transactions, Barclays held assets on its balance sheet prior to securitisation.
- Barclays may participate in secondary trading of these positions in its trading book. At 31 December 2015, the exposure value of positions held was £3m. These are not reflected in the above table as for trading book purposes, Barclays is considered to be an investor.
- Barclays was also involved in European and US CLO transactions where it provided tranched limited recourse financing and contributed a portion of the underlying loan assets that had been on Barclays' balance sheet. The value of assets contributed during 2015 was £277m as shown in the table above under "Loans to corporates or SMEs".

The value of assets securitised in the trading book decreased £0.9bn to £0.9bn:

- Barclays continues to participate in re-securitisations of Real Estate Mortgage Investment Conduits (Re-REMICs) and there has been a reduction in the origination activity for these positions during the year.

Table 62: Assets awaiting securitisation

This table discloses the value of assets held on the balance sheet at year end and awaiting securitisation.

Exposure type	Banking book £m	Trading book £m
As at 31 December 2015		
Originator		
Residential mortgages	–	–
Commercial mortgages	**354**	–
Credit card receivables	–	–
Leasing	–	–
Loans to corporates or SMEs	–	–
Consumer loans	–	–
Trade receivables	–	–
Securitisations/Re-securitisations	–	–
Other assets	–	–
Total	**354**	–
As at 31 December 2014		
Originator		
Residential mortgages	33	–
Commercial mortgages	422	–
Credit card receivables	–	–
Leasing	–	–
Loans to corporates or SMEs	64	–
Consumer loans	–	–
Trade receivables	–	–
Securitisations/Re-securitisations	–	–
Other assets	–	–
Total	519	–

Banking book assets awaiting securitisation decreased £0.2bn to £0.4bn, with no significant movements to note.

Table 63: Outstanding amount of exposures securitised – Asset value and impairment charges

This table presents the asset values and impairment charges relating to securitisation programmes where Barclays is the originator or sponsor. Where Barclays contributed assets to a securitisation alongside third parties, the amount represents the entire asset pool. Barclays is considered a sponsor of one multi-seller asset-backed commercial paper (ABCP) conduit. Please note that table 63 will not reconcile to table 61, as it shows outstanding amount of exposure for the positions held/retained by Barclays, whereas table 63 shows the total position originated in 2015.

	Banking book					Trading book
	Traditional £m	Synthetic £m	Total banking book £m	Of which past due £m	Recognised losses £m	Traditional £m
As at 31 December 2015						
Originator						
Residential mortgages	3,075	–	3,075	655	–	–
Commercial mortgages	3,521	–	3,521	72	–	–
Credit card receivables	–	–	–	–	–	–
Leasing	–	–	–	–	–	–
Loans to corporates and SMEs	1,216	1,164	2,380	85	–	–
Consumer loans	–	–	–	–	–	–
Trade receivables	–	–	–	–	–	–
Securitisations/Re-securitisations	1,012	–	1,012	0	–	–
Other assets	268	–	268	–	–	–
Total (Originator)	9,092	1,164	10,256	812	–	–
Sponsor						
Residential mortgages	889	–	889	0	–	–
Commercial mortgages	–	–	–	–	–	–
Credit card receivables	–	–	–	–	–	–
Leasing	1,056	–	1,056	15	–	–
Loans to corporates and SMEs	704	–	704	3	–	–
Consumer loans	3,554	–	3,554	43	–	–
Trade receivables	492	–	492	2	–	–
Securitisations/Re-securitisations	–	–	–	–	–	–
Other assets	74	–	74	–	–	–
Total (Sponsor)	6,769	–	6,769	63	–	–
Total	15,861	1,164	17,025	875	–	–
As at 31 December 2014						
Originator						
Residential mortgages	4,021	99	4,120	588	–	203
Commercial mortgages	4,500	–	4,500	–	–	–
Credit card receivables	–	–	–	–	–	–
Leasing	–	–	–	–	–	–
Loans to corporates and SMEs	3,925	2,477	6,402	79	–	–
Consumer loans	–	–	–	–	–	–
Trade receivables	–	–	–	–	–	–
Securitisations/Re-securitisations	3,915	–	3,915	–	–	180
Other assets	1,150	–	1,150	347	–	–
Total (Originator)	17,511	2,576	20,087	1,014	–	383
Sponsor						
Residential mortgages	874	–	874	–	–	–
Commercial mortgages	–	–	–	–	–	–
Credit card receivables	–	–	–	–	–	–
Leasing	891	–	891	17	–	–
Loans to corporates and SMEs	953	–	953	2	–	–
Consumer loans	2,812	–	2,812	38	–	–
Trade receivables	708	–	708	4	–	–
Securitisations/Re-securitisations	–	–	–	–	–	–
Other assets	98	–	98	–	–	–
Total (Sponsor)	6,336	–	6,336	61	–	–
Total	23,847	2,576	26,423	1,075	–	383

Banking book securitised assets where Barclays is considered to be the originator or sponsor has decreased by £9.4bn to £17.0bn, primarily driven by:

- originated residential mortgage and corporate exposures have reduced due to continued Non-Core reductions
- reduction in re-securitisation positions following the restructuring of an existing transaction which resulted in Barclays being fully repaid and no longer exposed to the originated assets
- synthetic securitisation exposures have reduced following repayment of the outstanding notes in line with the decrease of the corporate loan portfolio.

Additionally, Barclays continues to be a sponsor and provides liquidity and programme-wide credit enhancement to its remaining conduit: Sheffield Receivables Corporation.

Table 64: Securitisation exposures – by exposure class

The table below discloses the aggregate amount of securitisation exposures held, which is consistent with table 65, 67, and table 68.

For originated positions, the table below discloses the exposure that Barclays has retained in the securitisation programmes disclosed in table 63.

For clarity, table 63 discloses the underlying asset value of these programmes.

For invested and sponsored positions, the table below presents the aggregate amount of positions purchased.

	Banking book				Trading book		
	Originator £m	Sponsor[a,b] £m	Investor £m	Total banking book £m	Originator £m	Investor £m	Total trading book £m
As at 31 December 2015							
On-balance sheet							
Residential mortgages	140	–	1,886	2,026	–	633	633
Commercial mortgages	24	–	–	24	–	15	15
Credit card receivables	–	–	108	108	–	72	72
Leasing	–	–	–	–	–	–	–
Loans to corporates or SMEs	1,626	–	413	2,039	–	322	322
Consumer loans	–	–	3,276	3,276	–	90	90
Trade receivables	–	–	–	–	–	–	–
Securitisations/Re-securitisations	–	–	418	418	–	77	77
Other assets	–	–	1,018	1,018	–	127	127
Total On-balance sheet	1,790	–	7,119	8,909	–	1,336	1,336
Off-balance sheet							
Residential mortgages	265	594	841	1,700	–	19	19
Commercial mortgages	63	–	203	267	–	–	–
Credit card receivables	–	–	419	419	–	–	–
Leasing	–	–	76	76	–	–	–
Loans to corporates or SMEs	18	–	192	210	–	–	–
Consumer loans	–	4,962	1,462	6,424	–	–	–
Trade receivables	–	–	–	–	–	–	–
Securitisations/Re-securitisations	–	–	13	13	–	–	–
Other assets	1	19	389	408	–	–	–
Total Off-balance sheet	347	5,575	3,595	9,517	–	19	19
Total	2,137	5,575	10,714	18,426	–	1,355	1,355
As at 31 December 2014							
On-balance sheet							
Residential mortgages	345	–	1,862	2,207	7	1,848	1,855
Commercial mortgages	–	–	4	4	–	396	396
Credit card receivables	–	–	214	214	–	150	150
Leasing	–	–	–	–	–	–	–
Loans to corporates or SMEs	3,758	–	398	4,156	–	331	331
Consumer loans	–	–	1,661	1,661	–	280	280
Trade receivables	–	–	–	–	–	–	–
Securitisations/Re-securitisations	344	–	349	693	1	177	178
Other assets	52	–	905	957	–	278	278
Total On-balance sheet	4,499	–	5,393	9,892	8	3,460	3,468
Off-balance sheet							
Residential mortgages	401	–	920	1,321	–	19	19
Commercial mortgages	252	–	218	470	–	129	129
Credit card receivables	–	–	653	653	–	–	–
Leasing	–	–	192	192	–	–	–
Loans to corporates or SMEs	167	–	130	297	–	–	–
Consumer loans	–	4,931	2,904	7,835	–	–	–
Trade receivables	–	–	45	45	–	–	–
Securitisations/Re-securitisations	89	–	31	120	–	–	–
Other assets	153	25	902	1,080	–	–	–
Total Off-balance sheet	1,062	4,956	5,995	12,013	–	148	148
Total	5,561	4,956	11,388	21,905	8	3,608	3,616

The total amount of securitisation positions in the banking book has decreased by £3.5bn to £18.4bn, primarily driven by:

- Reduction in exposures in Loans to corporates or SMEs as a result of a reduction in the underlying corporate loan pool of a synthetic securitisation position within Non-Core.

The trading book exposure has decreased by £2.3bn to £1.4bn, primarily driven by disposals within Non-Core as well as reduced trading activity in residential mortgage backed securities (RMBS).

Notes
a The exposure type is based on the asset class of underlying positions.
b Off-balance sheet relates to liquidity lines to securitisation vehicles, market risk derivative positions and where the Group is a swap provider to a SPV.

Table 65: Securitisation exposures – by capital approach

This table discloses the total exposure value and associated capital requirement of securitisation positions held by the approach adopted in accordance with the Basel framework. Barclays has approval to use, and therefore applies the IRB approach for the calculation of its RWAs. The total population is as per tables 64, table 67, and table 68.

	Exposure values				Capital requirements			
	Originator £m	Sponsor £m	Investor £m	Total £m	Originator £m	Sponsor £m	Investor £m	Total £m
As at 31 December 2015								
Banking book								
IRB approach								
Ratings Based Approach								
<= 10%	946	1,315	4,977	7,238	6	8	31	45
> 10% <= 20%	434	180	2,669	3,283	4	2	28	35
> 20% <= 50%	712	47	1,373	2,133	18	1	26	45
> 50% <= 100%	26	–	134	160	1	–	8	9
>100% <= 650%	13	–	25	38	5	–	4	8
> 650% < 1250%	–	–	2	2	–	–	1	1
= 1250%/Look through	6	–	1,534	1,539	4	–	108	112
Internal Assessment Approach	–	4,033	–	4,033	–	31	–	31
Supervisory Formula Method	–	–	–	–	–	–	–	–
Total IRB	2,137	5,575	10,714	18,426	38	42	206	286
Standardised approach	–	–	–	–	–	–	–	–
Total banking book	2,137	5,575	10,714	18,426	38	42	206	286
Trading book								
IRB approach								
Ratings Based Approach	–	–	–	–	–	–	–	–
<= 10%	–	–	378	378	–	–	2	2
> 10% <= 20%	–	–	118	118	–	–	1	1
> 20% <= 50%	–	–	570	570	–	–	12	12
> 50% <= 100%	–	–	135	135	–	–	7	7
>100% <= 650%	–	–	75	75	–	–	13	13
> 650% < 1250%	–	–	25	25	–	–	14	14
= 1250%/Look through	–	–	54	54	–	–	38	38
Total trading book	–	–	1,355	1,355	–	–	87	87
As at 31 December 2014								
Banking book								
IRB approach								
Ratings Based Approach								
<= 10%	2,613	833	5,965	9,411	16	5	37	58
> 10% <= 20%	506	191	2,689	3,386	5	2	28	35
> 20% <= 50%	1,451	98	998	2,547	29	2	21	52
> 50% <= 100%	22	1	135	158	1	–	8	9
>100% <= 650%	692	–	40	732	59	–	8	67
> 650% < 1250%	–	–	2	2	–	–	1	1
= 1250%/Look through	184	4	1,559	1,747	53	4	167	224
Internal Assessment Approach	–	3,829	–	3,829	–	31	–	31
Supervisory Formula Method	93	–	–	93	7	–	–	7
Total IRB	5,561	4,956	11,388	21,905	170	44	270	484
Standardised approach	–	–	–	–	–	–	–	–
Total banking book	5,561	4,956	11,388	21,905	170	44	270	484
Trading book								
IRB approach								
Ratings Based Approach								
<= 10%	–	–	787	787	–	–	5	5
> 10% <= 20%	–	–	1,027	1,027	–	–	12	12
> 20% <= 50%	–	–	876	876	–	–	20	20
> 50% <= 100%	–	–	250	250	–	–	12	12
>100% <= 650%	–	–	348	348	–	–	61	61
> 650% < 1250%	–	–	26	26	–	–	15	15
= 1250%/Look through	8	–	294	302	8	–	167	175
Total trading book	8	–	3,608	3,616	8	–	292	300

Table 65: Securitisation exposures – by capital approach continued

Risk Weighted Band	IRB S&P Equivalent Rating	STD S&P Equivalent Rating
<= 10%	AAA to A+ (Senior Position Only)	N/A
> 10% <= 20%	A to A- (Senior Position Only)/AAA to A+ (Base Case)	N/A
> 20% <= 50%	A to A- (Base Case)	AAA to AA-
> 50% <= 100%	BBB+ to BBB (Base Case)	A+ to A-
> 100% <= 650%	BBB- (Base Case) to BB (Base Case)	BBB+ to BBB-
> 650% < 1250%	BB- (Base Case)	BB to BB-
= 1250% / deduction	Below BB-	Below BB-

The total amount of securitisation positions in the banking book decreased £3.5bn to £18.4bn primarily driven by:

- reduction in the <=10% band for originated positions following repayment of outstanding notes in line with the decrease for the corporate loan portfolio
- reduction in the 20-50% band following the restructuring of an existing transaction which resulted in Barclays being fully repaid and no longer exposed to originated assets.

Trading book exposures have decreased by £2.3bn across all risk weights to £1.4bn, primarily driven by reduced trading activity in RMBS.

Table 66: Re-securitisation exposures – by risk weight band

The table is a subset of table 65 and discloses Barclays exposures to re-securitisations by capital approach. For the purposes of the table below, a re-securitisation is defined as a securitisation where at least one of the underlying exposures is a securitisation position. This is in line with Basel capital requirements.

For securitisations with mixed asset pools (for example some collateralised loan obligations), the exposure class disclosed in Tables 64, 67 and 68 represents the exposure class of the predominant underlying asset class.

	Exposure values				Capital requirements			
As at 31 December 2015	Originator £m	Sponsor £m	Investor £m	Total £m	Originator £m	Sponsor £m	Investor £m	Total £m
Banking book								
IRB approach								
Ratings Based Approach								
<= 10%	–	–	–	–	–	–	–	–
> 10% <= 20%	–	–	–	–	–	–	–	–
> 20% <= 50%	369	–	419	788	8	–	7	15
> 50% <= 100%	–	–	6	6	–	–	–	–
>100% <= 650%	–	–	–	–	–	–	–	–
> 650% < 1250%	–	–	–	–	–	–	–	–
= 1250%/Look through	–	–	334	334	–	–	67	67
Internal Assessment Approach	–	–	–	–	–	–	–	–
Supervisory Formula Method	–	–	–	–	–	–	–	–
Total IRB	369	–	759	1,128	8	–	74	82
Standardised approach	–	–	–	–	–	–	–	–
Total banking book	369	–	759	1,128	8	–	74	82
Trading book								
IRB approach								
Ratings Based Approach								
<= 10%	–	–	–	–	–	–	–	–
> 10% <= 20%	–	–	–	–	–	–	–	–
> 20% <= 50%	–	–	67	67	–	–	2	2
> 50% <= 100%	–	–	42	42	–	–	2	2
>100% <= 650%	–	–	2	2	–	–	–	–
> 650% < 1250%	–	–	–	–	–	–	–	–
= 1250%/Look through	–	–	–	–	–	–	–	–
Total trading book	–	–	111	111	–	–	4	4

Table 66: Re-securitisation exposures – by risk weight band continued

	Exposure values				Capital requirements			
As at 31 December 2014	Originator £m	Sponsor £m	Investor £m	Total £m	Originator £m	Sponsor £m	Investor £m	Total £m
Banking book								
IRB approach								
Ratings Based Approach								
<= 10%	–	–	–	–	–	–	–	–
> 10% <= 20%	–	–	–	–	–	–	–	–
> 20% <= 50%	1,240	–	642	1,882	25	–	12	37
> 50% <= 100%	22	–	5	27	1	–	–	1
>100% <= 650%	–	–	16	16	–	–	3	3
> 650% < 1250%	–	–	–	–	–	–	–	–
= 1250%/Look through	–	–	6	6	–	–	6	6
Internal Assessment Approach	–	–	–	–	–	–	–	–
Supervisory Formula Method	–	–	–	–	–	–	–	–
Total IRB	1,262	–	669	1,931	26	–	21	47
Standardised approach	–	–	–	–	–	–	–	–
Total banking book	1,262	–	669	1,931	26	–	21	47
Trading book								
IRB approach								
Ratings Based Approach								
<= 10%	–	–	–	–	–	–	–	–
> 10% <= 20%	–	–	–	–	–	–	–	–
> 20% <= 50%	–	–	205	205	–	–	5	5
> 50% <= 100%	–	–	18	18	–	–	1	1
>100% <= 650%	–	–	107	107	–	–	18	18
> 650% < 1250%	–	–	5	5	–	–	4	4
= 1250%/Look through	1	–	56	57	1	–	56	57
Total trading book	1	–	391	392	1	–	84	85

Re-securitisation exposures reduced by £1.1bn to £1.2bn, primarily driven by:

- Reduction in the 20-50% band is due to the termination of an existing re-securitised transaction which resulted in Barclays being fully repaid and no longer exposed to originated assets.

Table 67: Aggregate amount of securitised positions retained or purchased by geography – banking book

This table presents total banking book securitised exposure type by geography, based on location of the counterparty.

Exposure type	United Kingdom £m	Europe £m	Americas £m	Africa and Middle East £m	Asia £m	Total £m
As at 31 December 2015						
Residential mortgages	**1,641**	**21**	**1,827**	**132**	**106**	**3,727**
Commercial mortgages	**86**	**–**	**205**	**–**	**–**	**291**
Credit card receivables	**–**	**–**	**527**	**–**	**–**	**527**
Leasing	**–**	**–**	**76**	**–**	**–**	**76**
Loans to corporates or SMEs	**460**	**122**	**1,667**	**–**	**–**	**2,249**
Consumer loans	**1,221**	**628**	**7,943**	**–**	**–**	**9,792**
Trade receivables	**–**	**–**	**–**	**–**	**–**	**–**
Securitisations/Re-securitisations	**202**	**128**	**101**	**–**	**–**	**431**
Other assets	**–**	**–**	**1,178**	**19**	**136**	**1,333**
Total	**3,610**	**899**	**13,524**	**151**	**242**	**18,426**
As at 31 December 2014						
Residential mortgages	2,751	64	280	205	228	3,528
Commercial mortgages	469	4	1	–	–	474
Credit card receivables	1	–	866	–	–	867
Leasing	–	–	192	–	–	192
Loans to corporates or SMEs	1,393	3	3,057	–	–	4,453
Consumer loans	396	487	8,613	–	–	9,496
Trade receivables	–	–	45	–	–	45
Securitisations/Re-securitisations	5	–	808	–	–	813
Other assets	137	2	1,834	64	–	2,037
Total	5,152	560	15,696	269	228	21,905

Banking book exposures decreased by £3.5bn to £18.4bn primarily driven by reductions in the UK and Americas.

UK exposures reduction has been predominantly driven by 'Loans to Corporates or SMEs' within Non-Core.

The reduction in Americas has been primarily within Non-Core, partly offset by strong client facilitation business activity.

Table 68: Aggregate amount of securitised positions retained or purchased by geography – trading book

This table presents total trading book securitised exposure type by geography. The country is based on the country of operation of the issuer.

Exposure type	United Kingdom £m	Europe £m	Americas £m	Africa and Middle East £m	Asia £m	Total £m
As at 31 December 2015						
Residential mortgages	**561**	**1**	**90**	**–**	**–**	**652**
Commercial mortgages	**–**	**–**	**15**	**–**	**–**	**15**
Credit card receivables	**16**	**–**	**56**	**–**	**–**	**72**
Leasing	**–**	**–**	**–**	**–**	**–**	**–**
Loans to corporates or SMEs	**161**	**8**	**153**	**–**	**–**	**322**
Consumer loans	**4**	**–**	**86**	**–**	**–**	**90**
Trade receivables	**–**	**–**	**–**	**–**	**–**	**–**
Securitisations/Re-securitisations	**77**	**–**	**–**	**–**	**–**	**77**
Other assets	**97**	**–**	**30**	**–**	**–**	**127**
Total	**916**	**9**	**430**	**–**	**–**	**1,355**
As at 31 December 2014						
Residential mortgages	1,418	222	232	–	2	1,874
Commercial mortgages	27	48	450	–	–	525
Credit card receivables	68	8	74	–	–	150
Leasing	–	–	–	–	–	–
Loans to corporates or SMEs	154	21	156	–	–	331
Consumer loans	32	22	226	–	–	280
Trade receivables	–	–	–	–	–	–
Securitisations/Re-securitisations	139	30	9	–	–	178
Other assets	40	6	232	–	–	278
Total	1,878	357	1,379	–	2	3,616

Trading book exposures decreased by £2.3bn to £1.4bn, primarily driven by a reduction in trading activity in RMBS in UK and Americas and Commercial mortgages primarily in Americas.

This section contains details of capital requirements for operational risk, expressed as RWAs, and an analysis of the Group's operational risk profile, including events which have had a significant impact in 2015.

Operational risk RWAs remained unchanged during the year

£56.7bn RWA

- Barclays' operational risk RWA requirement has remained unchanged at £56.7bn.
- Disposal of Non-Core businesses has resulted in the movement of AMA RWAs from Non-Core to Head Office.

For the purpose of risk reporting, conduct risk remediation provisions have been included within this operational risk section

Conduct risk is a separate principal risk with further details provided on pages 152 to 154

Operational risk risk weighted assets

Operational risks are inherent in the Group's business activities and are typical of any large operation. It is not cost effective to attempt to eliminate all operational risks and in any event it would not be possible to do so. Small losses from operational risks are expected to occur and are accepted as part of the normal course of business. More material losses are less frequent and the Group seeks to reduce the likelihood of these in accordance with its risk appetite.

The Operational Principal Risk comprises the following key risks: financial crime, financial reporting, fraud, information, legal, payments process, people, premises and security, supplier, tax, technology (including cyber) and transaction operations. For definitions of these key risks see page 145. In order to ensure complete coverage of the potential adverse impacts on the Group arising from operational risk, the operational risk taxonomy extends beyond the operational key risks listed above to cover areas included within conduct risk.

The following table details the Group's operational risk RWAs. Barclays has approval from the PRA to calculate its operational risk capital requirement using an Advanced Measurement Approach (AMA), although recently acquired businesses are excluded from this approval. Barclays uses the Basic Indicator Approach (BIA) to calculate capital for these businesses.

See pages 143 to 146 for information on operational risk management.

Table 69: Risk weighted assets for operational risk

	Personal and Corporate Banking £m	Barclaycard £m	Africa Banking £m	Investment Bank £m	Head Office £m	Total Core £m	Non-Core £m	Total £m
As at 31 December 2015								
Operational Risk								
Basic Indicator Approach	**996**	**1,001**	**639**	**998**	**–**	**3,634**	**74**	**3,708**
Standardised Approach	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Advanced Measurement Approach	**15,180**	**4,504**	**4,965**	**18,622**	**2,104**	**45,375**	**7,577**	**52,952**
Total operational risk RWAs	**16,176**	**5,505**	**5,604**	**19,620**	**2,104**	**49,009**	**7,651**	**56,660**
As at 31 December 2014								
Operational Risk								
Basic Indicator Approach	996	1,001	639	998	–	3,634	74	3,708
Standardised Approach	–	–	–	–	–	–	–	–
Advanced Measurement Approach	15,180	4,504	4,965	18,623	1,326	44,598	8,354	52,952
Total operational risk RWAs	16,176	5,505	5,604	19,621	1,326	48,232	8,428	56,660

Barclays' operational risk RWA requirement has remained static at £56.7bn, pending regulatory approval for AMA model enhancements. Barclays currently holds sufficient operational risk capital to cover the range of potential extreme operational risks the group faces.

Disposal of Non-Core businesses has resulted in the movement of AMA RWAs from Non-Core to Head Office.

Operational risk profile

During 2015, total operational risk losses[a] increased to £241.3m (2014: £143.9m) with a 3% reduction in the number of recorded events as compared to last year driven by a limited number of events in execution, delivery and process management category.

Losses were mainly due to execution, delivery and process management impacts, external fraud and business disruption and system failures.

Within operational risk a high proportion of risk events have a low associated financial cost and a very small proportion of operational risk events will have a material impact on the financial results of the Group. In 2015, 82.6% of the Group's net reportable operational risk events had a value of £50,000 or less (2014: 78.0%) and accounted for 11.1% (2014: 30.5%) of the Group's total net loss impact.

The analysis below presents the Group's operational risk events by Basel event category:

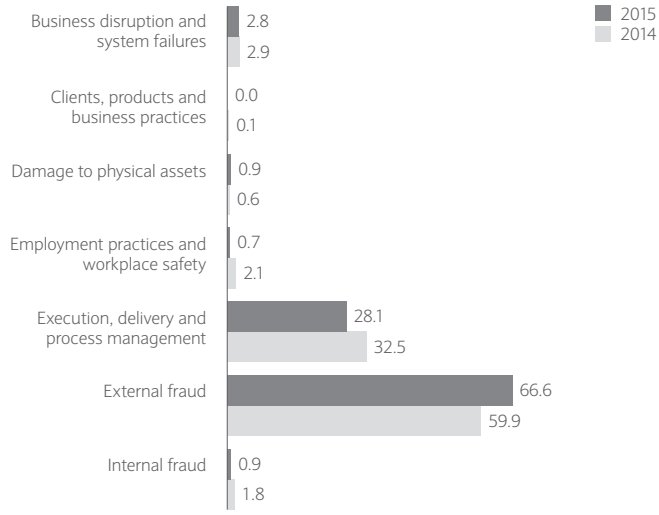
- execution, delivery and process management impacts increased to £137.5m (2014: £81.3m) and accounted for 57.0% (2014: 56.5%) of overall operational risk losses. The events in this category are typical of the banking industry as a whole where high volumes of transactions are processed on a daily basis. The value increase was largely driven by a limited number of events with high loss values.
- external fraud (66.6%) is the category with the highest frequency of events where high volume, low value events are also consistent with industry experience, driven by debit and credit card fraud. This accounted for 27.4% of overall operational risk losses in the year from 29.7% last year.

The Group's operational risk profile is informed by bottom-up risk assessments undertaken by each business unit and top-down qualitative review from the Governance Risk and Control Committees for each of the key risks. External Fraud and Technology are highlighted as key operational risk exposures. Developments of enhanced fraud prevention and transaction profiling tools are underway to combat increasing external fraud frequency especially in credit cards, digital banking, unauthorised trading and social engineering.

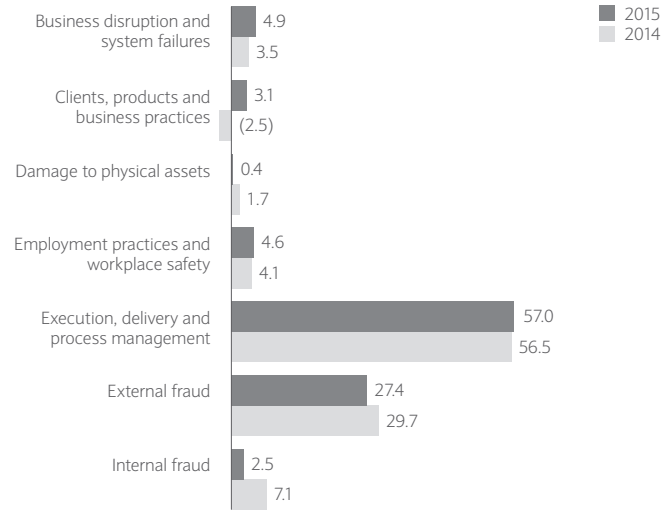
CyberSecurity risk continues to be an area of attention given the increasing sophistication and scope of potential cyber attack. Risks to technology and CyberSecurity change rapidly and require continued focus and investment.

For further information see Risk Management section (pages 143 to 146).

Operational risk events by risk category
% of total risk events by count



Operational risk events by risk category
% of total risk events by value



Note
a These include operational risk losses for reportable events having an impact of +/- £10,000 and exclude events that are conduct risk, aggregated and boundary events. A boundary event is an operational risk event that results in a credit risk impact.

Barclays' approach to managing risks
Contents

Barclays' approach to managing risks

Risk management strategy, governance and risk culture

In this section we describe the approaches and strategies for managing risks at Barclays. It contains information on how risk management functions are organised, how they ensure their independence and foster a sound risk culture throughout the organisation.

- A discussion of how our risk management strategy is designed to foster a strong risk culture is contained on pages 99 to 101
- A governance structure, encompassing the organisation of the function as well as executive and Board committees, supports the continued application of the Enterprise Risk Management Framework (ERMF). This is discussed in pages 97 to 99
- The ERMF sets out the tools, techniques and organisational arrangements to ensure all material risks are identified and understood (see pages 101 and 102)
- Pages 102 to 106 describe group-wide risk management tools that support risk management, ExCo and the Board in discharging their responsibilities, and how they are applied in the strategic planning cycle.

Barclays' approach to managing risks

Risk management strategy, governance and risk culture

The following pages provide a comprehensive overview of the Group's approach to risk management and more specific information on policies that the Group determines to be of particular significance in the current operating environment.

This section outlines the Group's strategy for managing risk and how risk culture has been developed to ensure that there is a set of objectives and practices which are shared across the Group. It provides details of the Group's governance, specific information on policies that the Group determines to be of particular significance in the current operating environment, committee structures and how responsibilities are assigned. The last part of the section provides an insight into how risk management is part of the strategy setting process, including the planning process, the setting of risk appetite and stress testing across the Group.

Risk Management Strategy

The Group has clear risk management objectives and a well established strategy to deliver them through core risk management processes.

At a strategic level, the Group's risk management objectives are to:

- identify the Group's significant risks
- formulate the Group's risk appetite and ensure that business profile and plans are consistent with it
- optimise risk/return decisions by taking them as close as possible to the business, while establishing strong and independent review and challenge structures
- ensure that business growth plans are properly supported by effective risk infrastructure
- manage risk profile to ensure that specific financial deliverables remain achievable under a range of adverse business conditions
- help executives improve the control and coordination of risk taking across the business.

A key element in the setting of clear management objectives is the Enterprise Risk Management Framework (ERMF), which sets out key activities, tools, techniques and organisational arrangements so that material risks facing the Group are identified and understood, and that appropriate responses are in place to protect Barclays and prevent detriment to its customers, employees or community. This will help the Group meet its goals, and enhance its ability to respond to new opportunities.

The ERMF covers those risks incurred by the Group that were foreseeable, continuous, and material enough to merit establishing specific Group-wide control frameworks. These are known as Principal and Key Risks. See Principal and Key Risks on page 101 for more information.

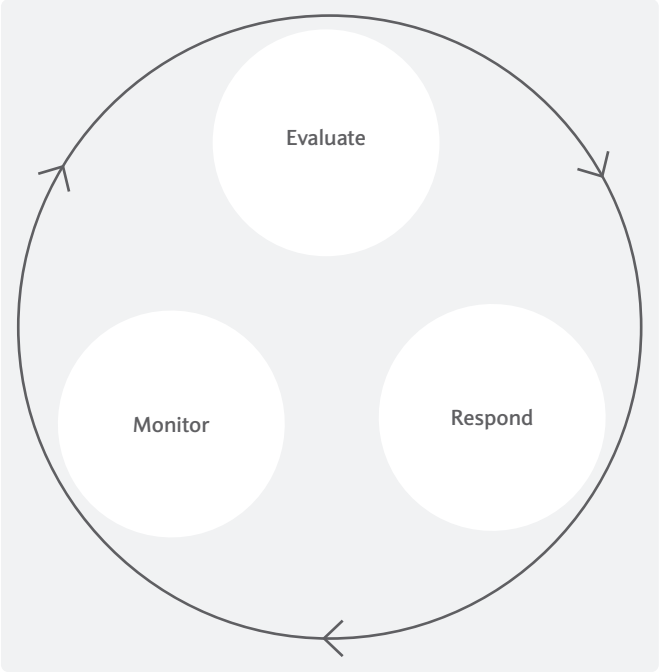
The aim of the risk management process is to provide a structured, practical and easily understood set of three steps, Evaluate, Respond and Monitor (the E-R-M process), that enables management to identify and assess risks, determine the appropriate risk response, and then monitor the effectiveness of the risk response and changes to the risk profile.

1. Evaluate: risk evaluation must be carried out by those individuals, teams and departments who manage the underlying operational or business process, and so are best placed to identify and assess the potential risks, and also include those responsible for delivering the objectives under review.

2. Respond: the appropriate risk response effectively and efficiently ensures that risks are kept within appetite, which is the level of risk that the Group is prepared to accept while pursuing its business strategy. There are three types of response: i) accept the risk but take necessary mitigating actions such as use of risk controls; ii) stop the existing activity/do not start the proposed activity; or iii) continue the activity but transfer risks to another party via use of insurance.

3. Monitor: once risks have been identified and measured, and controls put in place, progress towards objectives must be tracked. Monitoring must be ongoing and can prompt re-evaluation of the risks and/or changes in responses. Monitoring must be carried out proactively . In addition to 'reporting', it includes ensuring risks are maintained within risk appetite, and checking that controls are functioning as intended and remain fit for purpose.

Barclays risk management strategy



The process is orientated around material risks impacting delivery of objectives, and is used to promote an efficient and effective approach to risk management. This three step risk management process:

- can be applied to every objective at every level in the bank, both top-down or bottom-up
- is embedded into the business decision making process
- guides the Group's response to changes in the external or internal environment in which existing activities are conducted
- involves all staff and all three lines of defence (see page 101).

Governance structure

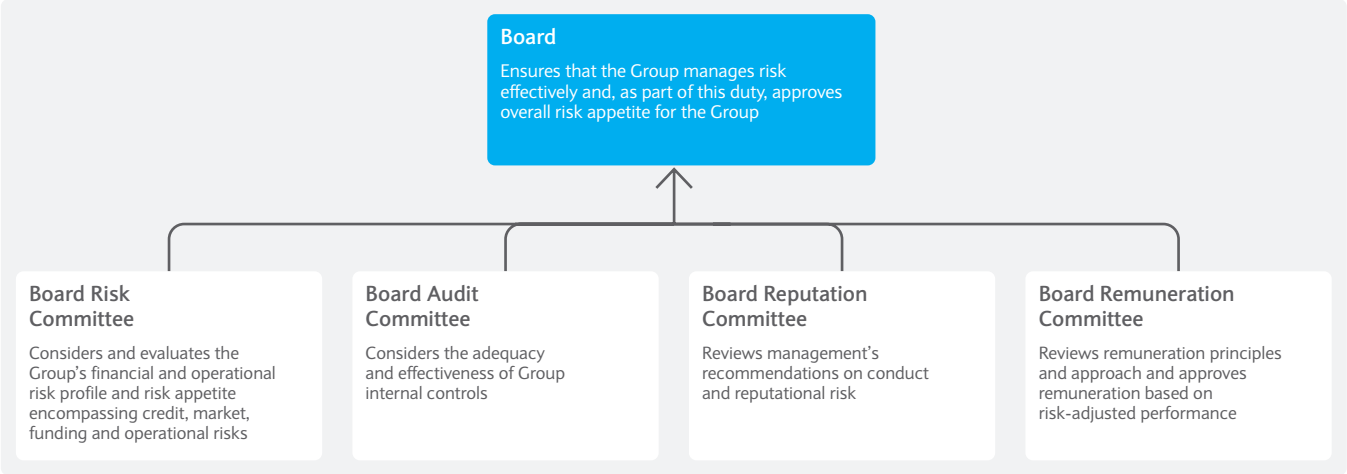
Risk exists when the outcome of taking a particular decision or course of action is uncertain and could potentially impact whether, or how well, the Group delivers on its objectives.

The Group faces risks throughout its business, every day, in everything it does. Some risks are taken after appropriate consideration – such as lending money to a customer. Other risks may arise from unintended consequences of internal actions, for example an IT system failure or poor sales practices. Finally, some risks are the result of events outside the Group but which impact its business – such as major exposure through trading or lending to a market counterparty which later fails.

All employees must play their part in the Group's risk management, regardless of position, function or location. All employees are required to be familiar with risk management policies that are relevant to their activities, know how to escalate actual or potential risk issues, and have a role appropriate level of awareness of the ERMF (see Risk governance and assigning responsibilities for more information on page 100), risk management processes and governance arrangements.

Barclays' approach to managing risks
Risk management strategy, governance and risk culture

Board oversight and flow of risk related information



Furthermore, from March 2016 members of the Board, Executive Committee and a limited number of specified senior individuals will be subject to additional rules included within the Senior Managers Regime (SMR), which clarifies their accountability and responsibilities. Members of the SMR are held to four additional specific rules of conduct in which they must:

1. take reasonable steps to ensure that the Group is effectively controlled
2. take reasonable steps to ensure that the Group complies with relevant regulatory requirements and standards
3. take reasonable steps to ensure that any delegated responsibilities are to the appropriate individual and that the delegated responsibilities are effectively discharged
4. disclose appropriately any information to the FCA or PRA, which they would reasonably expect to made aware of.

There are three key Board-level forums which review and monitor risk across the Group. These are: The Board itself, the Board Risk Committee and the Board Reputation Committee.

The Board

One of the Board's (Board of Directors of Barclays PLC) responsibilities is the approval of risk appetite (see page 102), which is the level of risk the Group chooses to take in pursuit of its business objectives. The Chief Risk Officer regularly presents a report to the Board summarising developments in the risk environment and performance trends in the key portfolios. The Board is also responsible for the Internal Control and Assurance Framework (Group Control Framework). It oversees the management of the most significant risks through regular review of risk exposures and related key controls. Executive management responsibilities relating to this are set out in the ERMF.

The Board Risk Committee (BRC)

The BRC monitors the Group's risk profile against the agreed financial appetite. Where actual performance differs from expectations, the actions being taken by management are reviewed to ensure that the BRC is comfortable with them. After each meeting, the Chair of the BRC prepares a report for the next meeting of the Board. All members are non-executive directors. The Group Finance Director (GFD) and the Chief Risk Officer (CRO) attend each meeting as a matter of course.

The BRC also considers the Group's risk appetite statement for operational risk and evaluates the Group's operational risk profile and operational risk monitoring.

The BRC receives regular and comprehensive reports on risk methodology, the effectiveness of the risk management framework, and the Group's risk profile, including the key issues affecting each business portfolio and forward risk trends. The Committee also commissions in-depth analyses of significant risk topics, which are presented by the CRO or senior risk managers in the businesses. The Chair of the Committee prepares a statement each year on its activities.

The Board Audit Committee (BAC)

The BAC receives regular reports on the effectiveness of internal control systems, quarterly reports on material control issues of significance, and quarterly papers on accounting judgements (including impairment). It also receives a half yearly review of the adequacy of impairment allowances, which it reviews relative to the risk inherent in the portfolios, the business environment, the Group's policies and methodologies and the performance trends of peer banks. The Chairman of the BAC also sits on the BRC.

The Board Reputation Committee (RepCo)

The RepCo reviews management's recommendations on conduct and reputational risk and the effectiveness of the processes by which the Group identifies and manages these risks. It also reviews and monitors the effectiveness of Barclays' Citizenship strategy, including the management of Barclays' economic, social and environmental contribution.

In addition, the Board Audit and Board Remuneration Committees receive regular risk reports to assist them in the undertaking of their duties.

The Board Remuneration Committee (RemCo)

The RemCo receives a detailed report on risk management performance from the BRC, regular updates on the risk profile and proposals for the ex-ante and ex-post risk adjustments to variable remuneration. These inputs are considered in the setting of performance incentives.

Summaries of the relevant business, professional and risk management experience of the Directors of the Board are presented in the Board of Directors section on pages 36 to 38 of the 2015 Annual Report. The terms of reference and additional details on membership and activities for each of the principal Board Committees are available from the Corporate Governance section at: home.barclays/corporategovernance.

The CRO is a member of the Executive Committee and has overall day-to-day accountability for risk management under delegated authority from the Chief Executive Officer (CEO). The CEO is accountable for proposing a risk appetite that underpins the strategic plan to the Board for approval, and the CRO is responsible for providing oversight, advice and challenge to the CEO, and preparing and recommending the Group's risk appetite to the CEO and the Board. Risk appetite therefore sets the 'tone from the top' and provides a basis for ongoing dialogue between management and Board level around the Group's current and evolving risk profile.

The CRO manages the independent risk function and chairs the Financial Risk Committee (FRC) and the Operational Risk Review Forum (ORRF), which monitor the Group's financial and non-financial risk profile relative to agreed risk appetite. Principal Risk Officers (PROs), reporting to the CRO and supported by Key Risk Officers (KROs) where appropriate, are responsible for establishing a Group-wide framework for oversight of the relevant risks and controls. Their teams liaise with each business as part of the monitoring and management processes.

In addition, each business has an embedded risk management function, headed by a Business Chief Risk Officer (BCRO). BCROs and their teams are responsible for assisting business heads in the identification and management of their business risk profiles and for implementing appropriate controls. These teams also assist Central Risk in the formulation of Group policies and their implementation across the businesses. The BCROs' report jointly to the CRO and to their respective business heads.

The Risk Executive Committee is responsible for the effectiveness and efficiency of risk management and embedding a strong risk culture, approval of the Group's risk governance framework, and agreement and endorsement of the overall infrastructure strategy for the risk function. It is also the senior decision making forum for the risk function, excluding matters relating to the risk profile. It is chaired by the CRO with a membership comprising senior risk management.

The CEO must consult the Chairman of the BRC in respect of the CRO's performance appraisal and compensation, as well as all appointments to or departures from the role.

The Group Treasurer heads the Group Treasury function and chairs the Treasury Committee which:

- manages the Group's liquidity, maturity transformation and structural interest rate exposure through the setting of policies and controls
- monitors the Group's liquidity and interest rate maturity mismatch
- monitors usage of regulatory and economic capital
- has oversight of the management of the Group's capital plan.

The Head of Compliance chairs the Conduct and Reputation Risk Committee (CRRC) which assesses the quality of the application of the Reputation and Conduct Risk Control Frameworks. It also recommends conduct risk appetite, sets policies to ensure consistent adherence to that appetite, and reviews known and emerging reputational and conduct related risks to consider if action is required.

Barclays' risk culture

In Barclays, risk culture refers to the combination of the individual and collective norms, values, attitudes and behaviours of all of employees, in relation their awareness of risk, and how they take and manage risk.

The taking of risk is a fundamental part of banking, and so for Barclays to be successful it must have good risk management practices underpinned by a strong risk culture. To ensure that this is achieved all colleagues are required to:

- understand that risk management is important in all of our activities
- have an awareness and sensitivity to the risk issues which could arise in their individual roles
- take risk issues and considerations fully into account, before taking decisions and acting
- have good practices on how they manage risk on an ongoing basis as appropriate:
  - recognise when they are taking risk
  - discuss and debate risks
  - take action to manage and mitigate risks
  - escalate risks where necessary
  - identify areas for improvement and learn from mistakes
  - seek to remediate and improve how we manage risk.
- Value and promote these habits, practices and behaviours.

There is a focus on four key areas that evidence a strong risk culture: tone from the top; accountability; effective communication and challenge; and incentives.

Tone from the top

Leaders should demonstrate through their everyday behaviours the importance of strong risk management and ensure that their teams have sufficient resource and capability to manage the risk environment.

Achieving good outcomes for customer and clients is central to colleagues' approach to managing risk and managers will ensure that their teams identify and resolve risk issues within agreed timeframes and learn from mistakes to avoid repeating them.

Reporting and control

Accountability
Barclays has implemented and operates a strong Risk Governance framework and ensures that colleagues understand the business processes, as well as the associated risks relevant to their role and the level of risk they can take, which is consistent with the Group's risk appetite.

Colleagues must actively manage risk, believe it is the right thing to do and take personal responsibility for risk management issues.

Effective Communication and Challenge
Barclays ensures that colleagues feel empowered and supported to raise issues and that those issues are then appropriately escalated, investigated and reported.

Incentives
The Group's desired risk management behaviours are supported by appropriate recruitment, performance, reward and promotion decisions. It also ensures that wrong behaviour is defined and that there are visible consequences to such actions.

Sustaining a sound risk culture

Barclays uses a variety of tools to sustain its risk culture including, for example, employee training, semi-annual performance reviews and adjustments to compensation. Employees are provided with regular role-specific mandatory quarterly training courses, which deliver training across the breadth of risk topics; with further optional training courses continuously available.

Semi-annual performance reviews include an assessment of risk and control performance, which is also considered as part of promotion decisions, particularly to Managing Director.

Risk performance is also measured (in the form of employee breaches and any involvement in other risk events) and taken into consideration for compensation purposes.

Risk Appetite and the 'Tone from the top'
Communicating and enforcing risk appetite in all businesses creates a common understanding and fosters debate around what types of risks are acceptable, and what levels of risk are appropriate at business and Group level.

To develop a consistently strong risk culture across the Group, clear statements have been communicated as to the Group risk appetite for all risk types. In particular, risk appetite:

- articulates the types and level of risk we are willing to take and why, to enable specific risk taking activities. It also specifies those risks the Group seeks to avoid and why, to constrain specific risk taking activities
- is embedded within key decision-making processes including business planning, mergers and acquisitions, new product approvals and business change initiatives
- provides a framework for performance management and disciplinary consequences in cases of breach
- is implemented under the direct leadership of the CEO, who is responsible for leading, managing and organising executive management to achieve execution of the strategy and business plans in line with risk appetite
- is owned by the Board.

Improvements to the approach in 2015 have delivered further embedment within the businesses, and improved alignment with stress testing. See risk appetite on page 102 for more information.

Supporting colleagues to manage risk – in the right way
By supporting colleagues to manage risk in the right way, the Group seeks to ensure that all risk managers share the Barclays' Values and to promote a common understanding of the role that risk management plays:

- risk management capability and ability to act in a risk aware manner forms part of the assessment process for all new employees and promotion candidates globally
- management of risk and control is assessed as part of the annual performance appraisal process for all colleagues globally. Positive risk management behaviours will be rewarded
- the "Being Barclays" global induction programme supports new colleagues in understanding how risk management culture and practices support how the Group does business and the link to the Barclays' values
- leadership master classes cover the building, sustaining and supporting a trustworthy organisation and are offered to colleagues globally.

Learning from our mistakes
Learning from mistakes is central to the Group's culture and values, demonstrating a commitment to excellence, service and stewardship and taking accountability for failure as well as success. The Group seeks to learn lessons on a continuous basis to support achievement of strategic objectives; operational excellence and to meet commitments to stakeholders, including colleagues, customers, shareholders and regulators.

Barclays has implemented a Group Lessons Learnt Standard as part of the ERMF, setting out requirements for completing Lessons Learnt Assessments in response to significant events. The approach to Lessons Learnt builds on the process established for operational risk in 2012 and fulfils the Group's Salz commitments by ensuring a consistent and effective approach applicable to all Principal Risks. The approach is directly aligned to the three lines of defence model (see below), with businesses and functions accountable for undertaking lessons learnt assessments; Principal and Key Risk Officers providing input, oversight and challenge; with independent review by internal audit.

Core components of the Lessons Learnt approach include:

- defined triggers for when lessons learnt assessments must be completed
- requirements and guidance for root cause analysis to identify the causes of events within the Group
- templates to ensure conclusions are reported consistently throughout management committees
- a central system to record completed lessons learnt assessments and to facilitate sharing across the Group.

Since its launch at the end of 2014, Lessons Learnt approach continues to evolve and an enhanced approach will be launched in 2016.

Risk governance and assigning responsibilities
Responsibility for risk management resides at all levels of the Group, from the Board and the Executive Committee down through the organisation to each business manager and risk specialist. These responsibilities are distributed so that risk/return decisions are taken at the most appropriate level, as close as possible to the business, and are subject to robust and effective review and challenge. Responsibility for effective review and challenges resides at all levels.

The ERMF articulates a clear, consistent, comprehensive and effective approach for the management of all risks within the Group and creates the context for setting standards and establishing the right practices throughout the Group. The ERMF sets out a philosophy and approach that is applicable to the whole bank, all colleagues and to all types of risk. It sets out the key activities required for all employees to operate Barclays' risk and control environment with specific requirements for key individuals, including the CRO and CEO, and the overall governance framework designed to support its effective operation. See risk culture on page 99 for more information.

The ERMF supports risk management and control by ensuring that there is a:

- sustainable and consistent implementation of the three lines of defence across all businesses and functions
- clear segregation of activities and duties performed by colleagues across the Group
- framework for the management of Principal Risks
- consistent application of Barclays' risk appetite across all Principal Risks
- clear and simple policy hierarchy.

Three lines of defence

The enterprise risk management process is the 'defence' and organising businesses and functions into three 'lines' enhances the E-R-M process by formalising independence and challenge, while still promoting collaboration and the flow of information between all areas. The three lines of defence operating model enables the Group to separate risk management activities:

First line: manage operational and business processes; design, implement, operate, test and remediate controls

First line activities are characterised by:

- ownership of and direct responsibility for the Group's returns or elements of its results
- ownership of major operations, systems and processes fundamental to the operation of the bank
- direct linkage of objective setting, performance assessment and reward to profit and loss performance.

With respect to risk management the first line responsibilities include:

- taking primary accountability for risk identification, ownership, management and control (including performance of portfolios, trading positions, operational risks etc.) within approved mandate, as documented under the Key Risk Control Frameworks, including embedding a supportive risk culture
- collaborating with second line on implementing and improving risk management processes and controls
- monitoring the effectiveness of risk controls and the risk profile compared to the approved risk appetite
- maintaining an effective control environment across all risks, processes and operations arising from the business, including implementing standards to meet Group policies.

Second Line: oversee and challenge the first line and provide second line risk management activity.

Second line activities are characterised by:

- oversight, monitoring and challenge of the first line of defence activities
- design, ownership or operation of Key Risk Control Frameworks impacting the activities of the first line of defence
- operation of certain second line risk management activities (e.g. financial rescue of a firm)
- no direct linkage of objective setting, performance assessment and reward to revenue (measures related to mitigation of losses and balancing risk and reward are permissible).

With respect to risk management the second line of defence responsibilities include:

- defining the ERMF
- establishing the policy architecture for the Key Risks, including Key Risk Control Frameworks, policies, and standards
- defining delegated discretions and setting limits within the control frameworks to empower risk taking by the first line
- assisting in setting the direction of the portfolio to achieve performance against risk appetite
- may define and operate approval processes for certain decisions within the second line to protect the Group from material risks
- communicating, educating and advising the first line on their understanding of the risk framework and its requirements
- collaborating with the first line to support business growth and drive an appropriate balance between risk and reward without diminishing the independence from the first line
- reporting on the effectiveness of the risk and control environment to executive management and Board committees.

Third line: provide assurance that the E-R-M process is fit for purpose, and that it is being carried out as intended

Third line activities are characterised by:

- providing independent and timely assurance to the Board and Executive Management over the effectiveness of governance, risk management and control.

With respect to risk management the third line of defence responsibilities include:

- assessing the effectiveness of risk management and risk mitigation in the context of the current and expected business environment
- acting independently and objectively.

Following the annual review, in 2016, we have further refined the three lines of defence model by clarifying that responsibilities for risk management and control are defined in relation to the activities individuals undertake as part of their role. The three key activities are: 'Setting Policy and Conformance' (second line); 'Managing Operational or Business Process' (first and second line); and 'Providing Independent Assurance' (third line). Second and third line activities have not changed, however we have emphasised the key responsibilities of the first line, which includes colleagues' responsibility for understanding and owning the process end to end, and designing, operating, testing and remediating appropriate controls to manage those risks. Performed appropriately and by all colleagues, together these responsibilities will drive a stronger risk and control environment at Barclays, benefitting our customers, clients, shareholders and regulators.

Principal and Key Risks

Principal Risks comprise individual Key Risks to allow for more granular analysis. As at 31 December 2015, the five Principal Risks were: i) Credit; ii) Market; iii) Funding; iv) Operational; and v) Conduct. Since the beginning of 2015, Reputation Risk has been recognised as a Key Risk within Conduct Risk given their close alignment and the fact that as separate Principal Risks they had a common Principal Risk Officer.

Risk management responsibilities for Principal and Key Risks are set out in the ERMF. The ERMF creates clear ownership and accountability; ensures the Group's most significant risk exposures are understood and managed in accordance with agreed risk appetite and risk tolerances; and ensures regular reporting of risk exposures and control effectiveness.

For each Key Risk, the Key Risk Officer is responsible for developing a risk appetite statement and overseeing and managing the risk in line with the ERMF. This includes the documentation, communication and maintenance of a Key Risk Control Framework which sets out, for every business across the firm, the mandated control requirements in managing exposures to that Key Risk. These control requirements are given further specification, according to the business or risk type, to provide a complete and appropriate system of internal control.

Business and Function Heads are responsible for obtaining ongoing assurance that the key controls they have put in place to manage the risks to their business objectives are operating effectively. Reviews are undertaken on a six-monthly basis and support the regulatory requirement for the Group to make an annual statement about its system of internal controls. At the business level executive management holds specific Business Risk Oversight Meetings to monitor all Principal Risks.

Key Risk Officers report their assessments of the risk exposure and control effectiveness to Group-level oversight committees and their assessments form the basis of the reports that go to the:

Board Risk Committee:

- Financial Risk Committee has oversight of Credit and Market Risks
- Treasury Committee has oversight of Funding Risk
- Operational Risk Review Forum has oversight of the risk profile of all Operational Risk types.

Board Reputation Committee:

- Conduct and Reputation Risk Committee has oversight of Conduct and Reputation Risks.

Assurance

Assurance is undertaken to assess the control environment and to independently assess the ERMF, which includes testing specific elements of the control environment documented in standards and checking that control testing activities are reliable, to provide confidence to the Board in the risk and control framework.

The Credit Risk Review Group (CRRG) provides an independent review and monitoring of the quality and condition of all the wholesale loan and derivative portfolios through a review of the overall credit sanctioning process. CRRG has a mandate from the CRO and has direct access to the CRO and to the BRC.

Internal Audit is responsible for the independent review of risk management and the control environment. Its objective is to provide reliable, valued and timely assurance to the Board and executive management over the effectiveness of controls, mitigating current and evolving material risks and thus enhancing the control culture within the Group. The BAC reviews and approves Internal Audit's plans and resources, and evaluates the effectiveness of Internal Audit. An assessment by independent external advisers is also carried out periodically.

Effectiveness of risk management arrangements
The embedding of the ERMF is monitored by executive and board committees as described above. The ERMF and its component key risks are subject to control testing assurance reviews to confirm its effectiveness or identify issues to be mitigated. Management and the Board are satisfied that these arrangements are appropriate given the risk profile of the Group.

Management of model risk

Model risk is the risk of suffering adverse consequences from decisions based on incorrect or misused model outputs and reports. Management of model risk is an important area of focus for the Group.

Model risk is inherent in each of the Key Risks where models are used for measurement or management and is, therefore, managed as part of each individual key risk control framework and supported by the Group Model Risk Policy (GMRP) and relevant standards.

Model risk is managed by a number of activities, including:

- ensuring that models are identified as per the GMRP definition, across businesses and recorded in the Group Models Database (GMD), the Group-wide model inventory
- ensuring that every model has a model owner who is accountable for the model, and drives the development/maintenance of the model by a qualified model developer
- ensuring that every model is subject to technical validation by the Independent Validation Unit (IVU) as required by GMRP
- ensuring that every model is approved by appropriately senior and knowledgeable risk individuals in the organisation, following IVU validation
- periodic model risk reporting to the senior management and the Board
- Internal Audit provides independent challenge of model risk management through business line and thematic audits.

The Executive Models Committee (EMC) fulfils the specific requirement of approving the Group's most material (A*/High and Complex) models; the EMC decisions are based on business reviews and the associated IVU validations for these models. EMC is chaired by the accountable Risk ExCo member and has among its members the Deputy Group Finance Director and the Chief Risk Officer.

Group-wide risk management tools

To support the Group-wide management of risks, the Board uses risk appetite and stress testing as key inputs in the setting of the Group's strategy.

Risk Appetite
Risk appetite is defined as the level of risk that the Group is prepared to accept while pursuing its business strategy, recognising a range of possible outcomes as business plans are implemented.

Risk appetite sets the 'tone from the top' and provides a basis for ongoing dialogue between management and Board with respect to the Group's current and evolving risk profile, allowing strategic and financial decisions to be made on an informed basis.

The Risk Appetite Framework is intended to achieve the following objectives:

- describe agreed parameters for Group performance under various stress levels, for example:
  - Profitability, loss and return metric
  - Capital levels, CET1 ratio
- consider all Principal and Key Risks both individually and, where appropriate, in aggregate
- assess and communicate the acceptable level of risk for each risk types; this may be expressed in financial or non-financial terms, but must enable measurement and effective monitoring
- articulate the risks the Group is willing to take and why to enable specific risk taking activities; and articulate those risks to avoid and why to constrain specific risk taking activities
- be embedded in key decision-making processes including mergers and acquisitions, new product approvals and business change initiatives
- monitor throughout the year and respond as appropriate.

The risk appetite for financial risks is set by the Board on the basis of severe stress tests as it is during periods of macro-economic stress that losses materialise. In order to articulate the risk appetite for the firm, the Board first defines the deterioration in the firm's performance it is willing to accept under stressed macroeconomic conditions. The acceptable deterioration is defined through a range of financial performance and capital metrics, which are reviewed by the Board on an annual basis. Barclays have moved to a scenario-based Stress Testing approach from the previous modelled approach of 1 in 7 and 1 in 25 risk events. The new approach continues to assess scenarios under stress conditions. For 2016 these are summarised in the following table.

Measure relevant to strategy and risk	Link between strategy and risk profile
Profit before tax, Return on equity, Return on RWAs	Fundamental economic and business indicators of the performance of the Bank and underpin the firm's capacity to make capital distributions.
Common Equity Tier 1 and leverage ratios	Monitor capital adequacy in relation to capital plan and targets.
Loan loss rate (LLR)	Describes the credit risk profile and whether impairment is within appetite.
Return on equity (RoE), Return on regulatory capital	Risk-return based performance metrics which allow strategic and financial decisions to be made on an informed basis.

Barclays' approach to managing risks

Risk management strategy, governance and risk culture

Barclays businesses run the stress test(s) as a fully integrated part of the annual Medium Term Planning (MTP) process, to ensure that the risk appetite business demand is based on the businesses' most recent strategic plans. The deterioration of financial performance as a result of the stress test is subsequently compared to the tolerances agreed by the Board. Subsequently the risk appetite is allocated back to individual businesses and utilisation is monitored on a quarterly basis. This approach ensures that businesses' risk appetite proposals are based on their latest strategic plans and allows the Board to allocate risk appetite such that it fully supports the firm's chosen strategy within acceptable boundaries of risk taking.

Mandate and scale

Mandate and scale is a risk management approach that seeks to formally review and control business activities to ensure that they are within mandate (i.e. aligned with expectations), and are of an appropriate scale (relative to the risk and reward of the underlying activities) based on an extensive system of limits. Using limits and triggers helps mitigate the risk of concentrations which would be out of line with expectations, and which may lead to unexpected losses of a scale that would be detrimental to the stability of the relevant business line or the Group.

For example, for commercial property finance and construction portfolios, there is a comprehensive series of limits in place to control exposure within each business and geographic sector. To ensure that limits are aligned to the underlying risk characteristics, the mandate and scale limits differentiate between types of exposure. There are, for example, individual limits for property investment and property development.

The mandate and scale framework is used to:

- limit concentration risk
- keep business activities within Group and individual business mandate
- ensure activities remain of an appropriate scale relative to the underlying risk and reward
- ensure risk-taking is supported by appropriate expertise and capabilities.

As well as Group-level mandate and scale limits, further limits are set by risk managers within each business, covering particular portfolios. Unapproved excesses of limits will result in performance management and disciplinary consequences.

Stress testing

Group-wide stress tests are an integral part of the MTP process and annual review of risk appetite. They aim to ensure that the Group's financial position and risk profile provide sufficient resilience to withstand the impact of severe economic stress. The Group-wide stress testing process is supported by a Capital Stress Testing Standard which sets out the minimum control requirements and defines clear roles and responsibilities across businesses and central functions. The diagram below outlines the key steps in the Group-wide stress testing process.

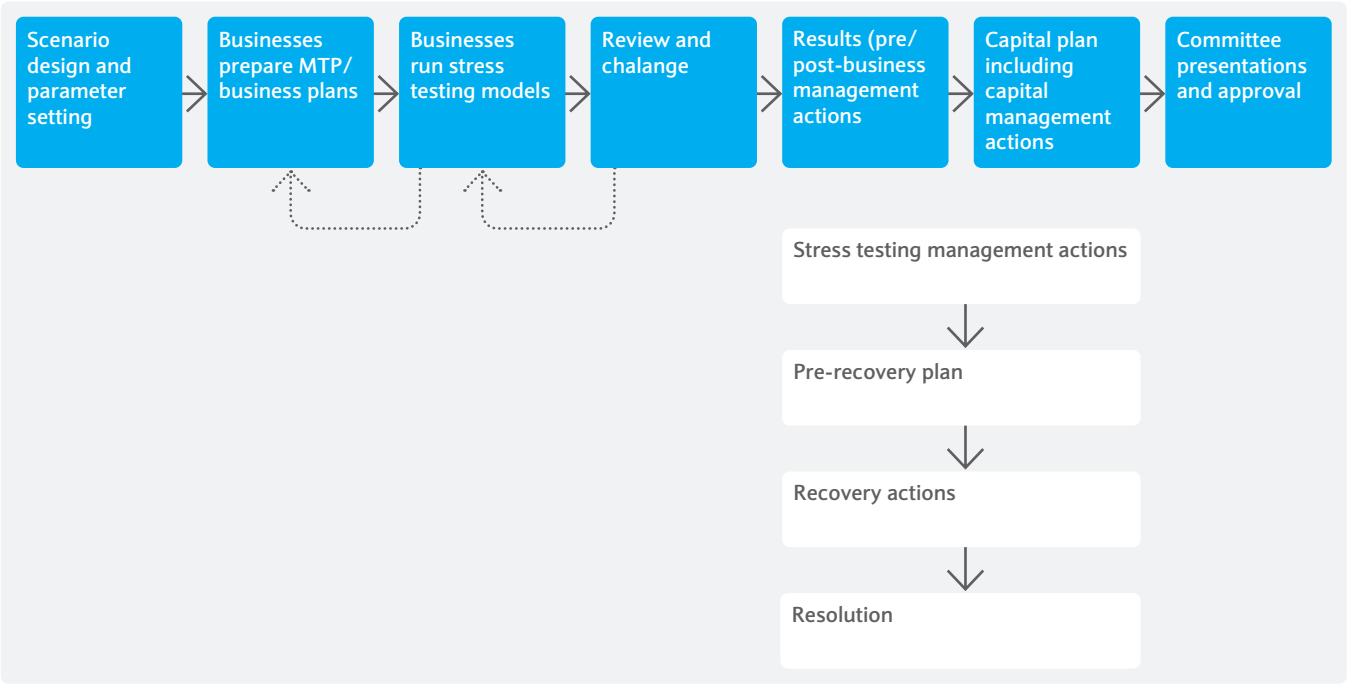
The Group-wide stress testing process begins with a detailed scenario setting process, with the FRC and BRC agreeing the range of scenarios to be tested. The scenarios are designed to be severe but plausible, and relevant to the business. A wide range of macroeconomic parameters are defined (such as GDP, unemployment, house prices, FX and interest rates), which allows the impact of the scenarios across the wide range of products and portfolios to be assessed across the Group.

Businesses prepare detailed MTP business plans which form the baseline for the stress test assessment. The stress test process is detailed and comprehensive, using bottom-up analysis across the businesses including both on- and off-balance sheet positions, and combines running statistical models with expert judgement. An overview of the stress testing approach by Principal Risk is provided in the table below. As part of their stress test assessments, businesses are also required to identify potential management actions that could be taken to mitigate the impact of stress and document these within their results.

There is robust governance in place with detailed review of stress testing methodology and results both within businesses (including sign-off by BCROs and BCFOs) and by central functions.

The businesses stress test results are consolidated to form a Group view which is used for tax analysis and by Group Treasury to assess the stress impact on the Group's capital plans. For the latter, capital management actions such as reducing dividends or redeeming certain capital instruments may be considered. The Group also maintains recovery plans which take into consideration actions to facilitate recovery from severe stress or an orderly resolution. These actions are additional to those included in the Group-wide stress testing results.

The overall stress testing results of the Group are presented for review and approval by the FRC and BRC, and are also shared with the Treasury Committee and included as part of the review and sign-off of the MTP by the Board.



Summary of methodologies for Group-wide stress testing by risk type:

Principal Risk	Stress testing approach
Credit risk	▪ **Credit risk impairment:** For retail portfolios businesses use regression models to establish a relationship between arrears movements and key macroeconomic parameters such as interest rates and unemployment, incorporating roll-rate analysis to estimate stressed levels of arrears by portfolio. In addition, combination of house price reductions and increased customer drawdowns for revolving facilities leads to higher LGD which also contributes to increased impairment levels. For wholesale portfolios the stress shocks on credit risk drivers (PDs, LGDs and EADs) are primarily calibrated using historical and expected relationships with key macro-economic parameters such as GDP, inflation and interest rates. ▪ **Counterparty credit risk losses:** The scenarios include market risk shocks that are applied to determine the market value under stress of contracts that give rise to Counterparty Credit Risk (CCR). Counterparty losses, including from changes to the Credit Valuation Adjustment and from defaults, are modelled based on the impact of these shocks as well as using stressed credit risk drivers (PDs and LGDs). The same approach is used to stress the market value of assets held as available for sale or at fair value in the banking book. ▪ **Credit risk weighted assets:** The impact of the scenarios is calculated via a combination of business volumes and using similar factors to impairment drivers above, as well as the regulatory calculation and the level of pro-cyclicality of underlying regulatory credit risk models.
Market risk	▪ **Trading book losses:** All market risk factors on the balance sheet are stressed using specific market risk shocks (and are used for the CCR analysis, above). The severity of the shocks applied are dependent on the liquidity of the market under stress, e.g. illiquid positions are assumed to have a longer holding period than positions in liquid markets. ▪ **Pension fund:** The funding position of pension funds are stressed, taking into account key economic drivers impacting future obligations (e.g. long-term inflation and interest rates) and the impact of the scenarios on the value of fund assets.
Funding risk	▪ The risk of a mismatch between assets and liabilities, leading to funding difficulties, is assessed. Businesses apply scenario variables to forecasts of customer loans and advances and deposits levels, taking into account management actions to mitigate the impact of the stress which may impact business volumes. The Group funding requirement under stress is then estimated and takes into account lower availability of funds in the market. ▪ The analysis of funding risk also contributes to the estimate of stressed income and costs: – Stress impact on non-interest income is primarily driven by lower projected business volumes and hence lower income from fees and commissions – Impact on net interest income is driven by stressed margins, which depend on the level of interest rates under stress as well as funding costs, and on stressed balance sheet volumes. This can be partly mitigated by management actions that may include repricing of variable rate products, taking into account interbank lending rates under stress – The impact on costs is mainly driven by business volumes and management actions to partly offset profit reductions (due to impairment increases and decreases in income) such as headcount reductions and lower performance costs.
Operational risk, and Conduct risk	▪ These Principal Risks are generally not impacted as they are not directly linked to the economic scenario. Note that operational risk, however, is included as part of the reverse stress testing framework that incorporates assessment of idiosyncratic operational risk events.

The role of stress testing as input to businesses' plans and setting of strategy is described in more detail in the section below. The results also feed into our internal capital adequacy assessment process (ICAAP) submission to the Prudential Regulation Authority (PRA).

In 2015, the internal Group-wide stress testing exercise was run as part of the MTP process, where the Group assessed the impact of an "Adverse" global recession scenario. This was used for the MTP Risk Review and risk appetite setting process.

Regulatory stress testing

In addition to running internal Group-wide stress tests, the Group also runs regulatory stress tests.

Additionally in 2015, the PRA ran its annual concurrent stress testing of the major UK banks, which was based on the Bank of England (BoE) stress scenario. The results of the stress test were published in December 2015, and support the BoE's aim for increased transparency as part of its stress testing framework.

In 2016, the European Banking Authority will run a stress test across the major EU banks. This will be run in addition to the annual BoE stress test.

Reverse stress testing

The Group-wide stress testing framework also includes reverse stress testing techniques which aim to identify the circumstances under which the Group's business model would no longer be viable, leading to a significant change in business strategy and to identify appropriate mitigating actions. Examples include extreme macroeconomic downturn scenarios (for example in 2015 Barclays ran a 'Severely Adverse' global recession scenario), or specific idiosyncratic events, covering both operational risk and capital/liquidity events.

Reverse stress testing is used to help support ongoing risk management and is an input to our Recovery Planning process.

Business and risk type specific stress tests

Stress testing techniques at portfolio and product level are also used to support risk management. For example, portfolio management in the US cards business employs stressed assumptions of loss rates to determine profitability hurdles for new accounts. In the UK mortgage business, affordability thresholds incorporate stressed estimates of interest rates. In the Investment Bank, global scenario testing is used to gauge potential losses that could arise in conditions of a severe but plausible market stress. Stress testing is also conducted on positions in particular asset classes, including interest rates, commodities, equities, credit and foreign exchange.

Risk management in the setting of strategy

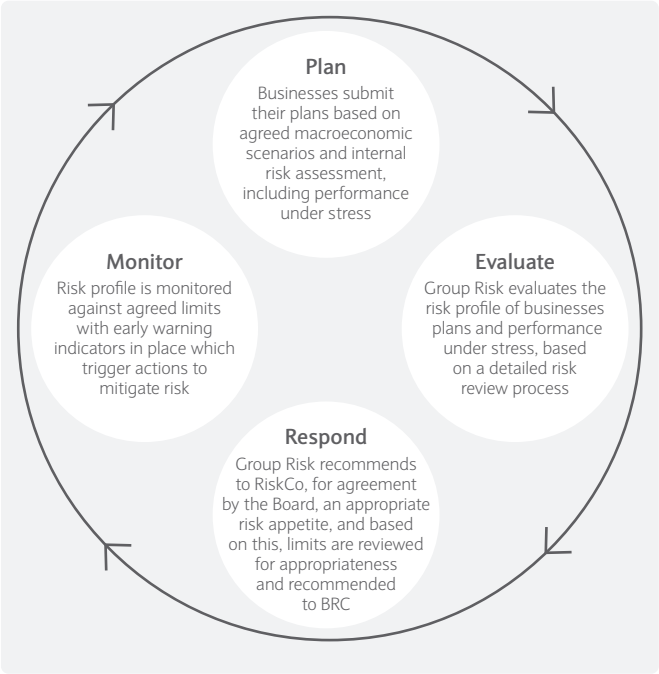
The planning cycle is centred on the MTP process, performed annually. This embeds the Group's objectives into detailed business plans which take into account the likely business and macroeconomic environment. The strategy is informed by a detailed risk assessment of the plans, which includes reviewing the Group's risk profile and setting of risk appetite. The BRC has overall responsibility for reviewing the Group's risk profile and making appropriate recommendations to the Board. The Board is ultimately responsible for approving the MTP and the Group's risk appetite.

The planning cycle is summarised in the diagram opposite, and shows that the detailed risk assessment of the plans is an integral part of the MTP process. In particular, the risk appetite process ensures that senior management and the Board understand the MTP's sensitivities to key risk types, and includes a set of limits to ensure the Group stays within appetite. Additionally, stress testing informs management about the impact to the business of adverse macroeconomic scenarios and potential management actions that could be taken to mitigate the impact of stress.

Plan

Businesses prepare detailed business plans as part of the MTP process. A key component of this process is the businesses' internal risk assessment, which combines running statistical models e.g. to calculate forecast impairments over the period of the plan, and risk subject matter expert judgement. The risk teams work closely with other functions within their businesses to inform the business plans.

The planning cycle



Businesses are required to assess each of their portfolios and all Principal Risks (as relevant to their business) when preparing their business plans, and prepare detailed documentation, providing key risk metrics such as projected loan loss rate (LLR) by portfolio. As part of their internal risk assessment, businesses provide performance of their business plans under expected and stressed macroeconomic scenarios, which defines the proposed risk appetite reflected in their plans and feeds into the setting of risk appetite for the Group.

Additionally, businesses assess the performance of their business plans under stress, based on 'severe, but plausible' macroeconomic scenarios provided by risk in collaboration with business economists and agreed with the BRC at the start of the process. As part of their stress test assessment, businesses are required to identify and document management actions that would be taken to mitigate the impact of stress, such as cost reductions and increased collections activity to reduce impairments.

Within the businesses, there is detailed risk review of the business plans, involving senior risk managers, with BCROs required to sign off on the risk profile of the plans, including the risk appetite and stress testing assessments described above. The results of businesses' internal risk assessment and corresponding detailed documentation forms the basis for discussion for the risk review process and setting of risk appetite for the Group, outlined below.

Evaluate

Following submissions by businesses of their MTP business plans, there is a detailed review process led by the central risk team. This includes a robust review and challenge of business' plans to ensure that the financial projections are internally consistent, value creating, achievable given risk management capabilities (e.g. supported by appropriate risk infrastructure) and that they present a suitable balance between risk and reward. The risk review process is informed by the detailed documentation provided by businesses, which forms the basis for discussion. The format and content of the documentation is pre-agreed to ensure sufficient information is provided to allow a detailed and comprehensive risk review.

The risk review process includes a review of the proposed risk appetite by the business, including assessment of business plans under stress which is used to inform the MTP. If the businesses' plans entail too high a level of risk, management will challenge the businesses' plans. This assessment is based on a comparison of businesses' own risk appetite assessment reflected in their business plans ('bottom-up' risk appetite) with the central risk team's view ('top-down' risk appetite) based on the

financial constraints set by the Board for the Group. Businesses may be asked to update their business plans to ensure the bottom-up risk appetite is within top-down appetite. There is also a detailed review of the stressed estimates and methodology used to translate the economic scenario to stressed estimates, as well as the management actions included in businesses' results to ensure that these are appropriate and realistic in a stressed environment.

Risk review meetings are held with the CRO and each business, where the senior management of the business present their business plans and the findings from the risk reviews are discussed, including the risk appetite proposals and stress testing results. Businesses may be required to change their business plans as a result of these meetings.

Respond

Following detailed risk review of businesses plans, the central risk team will recommend to the BRC for approval by the Board an appropriate risk appetite for the Group, taking into account businesses' stress testing results. Mandate and Scale limits are also set. Based on the agreed risk appetite, limits are reviewed for appropriateness by the central risk team, as outlined below, and recommended to the BRC.

Risk Appetite

The Group level loss appetite limit across principal financial risks is set by the Board as part of the annual setting of risk appetite. The allocation is consistent with the annual MTP risk review of the business strategy under stress.

Mandate and scale

Mandate and scale limits are set at Group or business level.

- Group limits are approved by the appropriate risk committee (e.g. Wholesale Credit Risk Management Committee) and are subject to additional escalation and governance requirements.
- Business limits are approved by the relevant business risk team and reportable to the relevant risk committee.

Limits reflect the nature of the risk being managed and controlled and are measured by total financing limits, LGD, stress loss or other metrics as appropriate. There is explicit identification of the exposures that are captured by limits and any material exclusion must be agreed. Limits are reviewed at least annually. The factors taken into consideration when setting the limit will include:

- Group Risk Appetite
- current exposure / MTP forecasts
- risk return considerations
- senior risk management judgement.

Mandate and scale limits are split between three types:

- **caps:** Hard limit, set to limit concentration to a live portfolio or risk
- **run off ceilings:** Set to monitor legacy positions being managed down over time
- **triggers for discussion:** Threshold set as trigger for follow up/ investigation.

Monitor

Risk Appetite

The loss appetite allocation to businesses is tracked using an agreed and repeatable monitoring measure. The percentage utilisation of appetite is a risk metric that is part of the business Balanced Scorecard. Appetite utilisation is reported to the BRC on a quarterly basis. Breaches must be approved and remedial actions mandated.

Mandate and scale

The limit excess process includes the following key points:

- businesses must have adequate processes in place to monitor limit caps to avoid excesses
- all excesses must be reported to the central risk team within 24 hours
- credit applications that would cause or increase an excess can only be approved once the limit cap is increased
- a remediation plan must be put in place.

A limit breach will have occurred if a limit goes into excess without being authorised by the relevant authority; or where the limit excess process is not adhered to unless the policy or terms of the limit allows for temporary excess.

Stress testing

Stress testing is also used as part of the risk monitoring framework. For example, the stress testing results inform the retail early warning indicator framework which is designed to trigger actions that would be taken to mitigate the impact of stress.

Barclays' approach to managing risks

Management of credit risk and the Internal Ratings-Based Approach

This section discusses the organisation specific to the management of credit risks, and provides details of the calculation of risk weighted assets under the Internal Ratings-Based approach of the Basel framework.

- Pages 108 to 116 cover the aspects of the Group's risk management framework specific to credit risk, including committees and the Group reporting structure
- As 64% of our regulatory capital is for credit risk, we devote pages 116 to 123 to detailing how we approach the internal ratings models, and how the framework supports risk differentiation and management.

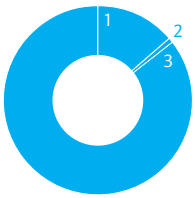
Barclays' approach to managing risks

Management of credit risk and the Internal Ratings-Based Approach

Credit risk management

The risk of suffering financial loss should any of the Group's customers, clients or market counterparties fail to fulfil their contractual obligations to the Group.

Total credit impairment charge and other provisions – Dec 15 (£2,114m)



	2015
1 Wholesale Loans & Advances	£290m
2 AFS and Reverse Repos	£16m
3 Retail Loans and Advances	£1,808m

Note
Wholesale and Retail Loans and Advances include charges against contingent liabilities and guarantees.

Overview

The granting of credit is one of the Group's major sources of income and, as a Principal Risk, the Group dedicates considerable resources to its control. The credit risk that the Group faces arises mainly from wholesale and retail loans and advances together with the counterparty credit risk arising from derivative contracts with clients. This is demonstrated by the impairment charge analysis chart. Other sources of credit risk arise from trading activities, including: debt securities, settlement balances with market counterparties, available for sale (AFS) assets and reverse repurchase agreements (reverse repos).

Credit risk management objectives are to:

- maintain a framework of controls to ensure credit risk taking is based on sound credit risk management principles
- identify, assess and measure credit risk clearly and accurately across the Group and within each separate business, from the level of individual facilities up to the total portfolio
- control and plan credit risk taking in line with external stakeholder expectations and avoiding undesirable concentrations
- monitor credit risk and adherence to agreed controls
- ensure that risk-reward objectives are met.

Organisation and structure

Board Risk Committee

Financial Risk Committee

- monitors risk profile with respect to financial risk appetite
- debates and agrees actions on the financial risk profile and risk strategy across the Group
- considers issues escalated by Risk Type Heads and Business Risk Directors

Wholesale Credit Risk Management Committee

- monitors the wholesale credit risk profile against plan and agrees any required actions
- reviews and challenges the profile of wholesale credit risk
- considers potential developing wholesale credit risk issues
- monitors risk appetite consumption

Retail Credit Risk Committee

- monitors the retail credit risk profile against plan and agrees any required actions
- reviews impairment performance and coverage ratios
- reviews key retail risk issues, model methodologies and coverage
- reviews retail credit risk policies and framework
- monitors risk appetite consumption

Wholesale and retail portfolios are managed separately to reflect the differing nature of the assets; wholesale balances tend to be larger and are managed on an individual basis, while retail balances are larger in number but smaller in value and are, therefore, managed on a homogenous portfolio basis.

Credit risk management responsibilities have been structured so that decisions are taken as close as possible to the business, while ensuring robust review and challenge of performance, risk infrastructure and strategic plans. The credit risk management teams in each business are accountable to the relevant BCRO who, in turn, reports to the CRO.

Roles and responsibilities

The responsibilities of the credit risk management teams in the businesses, the sanctioning team and other shared services include: sanctioning new credit agreements (principally wholesale); setting policies for approval of transactions (principally retail); monitoring risk against limits and other parameters; maintaining robust processes, data gathering, quality, storage and reporting methods for effective credit risk management; performing effective turnaround and workout scenarios for wholesale portfolios via dedicated restructuring and recoveries teams; maintaining robust collections and recovery processes/units for retail portfolios; and review and validation of credit risk measurement models.

For wholesale portfolios, credit risk approval is undertaken by experienced credit risk professionals operating within a clearly defined delegated authority framework, with only the most senior credit officers entrusted with the higher levels of delegated authority. The largest credit exposures, which are outside the Risk Sanctioning Unit or Risk Distribution Committee authority, require the support of the Group Senior Credit Officer (GSCO), the Group's most senior credit risk sanctioner. For exposures in excess of the GSCO authority, approval by Group CRO is required. In the wholesale portfolios, credit risk managers are organised in sanctioning teams by geography, industry and/or product.

The role of the Central Risk function is to provide Group-wide direction, oversight and challenge of credit risk-taking. Central Risk sets the Credit Risk Control Framework, which provides the structure within which credit risk is managed, together with supporting credit risk policies.

Reporting

The Group dedicates considerable resources to gaining a clear and accurate understanding of credit risk across the business and ensuring that its balance sheet correctly reflects the value of the assets in accordance with applicable accounting principles. This process can be summarised in five broad stages:

- measuring exposures and concentrations
- monitoring performance and asset quality
- monitoring for weaknesses in portfolios
- raising allowances for impairment and other credit provisions
- returning assets to a performing status or writing off assets when the whole or part of a debt is considered irrecoverable.

Measuring exposures and concentrations

Loans and advances to customers provide the principal source of credit risk to the Group although it is also exposed to other forms of credit risk through, for example, loans and advances to banks, loan commitments and debt securities. Risk management policies and processes are designed to identify and analyse risk, to set appropriate risk appetite, limits and controls, and to monitor the risks and adherence to limits by means of reliable and timely data.

One area of particular review is concentration risk. A concentration of credit risk exists when a number of counterparties or customers are engaged in similar activities or geographies, and have similar economic characteristics that would cause their ability to meet contractual obligations to be similarly affected by changes in economic and other conditions. As a result, the Group constantly reviews its concentration in a number of areas including, for example, geography, maturity and industry.

Mandate and scale limits are used to maintain concentrations at appropriate levels, which are aligned with the businesses' stated risk appetite. Limits are typically based on the nature of the lending and the amount of the portfolio meeting certain standards of underwriting criteria. Diversification, to reduce concentration risk, is achieved through setting maximum exposure guidelines to individual counterparties. Excesses are reported to the BRC.

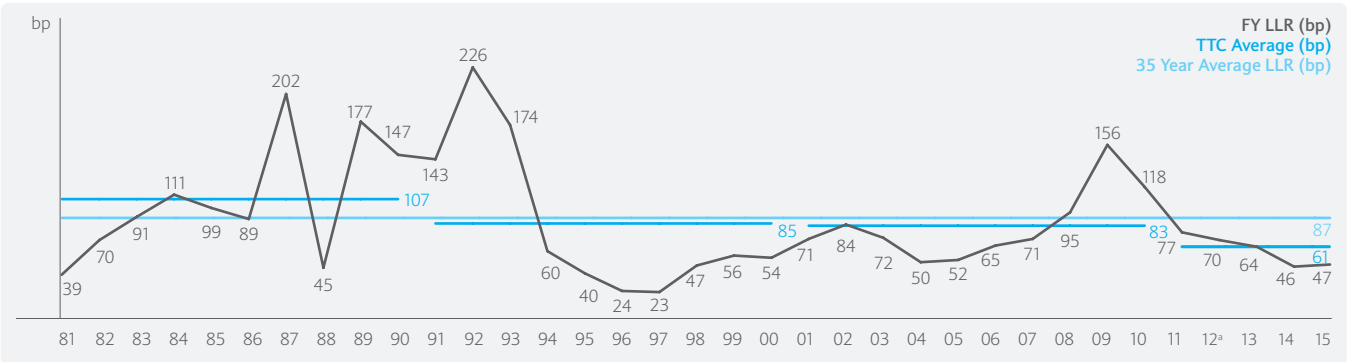
Monitoring performance and asset quality

Trends in the quality of the Group's loan portfolio are monitored in a number of ways including tracking loan loss rate and coverage ratios.

Loan loss rate

The loan loss rate (LLR) provides a way of consistently monitoring trends in loan portfolio quality at the Group, business and product levels. The LLR represents the annualised impairment charges on loans and advances to customers and banks and other credit provisions as a percentage of the total, period-end loans and advances to customers and banks, gross of impairment allowances. Details of the LLR for the current period may be found in the Credit Risk Performance section in the 2015 Annual Report.

Loan loss rate (bps) – Longer-term trends



From a full year peak of 156bps at 31 December 2009, the LLR has been on an improving trend. By the end of 2011, the LLR of 77bps had returned to pre-crisis levels and was lower than the long-term average. The LLR fell from 2012 to 2014 and remained at a low level in 2015 at 47bps.

Coverage ratios

The impairment allowance is the aggregate of the identified and unidentified impairment (UI) balances. Impairment allowance coverage, or the coverage ratio, is reported at two levels:

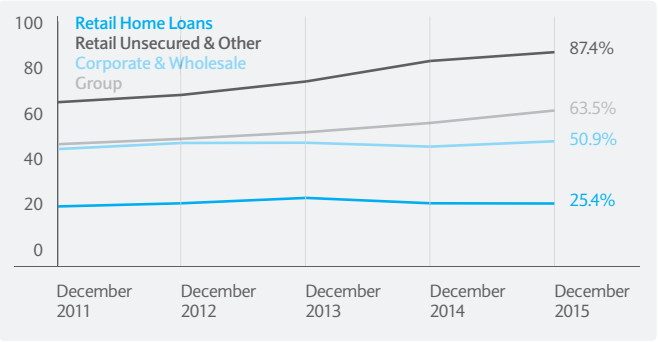
- credit risk loans (CRLs) coverage ratio, calculated as impairment allowances as a percentage of CRL balances
- potential credit risk loans coverage ratio (impairment allowances as a percentage of total CRL and Potential Problem Loan balances).

See identifying potential credit risk loans on page 112 for more information for the criteria for these categories.

Note

a Restated to reflect the impact of IFRS10, which results in some former Exit Quadrant exposures being recorded at fair value from 2012 onwards

CRL coverage



Note
Some Non-Core exposures are not reported as CRLs following the introduction of IFRS10, which accounts for these balances at fair value

Appropriate coverage ratios will vary according to the type of product but can be broadly shown to have typical severity rates based upon historic analysis:

- secured retail home loans: 10%-25%
- credit cards, unsecured and other personal lending products: 65%-85%
- corporate facilities: 30%-50%.

CRL coverage ratios would therefore be expected to be at or around these levels over a defined period of time.

In principle, a number of factors may affect the Group's overall coverage ratios, including:

The mix of products within total CRL balances: coverage ratios will tend to be lower when there is a high proportion of secured retail and corporate balances within total CRLs. This is due to the fact that the recovery outlook on these types of exposures is typically higher than Retail unsecured products, with the result that they will have lower impairment requirements.

The stage in the economic cycle: coverage ratios will tend to be lower in the earlier stages of deterioration in credit conditions. At this stage, retail delinquent balances will be predominantly in the early delinquency cycles and corporate names will have only recently moved to CRL categories. As such balances attract a lower impairment requirement, the CRL coverage ratio will be lower.

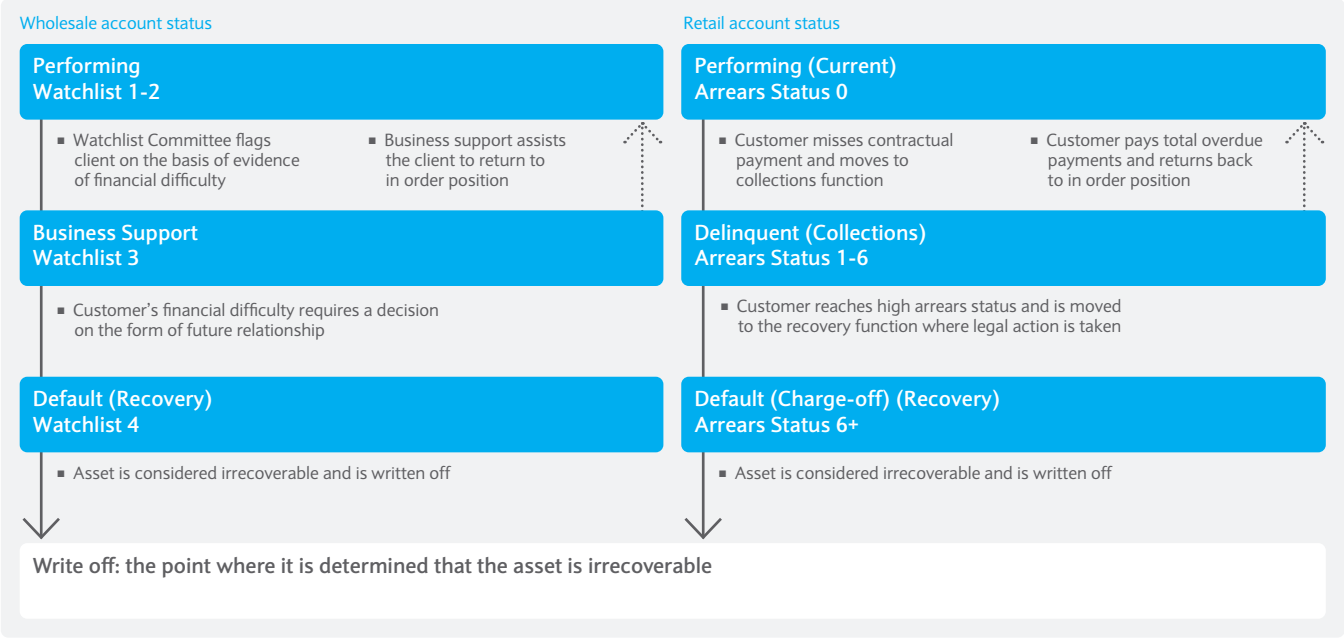
The balance of PPLs to CRLs: the impairment requirements for PPLs are lower than for CRLs, so the greater the proportion of PPLs, the lower the PCRL coverage ratio.

Write-off policies: the speed with which defaulted assets are written off will affect coverage ratios. The more quickly assets are written off, the lower the ratios will be, since stock with 100% coverage will tend to roll out of PCRL categories more quickly.

Details of the coverage ratios for the current period are shown in the above chart and may be found in the analysis of loans and advances and impairment section in the 2015 Annual Report.

Monitoring weaknesses in portfolios

While the basic principles for monitoring weaknesses in wholesale and retail exposures are broadly similar, they reflect the differing nature of the assets. As a matter of policy, all facilities granted to corporate or wholesale counterparties are subject to a review on, at least, an annual basis, even when they are performing satisfactorily.



Wholesale portfolios[a]

Within the Wholesale portfolios, the Basel definitions of default are used as default indicators which have been aligned to the IAS 39 objective evidence of impairment. A default is triggered if individual identified impairment is recognised. Group definitions of default used are:

- bank puts the credit obligation on a non-accrued status
- bank makes a charge-off or account specific identified impairment resulting from a significant perceived decline in credit quality
- bank sells the credit obligation at a material credit-related economic loss
- bank consents to a distressed restructuring of the credit obligation where this is likely to result in a diminished financial obligation caused by the material forgiveness or postponement of principal, interest or fees
- bank triggers a petition for obligor's bankruptcy or similar order
- bank becomes aware of the obligor having sought or having been placed in bankruptcy or similar protection where this would avoid or delay repayment of the credit obligation to the banking group
- bank becomes aware of an acceleration of an obligation by a firm
- where the obligor is a bank – revocation of authorisation
- where the obligor is a sovereign – trigger of default definition of an approved External Credit Assessment Institution (ECAI) such as a rating agency
- obligor past due more than 90 days on any material credit obligation to the Group.

Wholesale accounts that are deemed to contain heightened levels of risk are recorded on graded watchlists (WL) comprising three categories graded in line with the perceived severity of the risk attached to the lending, and its probability of default. Examples of heightened levels of risk may include, for example:

- a material reduction in profits
- a material reduction in the value of collateral held
- a decline in net tangible assets in circumstances which are not satisfactorily explained
- periodic waiver requests or changes to the terms of the credit agreement over an extended period of time.

These lists are updated monthly and circulated to the relevant risk control points. Once an account has been placed on WL, the exposure is monitored and, where appropriate, exposure reductions are effected. Should an account become impaired, it will normally, but not necessarily, have passed through each of the three categories, which reflects the need for increasing caution and control. While all counterparties, regardless of financial health, are subject to a full review of all facilities on at least an annual basis, more frequent interim reviews may be undertaken should circumstances dictate. Specialist recovery functions deal with counterparties in higher levels of WL, default, collection or insolvency. Their mandate is to maximise shareholder value, ideally via working intensively with the counterparty to help them to either return to financial health or, in the cases of insolvency, obtain the orderly and timely recovery of impaired debts. Where a counterparty's financial health gives grounds for concern, it is immediately placed into the appropriate category.

Retail portfolios

Within the retail portfolios, which tend to comprise homogeneous assets, statistical techniques more readily allow potential credit weaknesses to be monitored on a portfolio basis. The approach is consistent with the Group's policy of raising a collective impairment allowance as soon as objective evidence of impairment is identified. Retail accounts can be classified according to specified categories of arrears status (or 30 day cycle), which reflects the level of contractual payments which are overdue. An outstanding balance is deemed to be delinquent when it is one day or "one penny" down and goes into default when it moves into recovery, normally 180 days. Impairment is considered at all stages of the customer's outstanding obligations.

Note

a Includes certain Business Banking facilities which are recorded as Retail for management purposes.

The probability of default increases with the number of contractual payments missed, thus raising the associated impairment requirement.

Once a loan has passed through a prescribed number of cycles, normally six, it will be charged-off and enter recovery status. Charge-off refers to the point in time when collections activity changes from the collection of arrears to the recovery of the full balance. In most cases, charge-off will result in the account moving to a legal recovery function or debt sale. This will typically occur after an account has been treated by a collections function. However, in certain cases, an account may be charged off directly from a performing status, such as in the case of insolvency or death.

The timings of the charge-off points are established based on the type of loan. For the majority of products, the standard period for charging off accounts is six cycles (180 days past due date of contractual obligation). Early charge-off points are prescribed for unsecured assets. For example, in case of customer bankruptcy or insolvency, associated accounts are charged off within 60 days of notification.

Identifying potential credit risk loans

The Group reports potentially and actually impaired loans as PCRLs. PCRLs comprise two categories of loans: PPLs and CRLs.

PPLs are loans that are currently complying with repayment terms but where serious doubt exists as to the ability of the borrower to continue to comply with such terms in the near future. If the credit quality of a wholesale loan on a WL deteriorates to the highest category, or a Retail loan deteriorates to delinquency cycle 2, consideration is given to including it within the PPL category.

Should further evidence of deterioration be observed, a loan may move to the CRL category. Events that would trigger the transfer of a loan from the PPL to the CRL category include a missed payment or a breach of covenant. CRLs comprise three classes of loans:

Impaired loans: comprises loans where an individually identified impairment allowance has been raised and also include loans which are fully collateralised or where indebtedness has already been written down to the expected realisable value. This category includes all retail loans that have been charged off to legal recovery. The category may include loans, which, while impaired, are still performing.

Accruing past due 90 days or more: comprises loans that are 90 days or more past due with respect to principal or interest. An impairment allowance will be raised against these loans if the expected cash flows discounted at the effective interest rate are less than the carrying value.

Impaired and restructured loans: comprises loans not included above where, for economic or legal reasons related to the debtor's financial difficulties, a concession has been granted to the debtor that would not otherwise be considered. Where the concession results in the expected cash flows discounted at the effective interest rate being less than the loan's carrying value, an impairment allowance will be raised. See Forbearance and other concession programmes on page 113 for more detail.

Allowances for impairment and other credit provisions

The Group establishes, through charges against profit, impairment allowances and other credit provisions for the incurred loss inherent in the lending book. Under IFRS, impairment allowances are recognised where there is objective evidence of impairment as a result of one or more loss events that have occurred after initial recognition, and where these events have had an impact on the estimated future cash flows of the financial asset or portfolio of financial assets. Impairment of loans and receivables is measured as the difference between the carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate. If the carrying amount is less than the discounted cash flows, then no further allowance is necessary.

As one of the controls to ensure that adequate impairment allowances are held, movements in impairment to individual names with a total impairment allowance of £10m or more are presented to the GSCO for approval.

Individually assessed impairment

Impairment allowances are measured individually for assets that are individually significant, and collectively where a portfolio comprises homogenous assets and where appropriate statistical techniques are available. In terms of individual assessment, the principal trigger point for impairment is the missing of a contractual payment which is evidence that an account is exhibiting serious financial problems, and where any further deterioration is likely to lead to failure. Details of other trigger points can be found above. Two key inputs to the cash flow calculation are the valuation of all security and collateral, as well as the timing of all asset realisations, after allowing for all attendant costs. This method applies mainly in the wholesale portfolios.

Collectively assessed impairment

For collective assessment, the principal trigger point for impairment is the missing of a contractual payment, which is the policy consistently adopted across all credit cards, unsecured loans, mortgages and most other retail lending. The calculation methodology relies on the historical experience of pools of similar assets; hence the impairment allowance is collective. The impairment calculation is typically based on a roll-rate approach, where the percentage of assets that move from the initial delinquency to default is derived from statistical probabilities based on historical experience. Recovery amounts are calculated using a weighted average for the relevant portfolio. This method applies mainly to the retail portfolios and is consistent with Group policy of raising an allowance as soon as impairment is identified. Unidentified impairment is also included in collective impairment.

Impairment for losses incurred but not specifically indentified

Unidentified impairment allowances are also raised to cover losses which are judged to be incurred but not yet specifically identified in customer exposures at the balance sheet date, and which, therefore, have not been specifically reported. The incurred but not yet reported calculation is based on the asset's probability of moving from the performing portfolio to being specifically identified as impaired within the given emergence period and then on to default within a specified period, termed as the outcome period. This is calculated on the present value of estimated future cash flows discounted at the financial asset's effective interest rate. The emergence and outcome periods vary across products.

Wholesale portfolios

Impairment in the wholesale portfolios is generally calculated by valuing each impaired asset on a case by case basis, i.e. on an individual assessment basis. A relatively small amount of wholesale impairment relates to unidentified or collective impairment; in such cases, impairment is calculated using modelled Probability of Default (PD) x Loss Given Default (LGD) x Exposure at Default (EAD) adjusted for an emergence period.

Retail portfolios

For retail portfolios, the impairment allowance is mainly assessed on a collective basis and is based on the drawn balances adjusted to take into account the likelihood of the customer defaulting at a particular point in time (PDpit) and the amount estimated as not recoverable (LGD). The basic calculation is:

Impairment allowance = Total outstandings x PDpit x LGD

The PDpit increases with the number of contractual payments missed thus raising the associated impairment requirement.

In retail, the current policy also incorporates a high risk segment which is included in the unidentified impairment calculation. High risk segments are those which can be demonstrated to experience higher levels of loss within the performing segment. This segmentation allows for earlier identification of potential loss in a portfolio. Unidentified impairment is also referred to as collective impairment. This is to reflect the impairment that is collectively held against a pool of assets where a loss event has occurred, but has not yet been captured.

Sensitivity of the impairment to key assumptions

Wholesale portfolios

Impairment in the wholesale portfolios is generally calculated by valuing each impaired asset on a case by case basis, and is not therefore primarily model-driven. As such, the key assumptions that would have the most impact on impairment provisions in the wholesale portfolios are the valuations placed upon security and collateral held and the timing of asset realisations.

When calculating impairment, estimated future cash flows are discounted at the financial asset's original effective interest rate. At present, in wholesale portfolios, the impact of discounting is relatively small in itself but would rise with reference rates. In addition, to the extent that a rise in interest rates impacted economic growth and/or serviceability of wholesale clients and customers, this would be expected to feed through in future impairment numbers.

In 2015, key judgements were made on a number of identified cases within Investment Bank, Corporate Banking and Wealth and Investment Management.

Retail portfolios

For Retail portfolios, impairment is calculated predominantly using models. The models are developed using historical data and include explicit and implicit assumptions such as debt sale estimates, house price valuations and the distribution of accounts. Model monitoring and validation are undertaken regularly, at least annually, to ensure that models are fit for purpose. Further to this, the Group accounts for the impact of changes in the economic environment and lags resulting from the design of the models to ensure overall impairment adequacy. See Management adjustments to Models for Impairment in the 2015 Annual Report for more information on key management judgements in 2015. See stress testing (page 103) for further information.

Emergence and outcome periods

To develop models to calculate the allowance for impairment it is first necessary to estimate the time horizons of these models. These time horizons are called the emergence and outcome periods Emergence Period relates to the time between a loss event occurring and that event becoming apparent via the account becoming delinquent and attracting identified impairment. Outcome is an analytically derived period taken to capture lifetime defaults associated with the observed loss event.

This methodology ensures that the Group captures the loss incurred at the correct balance sheet date. These impairment allowances are reviewed and adjusted at least quarterly by an appropriate charge or release of the stock of impairment allowances based on statistical analysis and management judgement. Where appropriate, the accuracy of this analysis is periodically assessed against actual losses. For further detail, see modelling of risk on pages 117 to 118.

Wholesale portfolios

For Wholesale portfolios in Corporate Banking and Investment Bank, the emergence period is portfolio specific and is based on the anticipated length of time from the occurrence of a loss event to identified impairment being incurred. The emergence period in Corporate Banking is derived from actual case file review. This is periodically benchmarked against the time taken to move between risk grades in internal watchlists, from WL1 or 2 into WL3, which is the level of risk that will attract a collective impairment allowance. Both methodologies produce similar results for the emergence period, which is currently six months. Within Corporate Banking, post model adjustments can be made to increase the emergence period for certain industry sectors to reflect, for example, a benign environment. The average life of the Investment Bank portfolio is estimated to be 18 months, during which time Investment Bank is exposed to losses on the portfolio. However, it is expected that incurred losses would become apparent within six months, therefore the Investment Bank also uses a six-month emergence period.

Retail portfolios

During 2015, the Retail Impairment Policy was significantly strengthened and required enhancements to modelling approaches to both emergence and outcome periods. Policy continues to define minimum emergence periods at a product level, as shown in the following table.

Emergence periods

Product Type	Emergence period (months) 2015	2014
Credit cards	2	3
Current Accounts/Overdrafts	3	3
Unsecured Loans	3	3
Secured Loans	6	3

Policy enhancement now requires businesses to capture lifetime defaults allowing consideration to cure rates and future events, subject to a minimum floor of 80%.

Businesses undertake regular analysis, at least annually, to validate that the minimum emergence periods above continue to reflect the actual observed time between the occurrence of a loss event and entry to an impaired state, in order to ensure they remain appropriate and provide sufficient coverage of future losses.

Where any shortfalls are identified at a business or portfolio level, the prescribed minimum emergence periods are increased to reflect our most up-to-date experience of customer behaviour.

The final approved emergence periods are incorporated within the rates used as part of the overall UI assessment, which now encompasses total outstanding balances on all accounts that are in order, and for which no identified impairment allowances are held.

Individual evidence based outcome periods are also derived at a business/portfolio level, subject to the minimum period in the table above. Final outcome periods adopted are re-evaluated on an annual basis to ensure they continue to reflect the actual time elapsing from the initial indication of potential default to the default event.

Returning assets to a performing status

Wholesale portfolios

In wholesale portfolios, an account may only be returned to a performing status when it ceases to have any actual or perceived financial stress and no longer meets any of the WL criteria, or once facilities have been fully repaid or cancelled. Unless a facility is fully repaid or cancelled, the decision in Corporate Banking to return an account to performing status may only be taken by the credit risk team, while within the Investment Bank, the decision can only be taken by the Investment Bank Watchlist Committee.

Retail portfolios

A retail asset, pre-point of charge-off, may only be returned to a performing status in the following circumstances:

- all arrears (both capital and interest) have been cleared and payments have returned to original contractual payments
- for revolving products, a re-age event (see page 116) has occurred, when the customer is returned to an up-to-date status without having cleared the requisite level of arrears
- for amortising products, which are performing on a programme of forbearance and meet the following criteria may be returned to the performing book classified as High Risk[a]:
  - no interest rate concessions must have been granted
  - restructure must remain within original product parameters (original term + extension)
  - twelve consecutive payments at the revised contractual payment amount must have been received post the restructure event.

For residential mortgages, accounts may also be considered for rehabilitation post charge-off, where customer circumstances have changed. The customer must clear all unpaid capital and interest, and confirm their ability to meet full payments going forward.

Note

a The identification and subsequent treatment of up-to-date customers who, either through an event or observed behaviour exhibit potential financial difficulty. High Risk includes customers who have suffered recent financial dislocation, i.e. prior forbearance or re-age.

Recovery units

Recovery units are responsible for exposures where deterioration of the counterparty/customer credit profile is severe, to the extent that timely or full recovery of exposure is considered unlikely and default has occurred or is likely in the short-term. Recovery teams set and implement strategies to recover the Group's exposure through realisation of assets and collateral, in co-operation with counterparties/customers and where this is not possible through insolvency and legal procedures.

In Wholesale, for a case to be transferred to a recovery unit, it must be in default and have ceased to actively trade or be in insolvency. In Retail, the timings of the charge-off points to recovery units are established based on the type of loan. For the majority of products, the standard period for charging off accounts is six missed contractual payments (180 days past due date of contractual obligation) unless a Forbearance programme is agreed. Early points are prescribed for unsecured assets. For example, in case of customer bankruptcy or insolvency, associated accounts are charged off within 60 days of notification. See recovery information included in Analysis of Specific Portfolio and Asset Types section in the 2015 Annual Report.

Foreclosures in process and properties in possession

Foreclosure is the process where the bank initiates legal action against a customer, with the intention of terminating the loan agreement whereby the bank may repossess the property subject to local law and recover amounts it is owed. This process can be initiated by the bank independent of the impairment treatment and it is therefore possible that the foreclosure process may be initiated while the account is still in collections (delinquent) or in recoveries (post charge-off) where the customer has not agreed a satisfactory repayment schedule with the bank.

Properties in possession include properties held as 'loans and advances to customers' and properties held as 'other real estate owned'.

Held as 'loans and advances to customers' (UK and Italy) refers to the properties where the customer continues to retain legal title but where the bank has enforced the possession order as part of the foreclosure process to allow for the disposal of the asset, or the court has ordered the auction of the property.

Held as 'other real estate owned' (South Africa and Portugal) refers to properties where the bank has taken legal ownership of the title as a result of purchase at an auction or similar and treated as 'other real estate owned' within other assets on the bank's balance sheet.

Writing off assets

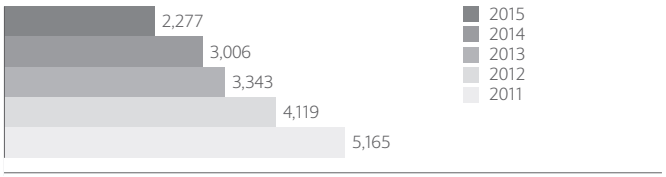
Write-off refers to the point where it is determined that the asset is irrecoverable, it is no longer considered economically viable to try and recover the asset, it is deemed immaterial, or full and final settlement is reached and a shortfall remains. In the event of write-off, the customer balance is removed from the balance sheet and the impairment reserve held against the asset is released.

The timing and extent of write-offs may involve some element of subjective judgement. Nevertheless, a write-off will often be prompted by a specific event, such as the inception of insolvency proceedings or other formal recovery action, which makes it possible to establish that some or the entire advance is beyond realistic prospect of recovery. The position of impaired loans is also reviewed at least quarterly to ensure that irrecoverable advances are being written off in a prompt and orderly manner and in compliance with any local regulations.

For retail portfolios, the timings of the write-off points are established based on the type of loan. For unsecured, assets in the recoveries book will be written-off if the required qualifying repayments are not made within a rolling twelve-month period. For secured loans, the shortfall after the receipt of the proceeds from the disposal of the collateral is written off within three months of that date if no repayment schedule has been agreed with the borrower. Such assets are only written off once all the necessary procedures have been completed and the amount of the loss has been determined.

Subsequent recoveries of amounts previously written off are written back and hence decrease the amount of the reported loan impairment charge in the income statement. In 2015, total write-offs of impaired financial assets decreased 24% to £2.27bn (2014: £3.01bn).

Total write-offs of financial assets (£m)



Forbearance and other concession programmes

Forbearance programmes

Forbearance takes place when a concession is made on the contractual terms of a facility in response to an obligor's financial difficulties. The Group offers forbearance programmes to assist customers and clients in financial difficulty through agreements that may include accepting less than contractual amounts due where financial distress would otherwise prevent satisfactory repayment within the original terms and conditions of the contract. These agreements may be initiated by the customer, the bank or a third party.

Forbearance programmes for wholesale portfolios

The majority of wholesale client relationships are individually managed, with lending decisions made with reference to specific circumstances and on bespoke terms.

Forbearance occurs when, for reasons relating to the actual or perceived financial difficulty of an obligor, a concession is granted below the Group's current standard rates (i.e. lending criteria below the Group's current lending terms), that would not otherwise be considered. This includes all troubled debt restructures granted below our standard rates.

Forbearance would typically be evident where the concession(s) agreed impact the ability to repay debt or avoid recognising a default with a lack of appropriate commercial balance and risk mitigation/structural enhancement of benefit to the Group in return for concession(s).

The following list is not exhaustive but provides some examples of instances that would typically be considered to be evidence of forbearance:

- a reduction of current contractual interest rate for the sole purpose of maintaining performing debt status, with no other improvement to terms of benefit to the Group
- non-enforcement of a material covenant breach impacting the counterparty's ability to repay
- converting a fully or partially amortising facility to a bullet repayment at maturity, with no other improvement to terms of benefit to the Group, for the sole purpose of avoiding a payment default due to customer's inability to meet amortisation
- extension in maturity date for a project finance facility that gives an effective contractual term longer than the underlying project contract being financed
- any release of a material security interest without receiving appropriate value by way of repayment/alternate security offered or other improvement in terms available to the Group commensurate with the value of the security released.

Where a concession is granted that is not a result of financial difficulty and/or is within our current market terms, the concession would not amount to forbearance. For example, a commercially balanced restructure within the Group's current terms which involves the granting concessions and receiving risk mitigation/structural enhancement of benefit to the Group would not be indicative of forbearance.

The following list (not exhaustive) gives some examples of instances that would not typically be considered to be forbearance:

- temporary/permanent waivers/resets of covenants agreed in line with our current terms
- amending contractual maturity to meet current lending terms that results in a previously amortising facility having a bullet repayment as a consequence of shorter maturity date

- equity/warrants taken to increase return to the Group without compromising contractual interest
- extension of maturity date where the extension is within the normally granted terms for the type of facility in question
- release of a material security interest where commensurate value is received by way of repayment/other security offered.

Cases where a technical default may have occurred, the Group has decided to reserve its position but does not consider the default to be sufficient to impact the counterparty's ability to pay, would not typically be considered forbearance (as the counterparty would continue to meet its payment obligations under existing terms).

The Troubled Assets Policy requires that a permanent record is retained of all individual cases of forbearance, and upon granting forbearance the counterparty is placed on WL. The counterparty then remains on WL and is flagged as being in forbearance for a minimum of 12 months from the date forbearance is applied. Counterparties may be removed from WL status within 12 months in exceptional circumstances, e.g. full repayment of facilities or significant restructuring. Counterparties placed on WL status are subject to increased levels of credit risk oversight.

Counterparties who have been granted forbearance are classified as a Basel 'unlikeliness' to pay default for capital purposes, with PD of 1 throughout the period that they remain classified as being in forbearance. This is on the basis that, without intervention by the Group, the counterparties are unlikely to meet their obligations in full which would lead to default.

Impairment is assessed on an individual basis and recognised where relevant impairment triggers have been reached including where counterparties are in arrears and require renegotiation of terms. Forbearance is considered to be an indicator that impairment may be present and an impairment test is performed for all cases placed in forbearance.

Given that these loans have already been assessed for impairment at the point of being classified as being in forbearance, the Group does not have additional procedures to evaluate the likelihood that these loans would default within the loss emergence and confirmation periods.

A control framework exists along with regular sampling to ensure policies for watchlist and impairment are enforced as defined and to ensure that all assets have suitable levels of impairment applied. Portfolios are subject to independent assessment.

Aggregate data for Wholesale forbearance cases is reviewed by the Wholesale Credit Risk Management Committee.

Forbearance programmes for retail portfolios

Retail forbearance is available to customers experiencing financial difficulties. Forbearance solutions take a number of forms depending on individual customer circumstances. Short-term solutions focus on temporary reductions to contractual payments and may change from capital and interest payments to interest only. For loan customers with longer-term financial difficulties, term extensions may be offered, which may include interest rate concessions, For credit card customers with longer-term financial difficulties, a switch to a fully amortising plan may be offered, which may include an interest rate concession.

When an account is placed into a programme of forbearance, the asset will be classified as such for the remainder of its term, unless after 12 months it qualifies for reclassification, upon which it will be returned to the up-to-date book and classified as high risk for a further 12 month period. When the Group agrees to a forbearance programme with a customer, the impairment allowance recognises the impact on cash flows of the agreement to receive less than the original contractual payments. The Retail Impairment Policy prescribes the methodology for impairment of forbearance assets, which is measured by comparing the debt outstanding to the revised expected repayment. This results in higher impairment, in general, than for fully performing assets, reflecting the additional credit risk attached to loans subject to forbearance.

Barclays has continued to assist customers in financial difficulty through the use of forbearance programmes. However, the extent of forbearance offered by the Group to customers and clients remains small in comparison to the overall size of the loan book.

The level of forbearance extended to customers in other Retail portfolios is not material and, typically, does not currently play a significant part in the way customer relationships are managed. However, additional portfolios will be added to this disclosure should the forbearance in respect of such portfolios become material.

A retail loan is not considered to be renegotiated where the amendment is at the request of the customer, there is no evidence of actual or imminent financial difficulty and the amendment meets with all underwriting criteria. In this case it would be treated as a new loan. In the normal course of business, customers who are not in financial difficulties frequently apply for new loan terms, for example to take advantage of a lower interest rate or to secure a further advance on a mortgage product. Where these applications meet our underwriting criteria and the loan is made at market interest rates, the loan is not classified as being in forbearance. Only in circumstances where a customer has requested a term extension, interest rate reduction or further advance and there is evidence of financial difficulty is the loan classified as forbearance and included in our disclosures on forbearance.

Please see the Credit risk performance section of the 2015 Annual Report for details of principal wholesale and retail assets currently in forbearance.

Impairment of loans under forbearance

Loans under forbearance programmes are subject to Group policy. In both retail and wholesale portfolios, identified impairment is raised for such accounts, recognising the agreement between the Group and customer to pay less than the original contractual payment and is measured using a future discounted cash flow approach comparing the debt outstanding to the expected repayment on the debt. This results in higher impairment, in general, being held for loans under forbearance than for fully performing assets, reflecting the additional credit risk attached to loans subject to forbearance.

Sustainability of loans under forbearance

The Group monitors the sustainability of loans for which forbearance has been granted.

Wholesale portfolios

In the wholesale portfolios, counterparties that have been granted forbearance are placed on WL and therefore are subject to increased levels of credit risk oversight. Counterparties then remain on WL and are classified as being in forbearance with a PD of 1 for capital purposes for a minimum of 12 months from the date forbearance is applied until satisfactory performance is evidenced. Forbearance status and the related default treatment for capital can be removed after 12 months from being applied if any of the following criteria is met:

- the counterparty no longer benefits from a concession below our current market rates or reverts back to their original lending terms (prior to the concession being applied)
- the counterparty ceases to have any actual or perceived financial stress
- a significant restructure takes place which leads to a significant improvement in the credit profile of the counterparty.

Counterparties may only be removed from being classified as being in forbearance with a PD of 1 for capital purposes within 12 months in exceptional circumstances, e.g. full repayment of facilities or significant restructuring that materially improves credit quality. Counterparties continuing to benefit from a concession below current market can be removed from WL and no longer be classified as in forbearance provided they do not meet any of the WL criteria and can evidence consistent satisfactory performance throughout the minimum twelve-month period.

Retail portfolios

In retail portfolios, the type of forbearance programme offered should be appropriate to the nature and the expected duration of the customer's financial distress. It is imperative that the solution agreed is both appropriate to that customer and sustainable, with a clear demonstration from the customer of both willingness and ability to repay. Before any permanent programme of forbearance is granted, an affordability assessment is undertaken to ensure suitability of the offer. When customers exit forbearance, the accounts are ring-fenced as a High Risk segment within the up-to-date book for a period of at least twelve months.

For disclosure on the Group's accounting policy with respect to impairment, see pages 112 to 114 and Note 7 of the 2015 Annual Report.

Other programmes

Retail re-ageing activity

Re-ageing refers to the placing of an account into an up-to-date position without the requisite repayment of arrears. The re-age policy applies to revolving products only. No reduction is made to the minimum due payment amounts which are calculated, as a percentage of balance, with any unpaid principal included in the calculation of the following month's minimum due payment.

The changes in timing of cash flows following re-aging do not result in any additional cost to the Group. The following are the conditions required to be met before a re-age may occur:

- the account must not have been previously charged off or written off
- the borrower cannot be bankrupt, subject to an Individual Voluntary Arrangement (a UK contractual arrangement with creditors for individuals wishing to avoid bankruptcy), a fraud or deceased
- the borrower must show a renewed willingness and ability to repay the debt. This will be achieved by the borrower making at least three consecutive contractual monthly payments or the equivalent cumulative amount. Contractual monthly payment is defined as the contractual minimum due. Funds may not be advanced for any part of this
- the account must have been on book at least nine months (i.e. nine months prior to the three-month qualification period)
- no account should be re-aged more than once within any twelve-month period, or more than twice in a five year period.

Assets are considered to belong to a separate High Risk pool. Under High Risk, the performance of the assets is a risk characteristic and results in a higher probability of default being assigned to them in impairment models which meet the requirement of IAS 39, AG87-88. This results in an appropriately higher impairment allowance being recognised on the assets. See 2015 Annual Report for more information.

Retail small arrears capitalisation

All small arrears capitalisations are now considered a form of Forbearance, based on the European Banking Authority's requirements for Supervisory Reporting on Forbearance and Non-Performing exposures.

Refinancing risk

This is the risk that the borrower or group of correlated borrowers may be unable to repay bullet-repayment loans at expiry, and will therefore need refinancing.

From a large corporates perspective, refinancing risk will typically be associated with loans that have an element of bullet repayment incorporated into the repayment profile. Refinancing risk is taken into account on a case by case basis as part of the credit review and approval process for each individual loan. The review will consider factors such as the strength of the business model and sustainability of the cash flows; and for bridge loans, the certainty of the sources of repayment and any associated market risk.

Commercial real estate loans will frequently incorporate a bullet repayment element at maturity. Where this is the case, deals are sized and structured to enable the Group to term out the loan if the client were unable to refinance the loan at expiry. Credit review will incorporate an examination of various factors that are central to this consideration, such as tenant quality, tenancy agreements (including break clauses), property quality and interest rate sensitivity.

Loans to small and medium enterprises (SMEs) will typically be either revolving credit lines to cover working capital needs or amortising exposures, with periodic refinancing to give the opportunity to review structure, pricing, etc.

Please refer to the maturity analysis for UK CRE and customers with interest-only home loans in the credit risk performance section in the 2015 Annual Report for more information.

Environmental Risk

The Group has a dedicated Environmental Risk Management team, as part of the central Credit Risk Management function, recognising that environment is a mainstream credit risk issue. Environmental issues are required considerations in credit risk assessment, and environmental risk standards are included in the Wholesale Credit Risk Control Framework.

The Group's approach to environmental credit risk management addresses risk under three categories, namely Direct Risk and Indirect Risk, which are covered below, and Reputation Risk, on which more detail may be found in the Conduct Risk section (pages 152 to 154).

Direct Risk can arise when the Group takes commercial land as collateral. In many jurisdictions, enforcement of a commercial mortgage by the bank, leading to possession, potentially renders the Group liable for the costs of remediating a site if deemed by the regulator to be contaminated, including for pre-existing conditions. In the UK, the Group's approach requires commercial land, if being pledged as collateral, to be subject to a screening mechanism. Where required further assessment of the commercial history of a piece of land and its potential for environmental contamination helps ensure any potential environmental degradation is reflected in the value ascribed to that security. It also identifies potential liabilities which may be incurred by the Group, if realisation of the security were to become a possibility.

Indirect Risk can arise when environmental issues may impact the creditworthiness of the borrower. For instance, incremental costs may be incurred in upgrading a business' operations to meet emerging environmental regulations or tightening standards. In other circumstances, failure to meet those standards may lead to fines. Environmental impacts on businesses may also include shifts in the market demand for goods or services generated by our customers, or changing supply chain pressures. Environmental considerations affecting our clients can be varied. The bank has developed a series of environmental risk briefing notes, covering ten broad industry headings ranging from Agriculture and Fisheries to Oil and Gas, from Mining and Metals to Utilities and Waste Management. These briefing notes are available to colleagues in business development and credit risk functions across the organisation, outlining the nature of environmental and social risks of which to be aware, as well as the factors which mitigate those risks.

Internal ratings based (IRB) approach

The IRB approach relies on internal models to derive the risk parameters/components used in determining the capital requirement for a given exposure. The main risk components include measures of the probability of default (PD), loss given default (LGD) and the exposure at default (EAD). The IRB approach is divided into two alternative applications, Advanced and Foundation:

- Advanced IRB (AIRB): Barclays uses its own models to estimate PD, LGD and EAD to calculate given risk exposures for various asset classes and the associated Risk Weighted Assets (RWAs)
- Foundation IRB (FIRB): Barclays uses its own PD estimates as for Advanced, but relies on supervisory estimates for other risk components. The IRB approach is particularly used to floor risk parameters for wholesale credit exposures where default data scarcity may impact the robustness of the model build process.

The IRB calculation for credit risk

For both AIRB and FIRB approaches, Barclays uses the regulatory prescribed risk-weight functions for the purposes of deriving capital requirements.

In line with regulatory requirements, through the cycle (TTC) PD and downturn LGD and EAD estimates are used for each customer/facility to determine regulatory capital for all exposures in scope.

For the purpose of pricing and existing customer management, point in time (PIT) PD, LGD and EAD are generally used as these represent the best estimates of risk given the current position in the credit cycle. PIT PDs are also used for the calculation of capital on certain retail unsecured products, in line with regulation.

Applications of internal ratings

The three components – PD, LGD and EAD – are the building blocks used in a variety of applications that measure credit risk across the entire portfolio:

- **credit approval:** PD models are used in the approval process in both retail and wholesale portfolios. In high-volume retail portfolios, application and behaviour scorecards are frequently used as decision-making tools. In wholesale and some retail mortgage portfolios, PD models are used to direct applications to an appropriate credit-sanctioning level
- **credit grading:** this was originally introduced in the early 1990s to provide a common measure of risk across the Group. Barclays now employs a 21-point scale of default probabilities. These are shown in Table 24 on page 45
- **risk-reward and pricing:** PD, EAD and LGD estimates are used to assess the profitability of deals and portfolios and to facilitate risk-adjusted pricing and strategy decisions
- **risk appetite:** estimates are used to calculate the expected loss and the potential volatility of loss in the Group's risk appetite framework. See page 102
- **impairment calculation:** under IAS 39, many collective impairment estimates incorporate the use of PD and LGD models. See page 112
- **Collections and recoveries:** model outputs are used to identify segments of the portfolio where collection and recovery efforts should be prioritised
- **economic capital (EC) calculation:** most EC calculations use similar inputs as the regulatory capital (RC) process
- **risk management information:** Risk generate reports to inform senior management on issues such as business performance, risk appetite and EC consumption. Model outputs are used as key indicators in those reports.

Ratings processes and models for credit exposures

Wholesale Credit

To construct ratings for wholesale customers, including financial institutions, corporates, specialised lending, purchased corporate receivables and equity exposures, Barclays complements its internal models suite with external models and rating agencies' information. The rating system is constructed to ensure that a client receives the same rating, regardless of the part of the business originating the transaction. To achieve this, a model hierarchy is in place requiring users/credit officers to adopt a consistent approach/model to rate each counterparty based on the asset class type and the nature of the transaction.

Wholesale PD models

Barclays employs a range of methods in the construction of these models:

- **statistical models** are used for our high volume portfolios such as small or medium enterprises (SME). The models are typically built using large amounts of internal data, combined with supplemental data from external data suppliers where available. Wherever external data is sourced to validate or enhance internally held data, similar data quality standards to those applicable to the internal data management are enforced
- **structural models** incorporate in their specification the elements of the industry-accepted Merton framework to identify the distance to default for a counterparty. This relies upon the modeller having access to specific time series data or data proxies for the portfolio. Data samples used to build and validate these models are typically constructed by appropriately combining data sets from internal default observations with comparable externally obtained data sets from commercial providers such as rating agencies and industry data gathering consortia
- **expert lender models** are used for those parts of the portfolio where there is insufficient internal or external data to support the construction of a statistically robust model. These models utilise the knowledge and in-depth expertise of the senior credit officers dealing with the specific customer type being modelled. For all portfolios with a low number of default observations, the Group adopts specific regulatory rules, methodologies and floors in its estimates to ensure that the calibration of the model meets the current regulatory criteria for conservatism.

Wholesale LGD models

The LGD models typically rely on statistical analysis to derive the model drivers (including seniority of claim, collateral coverage, recovery periods, industry and costs) that best explain the Group's historical loss experience, often supplemented with other relevant and representative external information where available. The models are calibrated to downturn conditions for regulatory capital purposes and, where internal and external data is scarce, they are subject to low default portfolio (LDP) and/or FIRB floors to ensure the calibration of the model meets the current regulatory criteria for conservatism.

Wholesale EAD models

The wholesale EAD models estimate the potential utilisation of the currently available headroom based on statistical analysis of the available internal and external data and past client behaviour. As is the case with the LGD models, the EAD models are subject to downturn calibration for regulatory capital purposes and to floors where data is scarce.

Retail Credit

Retail banking and cards operations have long and extensive experience of using credit models in assessing and managing risks. As a result, models play an integral role in customer approval and management decisions. Most retail portfolios are data rich; consequently, most models are built in-house using statistical techniques and internal data. Exceptions are some expert lender models (similar to those described in the wholesale context) where data scarcity precludes the statistically robust derivation of model parameters. In these cases, appropriately conservative assumptions are typically used, and wherever possible these models are validated/benchmarked against external data.

Retail PD models

Application and behavioural scorecards are most commonly used for retail PD modelling:

- **application scorecards** are derived from historically observed performance of new clients. They are built using customer demographic and financial information, supplemented by credit bureau information where available. Through statistical techniques, the relationship between these candidate variables and the default marker is quantified to produce output scores reflecting a PD. These scores are used primarily for new customer decisioning but are, in some cases, also used to allocate a PD to new customers for the purpose of capital calculation
- **behavioural scorecards** differ from application scorecards in that they rely on the historically observed performance of existing clients. The statistically derived output scores are used for existing customer management activities as well as for the purpose of capital calculation.

Retail LGD models

Retail LGD models are built using bespoke methods chosen to best model the operational recovery process and practices. In a number of secured portfolios, LGD drivers are parameterised with market factors (e.g. house price indices) to capture market trends. For most unsecured portfolios, where recoveries are not based on collateral, statistical models of cash flows are used to estimate ultimate recoveries and LGDs. In all instances, cash flows are discounted to the point of default by using bespoke country and product level factors. For capital calculations, customised economic downturn adjustments are made to adjust losses to stressed conditions.

Retail EAD models

EAD models within retail portfolios are split into two main methodological categories. The general methodology is to derive product level credit conversion factors (CCFs) from historical balance migrations. These are frequently further segmented at a delinquency bucket level. The most sophisticated EAD models are based on behavioural factors, determining customer level CCFs from characteristics of the individual facility. For capital calculations, customised downturn adjustments are made to adjust for stressed conditions.

The control mechanisms for the rating system
Model risk has been identified as a risk to be managed under the ERMF. Consequently, the GMRP and its supporting standards covering the end-to-end model life cycle are in place to support the management of risk models.

Key controls captured by the Model Risk Policy cover:

- model governance is anchored in assigning accountabilities and responsibilities to each of the main stakeholders:
  - model owner – each model must have a model owner who has overall accountability for the model
  - model developers – support the model owner and drive development according to model owner defined scope/purpose
  - Independent Validation Unit (IVU) – responsible for independent review and challenge of all models
  - model approver – person/committee tasked with approving models for use following model owner sign-off and IVU review.
- externally developed models are subject to the same governance standards as internal models
- models are classified by Materiality (High/Low) and Complexity (Complex/Non-complex)
- all models must be validated by IVU before initial implementation/use
- models are subject to annual review by the model owner and periodic validation by IVU
- all models must be recorded in the Group Models Database (GMD)
- all models are assigned an intrinsic model risk score (RAG) based on the following five components of model risk:
  - data quality – At inception validations, assessment of the quality and relevance of any data used in the model development process. For validations of approved models data quality, relevance assessments will be performed on the datasets used for annual reviews
  - design and conceptual soundness – Assessment of conceptual soundness and appropriateness of the model design against its intended scope and purpose
  - model design implementation – Testing of the model prototype to ensure the model is implemented as per the model documentation/ specification
  - model use and performance – Assessment of model performance, given the design and intended uses of the model
  - internal and external model-related requirements – Assessment of model risk arising from potential gaps against internal and external/ regulatory model-related requirements.

Further to these key controls, to ensure that the governance process is effective and that senior management is focused on the more material models, the list of models classified as 'A*/High and Complex' materiality are reviewed annually by the Executive Models Committee. If a model is found to perform sub-optimally, it may be subjected to a Post Model Adjustment (PMA) before approval for continued use is granted.

Table 70 for credit risk model characteristics shows modelled variables to calculate RWAs (PD, LGD, and EAD) at portfolio level, with number of models and their significance in terms of RWAs, model method or approach, numbers of years of data used, Basel asset class of the customer or client, and regulatory thresholds applied.

Selected features of material models
The table on the next page contains selected features of the Group's most material credit risk models:

- PD models listed in the table account for £100bn, or 54.9% of total IRB approach RWAs
- LGD models listed in the table account for £117.1bn, or 64.3% of IRB approach RWAs
- EAD models listed in the table account for £104.8bn, or 57.6% of IRB approach RWAs.

Table 70: IRB credit risk models' selected features

Component modelled	Business unit	Portfolio	Size of associated portfolio (RWAs)	Model description and methodology	Number of years loss data	Basel asset classes measured	Applicable industry-wide regulatory thresholds
PD	Investment Bank Barclays Non-Core Personal and Corporate Banking Africa Banking	Publicly traded corporates	£23.9bn	Statistical model using a Merton-based methodology. It takes quantitative factors as inputs.	>10 years	Corporates	PD floor of 0.03%
PD	Investment Bank Barclays Non-Core Treasury Personal and Corporate Banking Africa Banking	Customers rated by Moody's and S&P	£25.8bn	Rating Agency Equivalent model converts agency ratings into estimated equivalent PIT default rates using credit cycles based on Moody's data.	>10 years	Corporate, Financial institutions and Sovereigns	PD floor of 0.03% for corporates and institutions
PD	Investment Bank Barclays Non-Core Personal and Corporate Banking	Corporate and SME customers with turnover < £20m	£5.2bn	Statistical model that uses regression techniques to derive relationship between observed default experience and a set of behavioural variables.	6-10 years	Corporates Corporate SME Retail SME	PD floor of 0.03%
PD	Investment Bank Barclays Non-Core Personal and Corporate Banking	Corporate and SME customers with turnover >= £20m	£9bn	Statistically derived model sourced from an external vendor (Moody's KMV).	6-10 years	Corporate Corporate SME	PD floor of 0.03%
PD	Personal and Corporate Banking	Home Finance	£18.4bn	Statistical scorecards estimated using regression techniques, segmented along arrears status and portfolio type. They are further calibrated against long-run industry default data.	>10 years	Retail mortgages (residential and buy-to-let mortgages)	PD floor of 0.03%
PD	Barclaycard	Barclaycard UK	£15.4bn	Statistical scorecards estimated using segmented regression techniques.	6-10 years	QRRE	PD floor of 0.03%
PD	Africa Group	Absa Home Loans	£2.3bn	Statistical scorecards calibrated against long-run default data.	6-10 years	Retail mortgages (residential and buy-to-let mortgages)	PD floor of 0.03%
LGD	Investment Bank Barclays Non-Core Treasury Personal and Corporate Banking	Corporates and Financial institutions	£49.0bn	Model based on a statistical regression that outputs a long run average LGD and a downturn LGD by estimating the expected value of recovery. Inputs include industry, seniority, instrument, collateral and country.	>10 years	Corporate Financial institutions	
LGD	Personal and Corporate Banking	All business customers (excluding certain specialised sectors)	£32bn	Model is based on a function estimated using actual recoveries experience. It takes account of collateral value and an allowance for non-collateral recovery.	>10 years	Corporates Corporate SME Retail SME	
LGD	Personal and Corporate Banking	Home Finance	£18.4bn	Data driven estimates of loss and probability of possession.	6-10 years	Retail mortgages (residential and buy-to-let mortgages)	The portfolio average downturn LGD is floored at 10%.
LGD	Barclaycard	Barclaycard UK	£15.4bn	Statistical models combining segmented regression and other forecasting techniques.	6-10 years	QRRE	
LGD	Africa Group	Absa Home Loans	£2.3bn	A data driven statistical approach estimates loss and probability of possession complemented with expert judgement where appropriate.	6-10 years	Retail mortgages (residential and buy-to-let mortgages)	LGD floor of 10% at portfolio level.

Table 70: IRB credit risk models' selected features continued

Component modelled	Business unit	Portfolio	Size of associated portfolio (RWAs)	Model description and methodology	Number of years loss data	Basel asset classes measured	Applicable industry-wide regulatory thresholds
EAD	Investment Bank Barclays Non-Core Treasury	Corporates and Financial institutions	£27.3bn	The model applies product type specific Credit Conversion Factors (CCFs) and Product Credit Conversion Factors (PCCFs) to the drawn and undrawn amounts, consistent with experience. Where there is insufficient data, the entire drawn and undrawn amount is applied.	>10 years	Corporate Financial Institutions	EAD must be at least equivalent to current balance utilisation at account level.
EAD	Personal and Corporate Banking	All business customers (excluding certain specialised sectors)	£41.4bn	Model estimates the proportion of undrawn exposures that would be used in a default situation, based on a statistical analysis of actual experience and dependent on factors such as product type and industry of the obligor. Expert judgement is used for off-balance sheet products.	6-10 years	Corporates Corporate SME Retail SME Institutions	EAD must be at least equivalent to current balance utilisation at account level.
EAD	Personal and Corporate Banking	Home Finance	£18.4bn	Split by Main Mortgage and Reserve Mortgage. Uses statistical model to calculate Reserve Mortgage.	>10 years	Retail mortgages (residential and buy-to-let mortgages)	EAD must be at least equivalent to current balance utilisation at account level.
EAD	Barclaycard	Barclaycard UK	£15.4bn	Model uses segmented statistical regression.	6-10 years	QRRE	EAD must be at least equivalent to current balance utilisation at account level.
EAD	Africa Group	Absa Home Loans	£2.3bn	Statistical approach using historic data to determine a credit conversion factor, which is applied to the non-defaulted assets in appropriate cohorts to forecast EAD.	3-5 years	Retail mortgages (residential and buy-to-let mortgages)	EAD must be at least equivalent to current balance utilisation at account level.

Credit model performance – estimated versus actual

The table on the following page shows the forecast PD, LGD and EAD from the IRB exposure models. They are compared with data from actual defaults. These comparisons are used to help assess whether the models are fit for purpose.

The PDs relate to the portfolios managed following the Advanced and Foundation IRB approaches. Individual portfolio PDs within an exposure class have been weighted at the same level as they were estimated (usually obligor or facility) to yield average PDs. The LGD percentages and EAD ratios are based on defaulted assets in Advanced approach portfolios (the Foundation approach does not estimate these figures but uses parameters stipulated by PRA regulations).

Difference with values used as inputs to the capital calculation

The forecasts shown in the table are based on the Group's model calibrations using estimates as at the start of the twelve-month period compared with the actuals as at the end. The estimates and actuals represent the direct output from the models rather than outputs used in regulatory capital calculations that may be adjusted to apply more conservative assumptions to reflect:

- PD values on a TTC basis factoring in the long-run default rate in comparison to the annual default rate presented in this table; LGD on a downturn basis, reflecting the impact of stress on collateral recovery
- minimum values for certain parameters typically that imply higher severity than modelled and observed values. For example, retail loans secured by real estate collateral have a regulatory minimum LGD of 10%.

Note that post-model adjustments are applied only when they have the effect of increasing capital requirements.

Estimated versus actual analysis

Risk models are subject to the Group's Risk Model policy which contains detailed guidance on the minimum standards for model development. For instance, PDs must be estimated over a sufficient period, show sufficient differentiation in predictions for different customers, show conservatism where data limitations exist, and follow prescriptive techniques. These standards are achieved via an independent validation process (using appropriately independent experts). Once validated and correctly implemented, models are subject to regular monitoring to ensure they can still be used. Comparing model estimates with actual default rates for PD and loss rates for LGD form part of this monitoring.

PD measures

- Estimated PDs are simple averages at the level of single exposures (usually facilities for retail asset classes, and obligors for wholesale asset classes), for the total portfolio population. The estimate is a forward-looking average PD modelled at the beginning of the twelve-month period.
- The PIT PD is used as a predicted measure in internal monitoring and annual validation of the models. In contrast, the capital calculation uses TTC PDs (not shown above), calibrated to long-run default averages with additional adjustments where modelled outputs display evidence of risk understatement (including credit expert overrides, regulatory adjustments, Basel III add-ons). Some retail portfolios use TTC PDs for this analysis, and these are also subject to regulatory adjustments, though only in cases where such adjustments increase the overall RWAs. The PIT measure is subject to under or over prediction depending on the relative position of the portfolio to the credit cycle.

- Actual PD is the default rate for each asset class, which is the ratio of the defaulted population to the total population over the previous twelve months in terms of unit of exposure.

Average LGD measures

- Estimated LGDs are derived from simple averages at facility or customer level at the time of default for the set of closed cases over the previous twelve months.
- The PIT LGD measures are used as a predicted measure in internal monitoring and annual validation of the models. The capital calculation uses downturn LGDs (not shown above) with additional adjustments where modelled outputs display evidence of risk understatement (including credit expert overrides, regulatory adjustments, and Basel III add-ons).
- The actual LGD rate is the simple average observed loss rates of all the closed cases during the previous twelve months, regardless of the time of default.

EAD ratio is calculated as the estimated EAD, as a proportion of the actual EAD, for the defaulted population.

Table 71: Analysis of expected performance versus actual results

This table provides an overview of credit risk model performance, assessed by the analysis of average PDs, average LGDs and EAD ratios.

The table compares the raw model output to the actual experience in our portfolios. Such analysis is used to assess and enhance the adequacy and accuracy of models.

The raw outputs are subject to a number of adjustments before they are used in the calculation of capital, for example to allow for the position in the credit cycle and the impact of stress on recovery rates.

IRB Exposure Class\Year	PD of total portfolio		LGD of defaulted assets		EAD of defaulted assets
	Estimate %	Actual %	Estimated %	Actual %	Estimate to actual ratio
As at 31 December 2015					
Wholesale					
Central governments or central banks					
– Investment Bank	**0.40**	**–**	**–**	**–**	**–**
– Corporate Banking	**0.01**	**–**	**–**	**–**	**–**
– Barclays Africa Group	**0.35**	**–**	**n/a**	**n/a**	**n/a**
Institutions					
– Investment Bank	**0.16**	**–**	**–**	**–**	**–**
– Corporate Banking	**0.01**	**–**	**–**	**–**	**–**
– Barclays Africa Group	**0.28**	**–**	**n/a**	**n/a**	**n/a**
Corporates					
– Investment Bank	**0.63**	**0.38**	**34**	**18**	**1.06**
– Corporate Banking	**2.68**	**0.75**	**44**	**23**	**1.22**
– Barclays Africa Group	**1.53**	**2.03**	**n/a**	**n/a**	**n/a**
Retail					
SME	**5.72**	**4.99**	**78**	**78**	**1.04**
Secured by real estate collateral UK	**0.41**	**0.38**	**3**	**1**	**1.03**
Secured by real estate collateral Rest of World	**2.15**	**2.13**	**13**	**20**	**1.02**
Qualifying revolving retail	**1.70**	**1.80**	**78**	**67**	**1.01**
Other retail	**6.52**	**5.69**	**69**	**47**	**1.07**
As at 31 December 2014					
Wholesale					
Central governments or central banks					
– Investment Bank	0.42	–	–	–	–
– Corporate Banking	–	–	–	–	–
– Barclays Africa Group	0.32	–	n/a	n/a	n/a
Institutions					
– Investment Bank	0.24	–	–	–	–
– Corporate Banking	0.02	–	–	–	–
– Barclays Africa Group	0.26	–	n/a	n/a	n/a
Corporates					
– Investment Bank	0.79	0.08	38	25	0.96
– Corporate Banking	2.60	1.30	37	22	1.29
– Barclays Africa Group	1.50	2.15	n/a	n/a	n/a
Retail					
SME	6.58	5.15	78	78	1.07
Secured by real estate collateral UK	0.52	0.43	3	2	1.02
Secured by real estate collateral Rest of World	2.20	2.37	9	23	1.02
Qualifying revolving retail	1.78	1.86	78	72	0.99
Other retail	6.28	5.86	66	58	1.02

Developments in 2015

Changes in estimated and actual credit risk metrics are largely driven by the business environment and the Group's lending strategy, as detailed in this report. Additionally, management of IRB models and changes in regulatory approaches can have an impact as discussed below:

Corporates

- Actual PD increased in the Investment Bank due to higher defaults primarily in the Energy sector.
- Changes in actual year-on-year EAD and LGD values in the Investment Bank are typically large as they are based on a small population of resolved and defaulted cases, making them sensitive to individual events.
- Actual PD for Corporate Banking decreased in 2015, due to the low number of defaults in the Corporate SME sub-class. Estimated model-driven PDs are high as the redeveloped model awaits implementation.
- The actual LGD value in the Corporate Bank was lower than predicted as collateral values improved and recoveries were more timely.
- Actual Africa Banking PD was higher than estimated PD. A new model has been implemented during 2015 which is expected to improve accuracy. RWAs adjustments are in place to compensate for the lower than predicted PD.

Secured by real estate collateral UK

- The actual LGD in 2015 was based on a small population of resolved cases, as a number of cases subject to an industry-wide litigation procedure were excluded. These cases would typically lead to higher realised losses. This has resulted in a larger difference between estimate and actual LGD for the current year.

Secured by real estate collateral Rest of World

- Actual LGDs were higher than predicted principally due to Africa Banking where the model has been redeveloped and awaits regulatory approval before implementation.

Qualifying revolving retail

- Actual PDs were higher than predicted principally due to Africa Banking where the model has been redeveloped and awaits regulatory approval before implementation.

IRB Exposure Class\Year

	PD of total portfolio		LGD of defaulted assets		EAD of defaulted assets
	Estimate %	Actual %	Estimated %	Actual %	Estimate to actual ratio
As at 31 December 2013					
Wholesale					
Central governments or central banks					
– Investment Bank	0.31	–	–	–	–
– Corporate Banking	–	–	–	–	–
– Africa Group	0.41	–	n/a	n/a	n/a
Institutions					
– Investment Bank	0.80	0.02	–	–	–
– Corporate Banking	0.43	–	–	–	–
– Africa Group	0.52	–	n/a	n/a	n/a
Corporates					
– Investment Bank	1.27	0.48	67	60	1.02
– Corporate Banking	2.14	2.50	40	28	1.05
– Africa Group	1.16	3.19	n/a	n/a	n/a
Retail					
SME	7.15	5.89	79	72	1.08
Secured by real estate collateral UK	0.61	0.49	3	2	1.02
Secured by real estate collateral Rest of World	1.85	2.09	9	23	1.03
Qualifying revolving retail	1.58	1.68	78	72	1.00
Other retail	6.39	6.07	64	67	1.07
As at 31 December 2012					
Wholesale					
Central governments or central banks					
– Investment Bank	0.36	–	–	–	–
– Corporate Banking	0.23	–	–	–	–
– Africa Group	0.74	–	n/a	n/a	n/a
Institutions					
– Investment Bank	0.97	0.02	–	–	1.43
– Corporate Banking	1.11	–	–	–	–
– Africa Group	1.05	–	n/a	n/a	n/a
Corporates					
– Investment Bank	1.65	0.31	44	15	1.08
– Corporate Banking	2.75	1.70	45	45	1.11
– Africa Group	1.85	2.15	n/a	n/a	n/a
Retail					
SME	7.06	5.91	68	72	1.06
Secured by real estate collateral UK	0.67	0.53	4	1	1.02
Secured by real estate collateral Rest of World	1.98	2.10	14	24	1.03
Qualifying revolving retail	1.64	1.77	84	83	1.02
Other retail	7.44	4.81	62	60	1.01

IRB Exposure Class\Year	PD of total portfolio		LGD of defaulted assets		EAD of defaulted assets
	Estimate %	Actual %	Estimated %	Actual %	Estimate to actual ratio
As at 31 December 2011					
Wholesale					
Central governments or central banks					
– Investment Bank	0.24	–	–	–	–
– Corporate Banking	n/a	n/a	n/a	n/a	n/a
– Africa Group	0.85	–	n/a	n/a	n/a
Institutions					
– Investment Bank	1.02	0.01	67	64	0.88
– Corporate Banking	0.87	0.38	–	–	1.00
– Africa Group	0.98	–	n/a	n/a	n/a
Corporates					
– Investment Bank	1.77	0.50	37	34	1.13
– Corporate Banking	3.53	1.76	50	51	1.06
– Africa Group	1.78	1.76	n/a	n/a	n/a
Retail					
SME	6.74	5.55	65	69	1.04
Secured by real estate collateral UK	0.68	0.57	4	1	1.02
Secured by real estate collateral Rest of World	2.13	2.84	8	15	1.02
Qualifying revolving retail	1.85	2.12	83	83	1.00
Other retail	7.89	6.36	63	60	1.01

Note that some of the data underlying the table follows the business model monitoring cycle that does not precisely coincide with year ends; we do not consider this introduces a bias in a particular direction.

Note that LGD and EAD for Foundation IRB portfolios (wholesale Absa asset classes) are prescribed measures and not derived using credit risk models, hence do not form part of this report.

Barclays' approach to managing risks

Management of counterparty credit risk and credit risk mitigation techniques

Counterparty credit risk arises from derivatives and similar contracts. This section details the specific aspects of the risk framework related to this type of credit risk. As credit risk mitigation is one of the principal uses of derivative contracts by banks, this is also discussed in this section.

- A discussion of credit risk mitigation (covering traditional credit risks) is included on pages 125 and 126.
- On page 127 a high level description of the types of exposures incurred in the course of Barclays' activity supplements the analytical tables in pages 63 to 70.
- Mitigation techniques specific to counterparty credit risk are also discussed.

Credit risk mitigation

The Group employs a range of techniques and strategies to actively mitigate the counterparty credit risk. These can broadly be divided into three types:

- netting and set-off
- collateral
- risk transfer

The Group has detailed policies in place to ensure that credit risk mitigation is appropriately recognised and recorded. The recognition of credit risk mitigation is subject to a number of considerations, including ensuring legal certainty of enforceability and effectiveness, ensuring the valuation and liquidity of the collateral is adequately monitored, and ensuring the value of the collateral is not materially correlated with the credit quality of the counterparty.

All three types of credit risk mitigation may be used by different areas of the Group for exposures with a full range of counterparties. For instance, Investment Bank, Corporate Banking and other business areas may all take property, cash or other physical assets as collateral for exposures to retailers, property companies or other client types.

Netting and set-off

In most jurisdictions in which the Group operates, credit risk exposures can be reduced by applying netting and set-off. In exposure terms, this credit risk mitigation technique has the largest overall impact on net exposure to derivative transactions, compared with other risk mitigation techniques.

For derivative transactions, the Group's normal practice is to enter into standard master agreements with counterparties (e.g. ISDAs). These master agreements allow for netting of credit risk exposure to a counterparty resulting from a derivative transaction against the Group's obligations to the counterparty in the event of default, and so produce a lower net credit exposure. These agreements may also reduce settlement exposure (e.g. for foreign exchange transactions) by allowing payments on the same day in the same currency to be set-off against one another.

Under IFRS, netting is permitted only if both of the following criteria are satisfied:

- the entity currently has a legally enforceable right to set off the recognised amounts
- the entity intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Under US GAAP, netting is also permitted, regardless of a currently legally enforceable right of set-off and/or the intention to settle on a net basis, where there is a counterparty master agreement that would be enforceable in the event of bankruptcy.

Collateral

The Group has the ability to call on collateral in the event of default of the counterparty, comprising:

- **home loans:** a fixed charge over residential property in the form of houses, flats and other dwellings. The value of collateral is impacted by property market conditions which drive demand and therefore value of the property. Other regulatory interventions on ability to repossess, longer period to repossession and granting of forbearance may also affect the collateral value
- **wholesale lending:** a fixed charge over commercial property and other physical assets, in various forms
- **other retail lending:** includes charges over motor vehicle and other physical assets; second lien charges over residential property, which are subordinate to first charges held either by the Group or by another party; and finance lease receivables, for which typically the Group retains legal title to the leased asset and has the right to repossess the asset on the default of the borrower
- **derivatives:** the Group also often seeks to enter into a margin agreement (e.g. Credit Support Annex (CSA)) with counterparties with which the Group has master netting agreements in place. These annexes to master agreements provide a mechanism for further reducing credit risk, whereby collateral (margin) is posted on a regular basis (typically daily) to collateralise the mark to market exposure of a derivative portfolio measured on a net basis. The Group may additionally negotiate the receipt of an independent amount further mitigating risk by collateralising potential mark to market exposure moves
- **reverse repurchase agreements:** collateral typically comprises highly liquid securities which have been legally transferred to the Group subject to an agreement to return them for a fixed price
- **financial guarantees and similar off-balance sheet commitments:** cash collateral may be held against these arrangements.

For details of the fair value of collateral held, please refer to maximum exposure table in the Credit risk performance section of the 2015 Annual Report.

In exposure terms, the main portfolios that the Group takes collateral for are home loans and Reverse Repurchase Agreements with financial institutions.

Floating charges over receivables

The Group may also obtain collateral in the form of floating charges over receivables and inventory of corporate and other business customers. The value of this collateral varies from period to period depending on the level of receivables and inventory. It is impracticable to provide an estimate of the amount (fair value or nominal value) of this collateral. The Group may in some cases obtain collateral and other enhancements at a counterparty level, which are not specific to a particular class of financial instrument. The fair value of the credit enhancement gained has been apportioned across the relevant asset classes.

Collateral for derivative contracts

The collateral obtained for derivatives is predominantly cash or government bonds (G7 and other highly rated governments). Appropriate haircuts may be applied to non-cash collateral, which are agreed when the margin agreement (e.g. CSA) is negotiated.

Valuation of collateral and impact of market moves

Typically, assets other than cash are subject to regular revaluation (for example via physical review, linking to an external index or depreciation of the asset), to ensure they continue to achieve appropriate mitigation of risk. Customer agreements often include requirements for provision of additional collateral, should valuations decline or credit exposure increase, for example due to market moves impacting a derivative exposure.

The carrying value of non-cash collateral reflects the fair value of the physical assets, limited to the carrying value of the asset where the exposure is over-collateralised. In certain cases, where active markets or recent valuations of the assets are not available, estimates are used. For assets collateralised by residential or commercial property (and certain other physical assets), where it is not practicable to assess current market valuations of each underlying property, values reflect historical fair values updated for movements in appropriate external indices. For further information on LTV ratios in principal home loans portfolios, see the Risk performance – Credit risk section of the 2015 Annual Report.

Liens over fluctuating assets such as inventory and trade receivables, known as floating charges, over the assets of a borrower are monitored annually. The valuation of this type of collateral takes into account the ability to establish objectively a price or market value, the frequency with which the value can be obtained (including a professional appraisal or valuation), and the volatility or a proxy for the volatility of the value of the collateral.

For assets collateralised by traded financial instruments, values reflect MTM or mark to model values of those assets, applying a haircut where appropriate. A haircut is the valuation percentage applicable to each type of collateral and will be largely based on liquidity and price volatility of the underlying security.

Valuation of collateral – property

When property is taken as collateral, it is monitored to establish whether the current value is less than its value at origination. Monitoring is undertaken annually for commercial property or via linking to an external index for residential property. More frequent monitoring may be carried out where the property sector is subject to significant deterioration.

Deterioration is monitored principally by geography. Specific exercises to monitor property values may be undertaken where the property sector in a given geography has been subject to significant deterioration and where the Group has a material concentration of property collateral.

Monitoring may be undertaken either at a portfolio level (typically retail) or at an individual level (typically wholesale).

In retail businesses, monitoring on a portfolio level refers to a more frequent process of indexing collateral values on each individual loan, using a regional or national index, and updating LGD values. This monitoring may be a desk top assessment and need not necessarily include physical assessment of properties. In the event of charge-off, an individual valuation of the property is undertaken within 3 months of the charge-off event and subsequently undertaken at least every six months whilst in charge-off.

In wholesale, monitoring is undertaken by individuals who are not part of the sales / relationship part of the business. Where an appropriate local index is not available, property values are monitored on an individual basis as part of the annual review process for the loan. For larger loans, in addition to the regular annual review, the property value is reviewed by an independent valuer at least once every three years. This review is a more detailed assessment than the standard property monitoring review, and may include a fresh professional valuation. In addition, an independent valuer reviews the property valuation where information indicates that the value of the property may have declined materially relative to general market prices. In addition, trigger points are defined under which property values must be reviewed.

Valuation of collateral – distressed assets

The net realisable value from a distressed sale of collateral obtained by the Group upon default or insolvency of counterparty will in some cases be lower than the carrying value recognised. Assets obtained are normally sold, generally at auction, or realised in an orderly manner for the maximum benefit of the Group, the borrower's other creditors and the borrower, in accordance with the relevant insolvency regulations. For business customers, in some circumstances, where excess funds are available after repayment in full of the outstanding loan, they are offered to any other, lower ranked, secured lenders. Any additional funds are returned to the borrower. The Group does not occupy repossessed properties for its business use or use assets obtained in its operations.

Additional revaluations are usually performed when a loan is moved to WL. Exceptions to this may be considered where it is clear a revaluation is not necessary, for instance where there is a very high margin of security or a recent valuation has been undertaken. Conversely, a material reduction in the value of collateral held represents an increase in credit risk and will often cause a loan to be placed on the WL.

Any one of the above events may also trigger a test for impairment, depending on individual circumstances of the loan. When calculating impairment, the difference between an asset's carrying amount and the present value of all estimated cash flows discounted at the original effective interest rate will be recognised as impairment. Such cash flows include the estimated fair value of the collateral, which reflects the results of the monitoring and review of collateral values as detailed above and valuations undertaken as part of the Group's impairment process.

Whether property values are updated as part of the annual review process, or by indexation of collateral values, the updated collateral values feed into the calculation of risk parameters which, in turn, feed into identified and unidentified impairment calculations at each balance sheet date.

Trends in LLRs incorporate the impact of any decrease in the fair value of collateral held.

Risk transfer

A range of instruments including guarantees, credit insurance, credit derivatives and securitisation can be used to transfer credit risk from one counterparty to another. These mitigate credit risk in two main ways:

- if the risk is transferred to a counterparty which is more credit worthy than the original counterparty, then overall credit risk is reduced
- where recourse to the first counterparty remains, both counterparties must default before a loss materialises. This is less likely than the default of either counterparty individually so credit risk is reduced.

Risk transfer can also be used to reduce risk concentrations within portfolios lowering the impact of stress events.

Risk transfer transactions are undertaken with consideration to whether the collateral provider is correlated with the exposure, the credit worthiness of the collateral provider and legal certainty of enforceability and effectiveness. Where credit risk mitigation is deemed to transfer credit risk, this exposure is appropriately recorded against the credit risk mitigation provider.

In exposure terms, risk transfer is used most extensively as a credit risk mitigation technique for wholesale loans and derivative financial instruments.

Off-balance sheet risk mitigation

The Group applies fundamentally the same risk management policies for off-balance sheet risks as it does for its on-balance sheet risks. In the case of commitments to lend, counterparties/customers will be subject to the same credit management policies as for loans and advances. Collateral may be sought depending on the strength of the counterparty and the nature of the transaction.

Recognition of credit risk mitigation in capital calculations

Credit risk mitigation is used to reduce credit risk associated with an exposure, which may reduce potential losses in the event of obligor default or other specified credit events.

Credit risk mitigation that meets certain regulatory criteria may be used to improve risk parameters and reduce RWA consumption against a given obligor. Collateral that meets these regulatory conditions is referred to as eligible collateral. Eligibility criteria are specified in articles 195 to 204 of the Capital Regulations Requirement (CRR).

The Group's policies and standards set out criteria for the recognition of collateral as eligible credit risk mitigation and are designed to be fully consistent with all applicable local regulations and regulatory permissions.

Where regulatory capital is calculated under AIRB regulations, the benefit of collateral is generally taken by adjusting LGDs. For standardised portfolios, the benefit of collateral is taken using the financial collateral comprehensive method: supervisory volatility adjustments approach.

For instruments that are deemed to transfer credit risk, in AIRB portfolios the protection is generally recognised by using the PD and LGD of the protection provider.

For exposures treated under the standardised approach, the impact of eligible credit risk mitigation is primarily recognised by reducing the EAD associated with the exposure that benefits from the mitigation.

Managing concentrations within credit risk mitigation

Credit risk mitigation taken by the Group to reduce credit risk may result in credit or market risk concentrations.

Guarantees that are treated as eligible credit risk mitigation are marked as an exposure against the guarantor and aggregated with other credit exposure to the guarantor. Limit monitoring at the counterparty level is then used for monitoring of concentrations in line with Group policy.

Commercial real estate lending is another potential source of concentration risk arising from the use of credit risk mitigation. The portfolio is regularly reviewed to assess whether a concentration in a particular region, industry or property type exists, and portfolio limits are in place to control the level of exposure to commercial, residential, investment and development activity.

Counterparty credit risk

Derivative counterparty credit exposures

The Group enters into financial instruments that are traded or cleared on an exchange, including interest rate swaps, futures and options on futures. Holders of exchange traded instruments provide daily margins with cash or other securities at the exchange, to which the holders look for ultimate settlement.

The Group also enters into financial instruments that are traded over the counter, rather than on a recognised exchange. These instruments range from standardised transactions in derivative markets, to trades where the specific terms are tailored to the requirements of the Group's counterparties. In most cases, industry standard documentation is used, most commonly in the form of a master agreement, with individual transaction confirmations. The existence of a signed master agreement is intended to give the Group protection in situations where the Group's counterparty is in default.

Counterparty credit exposure arises from the risk that parties are unable to meet their payment obligations under certain financial contracts such as derivatives, securities financing transactions (e.g. repurchase agreements), or long settlement transactions.

A Monte Carlo simulation engine is used to estimate the Potential Future Exposure (PFE) to derivative and securities financing counterparties. The exposure simulation model simulates future market states and the MTM of the derivative transactions under those states. Simulated exposures including the effect of credit mitigants such as netting, collateral and mandatory break clauses can then be generated.

Credit limits for CCR are assessed and allocated using the PFE measure. A number of factors are taken into account when setting credit limits for individual counterparties, including but not limited to the credit quality and nature of the counterparty the rationale for the trading activity entered into and any wrong-way risk considerations.

The expected exposures generated by this engine are also used as an input into both internal and regulatory capital calculations covering CCR.

'Wrong-way risk' in a trading exposure arises when there is significant correlation between the underlying asset and the counterparty, which in the event of default would lead to a significant MTM loss to the counterparty. Specific wrong-way risk trades, which are self-referencing or reference to other entities within the same counterparty group, require approval by a senior credit officer. The exposure to the counterparty will reflect the additional risk generated by these transactions.

Derivative CCR (credit value adjustments)

As the Group participates in derivative transactions it is exposed to CCR, which is the risk that a counterparty will fail to make the future payments agreed in the derivative contract. This is considered as a separate risk to the volatility of the MTM payment flows. Modelling this counterparty risk is an important part of managing credit risk on derivative transactions.

The counterparty risk arising under derivative transactions is taken into account when reporting the fair value of derivative positions. The adjustment to the value is known as credit value adjustment (CVA). It is the difference between the value of a derivative contract with a risk-free counterparty and that of a contract with the actual counterparty. This is equivalent to the cost of hedging the counterparty risk in the Credit Default Swap (CDS) market.

CVAs for derivative positions are calculated as a function of the expected exposure, which is the average of future hypothetical exposure values for a single transaction or group of transactions with the same counterparty, the credit spread for a given horizon and the LGD.

The expected exposure is calculated using Monte Carlo simulations of risk factors that may affect the valuation of the derivative transactions in order to simulate the exposure to the counterparty through time. These simulated exposures include the effect of credit mitigants such as netting, collateral and mandatory break clauses. Counterparties with appropriate credit mitigants will generate a lower expected exposure profile compared to counterparties without credit mitigants in place for the same derivative transactions.

Derivative netting and collateral arrangements

Credit risk from derivatives is mitigated where possible through netting agreements whereby derivative assets and liabilities with the same counterparty can be offset. Group policy requires all netting arrangements to be legally documented. The ISDA Master Agreement is the Group's preferred agreement for documenting OTC derivatives. It provides the contractual framework within which dealing activities across a full range of OTC products are conducted, and contractually binds both parties to apply close-out netting across all outstanding transactions covered by an agreement if either party defaults or other predetermined events occur. The majority of the Group's OTC derivative exposures are covered by ISDA master netting and ISDA CSA collateral agreements.

Collateral is obtained against derivative assets, depending on the creditworthiness of the counterparty and/or nature of the transaction. Any collateral taken in respect of OTC trading exposures will be subject to a 'haircut', which is negotiated at the time of signing the collateral agreement. A haircut is the valuation percentage applicable to each type of collateral and will be largely based on liquidity and price volatility of the underlying security. The collateral obtained for derivatives is predominantly either cash, direct debt obligation government (G14+) bonds denominated in the domestic currency of the issuing country, debt issued by supranationals or letters of credit issued by an institution with a long-term unsecured debt rating of A+/A3 or better. Where the Group has ISDA master agreements, the collateral document will be the ISDA CSA. The collateral document must give Barclays the power to realise any collateral placed with it in the event of the failure of the counterparty.

This section describes the governance structure specific to the management of market risks, as well as a discussion of measurement techniques.

- Market risks are varied, and a range of techniques must be used to manage them. From page 129 we provide an overview of the market risks we incur across the Group
- The governance structure specific to market risks is discussed on pages 130 and 131.

The rest of the section is divided into traded, non-traded and other risks:

- Traded market risk, the risk of the Group being impacted by changes in the level or volatility of positions in the trading book, is covered on pages 131 to 136. Measurement techniques such as VaR, are discussed, as well as techniques applied when statistical techniques are not appropriate
- Non-traded market risks, the risk that the Group is unable to fully hedge its banking book, mainly arising as a result of lending and deposit taking activities, are discussed on pages 136 and 137, along with a discussion of how they are managed
- Other market risks, such as those associated with Barclays pension obligations, are analysed separately from page 137.

Introduction to the management of market risk

The risk of a reduction to earnings or capital due to volatility of trading book positions or as a consequence of running a banking book balance sheet and liquidity funding pools.

Overview

Traded market risk
Traded market risk arises primarily as a result of client facilitation in wholesale markets, involving market making activities, risk management solutions and execution of syndications. Upon execution of a trade with a client, the Group will look to hedge against the risk of the trade moving in an adverse direction. Mismatches between client transactions and hedges result in market risk due to changes in asset prices.

Non-traded market risk
Banking book operations generate non-traded market risk, primarily through interest rate risk arising from the sensitivity of net interest margins to changes in interest rates. The principal banking businesses engage in internal derivative trades with Treasury to manage their interest rate risk to within its defined risk appetite. However, the businesses remain susceptible to market risk from four key sources:

- prepayment risk: balance run-off may be faster or slower than expected, due to customer behaviour in response to general economic conditions or interest rates. This can lead to a mismatch between the actual balance of products and the hedges executed with Treasury based on initial expectations
- recruitment risk: the volume of new business may be lower or higher than expected, requiring the business to unwind or execute hedging transactions with Treasury at different rates than expected
- residual risk and margin compression: the business may retain a small element of interest rate risk to facilitate the day-to-day management of customer business. Additionally, in the current low rate environment, deposits on which the Group sets the interest rate are exposed to margin compression. This is because for any further fall in base rate the Group must absorb an increasing amount of the rate move in its margin
- lag risk: the risk of being unable to re-price products immediately after a change in interest rates due to mandatory notification periods. This is highly prevalent in managed rates savings product (e.g. Every Day Saver) where customers must be informed in writing of any planned reduction in their savings rates.

Pension risk
The Group maintains a number of defined benefit pension schemes for past and current employees. The ability of the pension fund to meet the projected pension payments is maintained principally through investments.

Pension risk arises because the estimated market value of the pension fund assets might decline; investment returns might reduce; or the estimated value of the pension liabilities might increase as a result of changes to the market process. The Group monitors the market risks arising from its defined benefit pension schemes, and works with the Trustees to address shortfalls. In these circumstances, The Group could be required or might choose to make extra contributions to the pension fund. The Group's main defined benefit scheme was closed to new entrants in 2012.

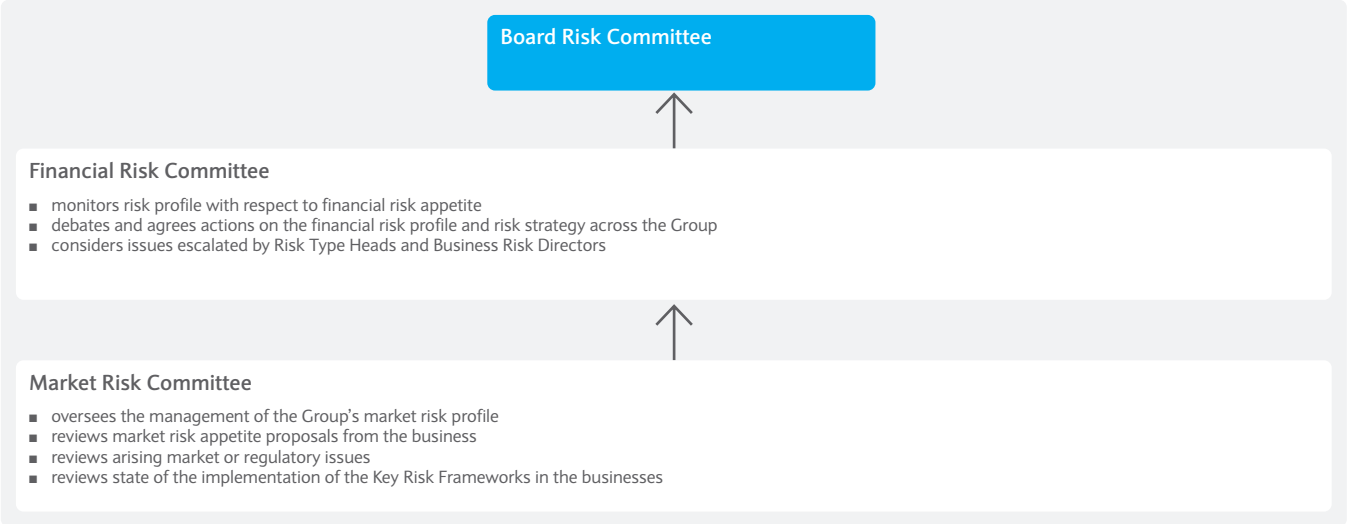
Insurance risk
Insurance risk is managed within Africa Banking, where four categories of insurance risk are recognised: short-term insurance underwriting risk, life insurance underwriting risk, life insurance mismatch risk, and life and insurance investment risk.

Insurance risk arises when:

- aggregate insurance premiums received from policyholders under a portfolio of insurance contracts are inadequate to cover the claims arising from those policies and the expenses associated with the management of the portfolio of policies and claims
- premiums are not invested to adequately match the duration, timing and size of expected claims
- unexpected fluctuations in claims arise or excessive exposure (e.g. in individual or aggregate exposures) relative to capacity is retained in the entity.

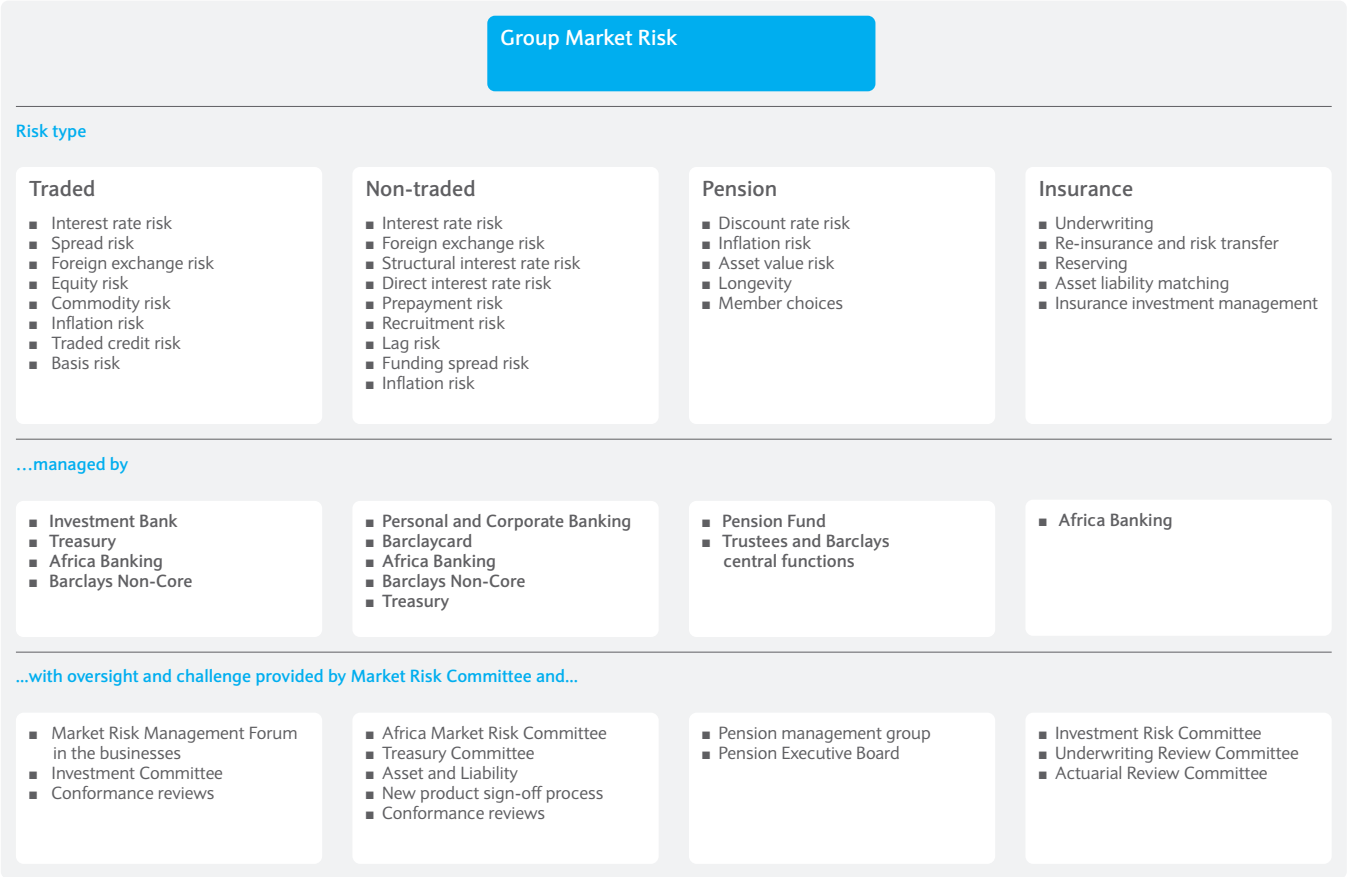
Insurance entities also incur market risk (on the investment of accumulated premiums and shareholder capital), credit risk (counterparty exposure on investments and reinsurance transactions), liquidity risk and operational risk from their investments and financial operations.

Organisation and structure



Barclays' approach to managing risks
Management of market risk

Overview of the business market risk control structure



Organisation and structure

Traded market risk in the businesses resides primarily in Investment Bank, Treasury, Africa Banking and Non-Core. These businesses have the mandate to incur traded market risk. Non-traded market risk is mostly incurred in PCB, Barclaycard and Treasury.

Market risk oversight and challenge is provided by business committees, Group committees, including the Market Risk Committee and Group Market Risk. The chart above gives an overview of the business control structure.

Roles and responsibilities

The objectives of market risk management are to:

- understand and control market risk by robust measurement, limit setting, reporting and oversight
- facilitate business growth within a controlled and transparent risk management framework
- ensure that traded market risk in the businesses is controlled according to the allocated appetite
- control non-traded market risk in line with approved appetite
- control insurance risk in line with approved appetite
- support the Non-Core strategy of asset reductions by ensuring that market risk remains within agreed risk appetite.

To ensure the above objectives are met, a well-established governance structure is in place to manage these risks consistent with the ERMF (evaluate-respond-monitor). See page 96 on risk management strategy, governance and risk culture.

The BRC recommends market risk appetite to the Board for their approval. The Market Risk Principal Risk Officer (MRPRO) is responsible for the Market Risk Control Framework and, under delegated authority from the CRO, agrees with the BCROs a limit framework within the context of the approved market risk appetite.

Across the Group, market risk oversight and challenge is provided by business committees, Group committees, including the Group Market Risk Committee and Group Market Risk. The chart above gives an overview of the business control structure.

The Group Market Risk Committee approves and makes recommendations concerning the Group-wide market risk profile. This includes overseeing the operation of the Market Key Risk Frameworks and associated standards and policies; reviewing arising market or regulatory issues, limits and utilisation; and risk appetite levels to the Board. The Committee is chaired by the MRPRO and attendees include the business heads of market risk, business aligned risk managers, and senior managers from Group Market Risk and Internal Audit.

The head of each business is accountable for all market risks associated with its activities, while the head of the market risk team covering each business is responsible for implementing the key risk control frameworks for market risk.

Risk management in the setting of strategy

Appetite for market risk is recommended by the risk function to BRC for agreement by the Board. Mandate and scales are set to control levels of market risk and ensure the Group remains within the BRC approved risk appetite. The Group runs an annual Group-wide stress testing exercise which aims to simulate the dynamics of exposures across the Group and cover all risk factors. The exercise is also designed to measure the impact to the Group's fundamental business plan, and is used to manage the wider Group's strategy.

See pages 105 and 106 for more detail on the role of risk in the setting of strategy.

Market risk culture

Market risk managers are independent from the businesses they cover, and their line management reports into the CRO. This embeds a risk culture with strong adherence to limits that support Group-wide risk appetite. See pages 99 to 101 for more detail on risk culture.

Management of traded market risk, mitigation and hedging policies

The governance structure helps ensure all market risks that the Group is exposed to are well managed and understood.

Traded market risk is generated primarily as a result of market making activities, syndications and providing risk management solutions to clients. Group Treasury supports the businesses in managing their interest rate risk. Positions will contribute both to market risk limits and regulatory capital if relevant.

As part of the continuous monitoring of the risk profile, Market Risk meets with the businesses to discuss the risk profile on a regular basis. The outcome of these reviews includes further detailed assessments of event risk via stress testing, risk mitigation and risk reduction.

Traded market risk measurement – management view

Market risk management measures

A range of complementary approaches to measure traded market risk are used which aim to capture the level of losses that the bank is exposed to due to unfavourable changes in asset prices. The primary tools to control the firm's exposures are:

Measure	Description
Management Value at Risk (VaR)	An estimate of the potential loss arising from unfavourable market movements, if the current positions were to be held unchanged for one business day.
Primary stress tests	An estimate of potential losses that might arise from severe market moves or scenarios impacting key liquid market risk exposures.
Secondary stress tests	Modelled losses from unfavourable market movements to illiquid market risk exposures.
Business scenario stresses	Multi asset scenario analysis of severe, but plausible events that may impact the market risk exposures of the Investment Bank.

The use of Management VaR for traded market risk is broader than the application for use of VaR for regulatory capital, and captures standardised, advanced and certain banking books where traded market risks are deemed to exist. The wider scope of Management VaR is what the Group deems as material market risk exposures which may have a detrimental impact on the performance of the trading business. The scope used in Regulatory VaR (see page 133) is narrower as it applies only to trading book positions as approved by the PRA.

Stress testing and scenario analysis are also an important part of the risk management framework, to capture potential risk that may arise in severe but plausible events.

Management VaR

Estimates the potential loss arising from unfavourable market movements, over one day for a given confidence level:

- differs from the Regulatory VaR used for capital purposes in scope, confidence level and horizon
- back testing is performed to ensure the model is fit for purpose.

VaR is an estimate of the potential loss arising from unfavourable market movements if the current positions were to be held unchanged for one business day. For internal market risk management purposes, a historical simulation methodology with a two-year equally weighted historical period, at the 95% confidence level is used for all trading books and some banking books. Risk factors driving VaR are grouped into key risk types as follows:

Risk factor	Description
Interest rate	Changes in the level or shape of interest rate expectations can impact prices of interest rate sensitive assets, such as bonds and derivatives instruments, such as interest rate swaps.
Spread	Difference between bond yields and swaps rates that arises when a business has positions in both bonds and interest rate/inflation derivatives instruments. Both assets may trade at different levels but are fundamentally exposed to similar risk.
Foreign exchange	The impact of changes in foreign exchange rates and volatilities.
Equity	Risk due to changes in equity prices, volatilities and dividend yields, for example as part of market making activities, syndication or underwriting of initial public offerings.
Commodity	Arises primarily from providing hedging solutions to clients and access to financial investors to a range of commodity products on both a derivative and physical basis, and involves movements in the absolute and shape of the spot and forward curves.
Inflation	Arises from the impact of changes in inflation rates and volatilities on cash instruments and derivatives. This arises as part of market marking activities, whereby the Group may be exposed to changes in inflation rates, for example, market making syndications for inflation linked securities.
Traded credit	Arises from the uncertainty of credit quality impacting prices of assets, for example positions such as corporate bonds, securitised products and credit based derivative instruments, including credit default swaps.
Basis	The impact of changes in interest rate tenor basis (e.g. the basis between swaps vs 3M LIBOR and swaps vs 6M LIBOR) and cross-currency basis and is primarily generated as a result of market making activities.

In some instances, historical data is not available for particular market risk factors for the entire look-back period, for example, complete historical data would not be available for our equity security following an initial public offering. In these cases, market risk managers will proxy the unavailable market risk factor data with available data for a related market risk factor.

The output of the Management VaR model can be readily tested through back testing. This checks instances where actual losses exceed the predicted potential loss estimated by the VaR model. If the number of instances is higher than expected, where actual losses exceed the predicted potential loss estimated by the VaR model, this may indicate limitations with the VaR calculation, for example, a risk factor that would not be adequately captured by the model.

The Management VaR model in some instances may not appropriately measure some market risk exposures, especially for market moves that are not directly observable via prices. Market risk managers are required to identify risks which are not adequately captured in VaR ('risks not in VaR' or 'RNIVs', discussed below).

When reviewing VaR estimates, the following considerations are taken into account:

- the historical simulation uses the most recent two years of past data to generate possible future market moves, but the past may not be a good indicator of the future
- the one-day time horizon may not fully capture the market risk of positions that cannot be closed out or hedged within one day
- VaR is based on positions as at close of business and consequently, it is not an appropriate measure for intra-day risk arising from a position bought and sold on the same day
- VaR does not indicate the potential loss beyond the VaR confidence level.

Limits are applied at the total level as well as by risk factor type, which are then cascaded down to particular trading desks and businesses by the market risk management function.

See page 74 for a review of Management VaR in 2015.

Primary stress tests

- Key tool used by management to measure liquid market risks from extreme market movements or scenarios in each major trading asset class.

Stress testing provides an estimate of potential significant future losses that might arise from extreme market moves or scenarios. Primary stress tests apply stress moves to key liquid risk factors for each of the major trading asset classes, namely:

- **interest rates:** shock to the level and structure of interest rates and inflation across currencies
- **credit:** impact on traded corporate credit exposures, including across rating grades, geography, sectors and products
- **foreign exchange:** impact of unfavourable moves in currency prices and volatility
- **equity:** shocks to share prices including exposures to specific markets and sectors
- **commodities:** adverse commodity price changes across both physical and derivative markets
- **securitised products:** stresses to securitised structures and associated hedges.

Primary stresses apply moves to liquid assets incorporating up to 10 days holding period. Shock scenarios are determined by a combination of observed extreme historical moves and forward looking elements as appropriate.

Primary stresses are calculated for each asset class on a standalone basis. Risk managers calculate several stress scenarios and communicate the results to senior managers to highlight concentrations and the level of exposures. Primary stress loss limits are applied across the trading businesses and is a key market risk control.

Secondary stress tests

- Key tool used by management to measure illiquid market risks from extreme market movements or scenarios in each major trading asset class.

Secondary stress tests are used in measuring potential losses arising from market risks that are not captured in the primary stress tests. These may relate to financial instruments or risk exposures which are not readily or easily tradable or markets that are naturally sensitive to a rapid deterioration in market conditions.

For each asset class, secondary stresses are aggregated to a single stress loss which allows the business to manage its liquid and illiquid risk factors. Limits against secondary stress losses are also applied, which allows the firm to manage and control the level of illiquid risk factors.

Stresses are specific to the exposure held and are calibrated on both observed extreme moves and some forward-looking elements as appropriate.

Business scenario stresses

- Key tool used by management to measure aggregated losses across the entire trading book as a result of extreme forward-looking scenarios encompassing simultaneous shocks to multiple asset classes.

Business scenario stresses apply simultaneous shocks to all risk factors assessed by applying changes to foreign exchange rates, interest rates, credit spreads, commodities and equities to the entire portfolio, for example, the impact of a rapid and extreme slowdown in the global economy. The measure shows results on a multi-asset basis across all trading exposures. Business scenarios are used for risk appetite monitoring purposes and are useful in identifying concentrations of exposures and highlighting areas that may provide some diversification.

The estimated impact on market risk exposures are calculated and reported by the market risk management function on a frequent and regular basis. The stress scenario and the calibration of the shocks are also reviewed by market risk managers periodically for its relevance considering the market environment.

Scenarios such as a global recession, deterioration in the availability of liquidity, contagion effects of a slowdown in one of the major economies, slowdown in a major economic region and a historical event scenario are examples of business scenarios. If necessary, market event-specific scenarios are also calculated, such as, a unilateral decision to exit the Eurozone by a member country, and the impact of a disorderly exit of quantitative easing programmes, including unexpected rapid and continuous interest rate rises as a result.

See page 75 for a review of business scenario stresses in 2015.

Traded market risk measurement – regulatory view

Regulatory view of traded positions

For regulatory purposes, the trading book is defined as one that consists of all positions in CRD financial instruments and commodities held either with trading intent, or in order to hedge other elements of trading, and which are either free of any restrictive covenants on their tradability, or able to be hedged. A CRD financial instrument is defined as a contract that gives rise to both a financial asset of one party and a financial liability or equity instrument of another party.

All of the below regulatory measures, including the standardised approach, generate market risk capital requirements, in line with the regulatory requirements set out in the Capital Requirements Directive ('CRD IV') and Regulation. Positions which cannot be included in the trading book are included within the banking book and generate risk capital requirements in line with this treatment.

Inclusion of exposures in the regulatory trading book

The Group maintains a Trading Book Policy, which defines the minimum requirements a business must meet to run trading positions and the process by which positions are allocated to trading or banking books. Trading intent is a key element in deciding whether a position should be treated as a trading or banking book exposure.

Positions in the trading book are subject to market risk capital, computed using models where regulatory approval has been granted, otherwise the market risk capital requirement is calculated using standard rules as defined in the Capital Requirement Regulation (CRR), part of the CRD IV package. If any of the criteria specified in the policy are not met for a position, then that position must be allocated to the banking book.

Most of the Group's market risk regulatory models are assigned the highest model materiality rating. Consequently, the Regulatory VaR model is subject to annual re-approval at the Executive Models Committee (EMC), which is chaired by the CRO and the GFD. EMC considers evidence of model suitability provided by the model owner, as well as an independent validation conducted by the Independent Validation Unit. The following table summarises the models used for market risk regulatory purposes and the applicable regulatory thresholds.

Valuation standards

CRR article 105 defines regulatory principles which need to be applied to fair value assets and liabilities, in order to determine a prudent valuation.

The Prudent Valuation Adjustment (PVA) is applied to accounting fair values where there are a range of plausible alternative valuations. It is calculated in accordance with Article 105 of the Capital Requirements Regulation (CRR), and includes (where relevant) adjustments for the following factors: unearned credit spreads, close-out costs, operational risk, market price uncertainty, early termination, investing and funding costs, future administrative costs and model risk. The PVA includes adjustment for all fair valued financial instruments and commodities, irrespective of whether they are in the trading or banking book.

Page 290 of the Annual Report sets out the valuation control framework for accounting valuations and the related responsibilities of the Finance-Product Control Valuations function and the Valuation Committee. This function and committee are also responsible for the oversight of the PVA and ensuring compliance with article 105 of the CRR.

Regulatory measures for traded market risk

There are a number of regulatory measures which the Group has permission to use in calculating regulatory capital (internal models approval). These are listed below:

Measure	Definition
Regulatory Value at Risk (VaR)	An estimate of the potential loss arising from unfavourable market movements calibrated to 99% confidence interval 10-day holding period.
Stressed Value at Risk (SVaR)	An estimate of the potential loss arising from a twelve-month period of significant financial stress calibrated to 99% confidence interval 10-day holding period.
Incremental Risk Charge (IRC)	An estimate of the incremental risk arising from rating migrations and defaults, beyond what is already captured in specific market risk VaR for the non-correlation trading portfolio. Uses a 99.9% confidence level and a one-year horizon.
All Price Risk (APR)	An estimate of all the material market risk, including rating migration and default for the correlation trading portfolio.

Regulatory VaR

- Estimates the potential loss arising from unfavourable market movements.
- Regulatory VaR differs from the management approach in the following respects.

VaR Variable	Regulatory	Management
Confidence interval	99%	95%
Scope	As approved by the regulator (PRA)	Management view of market risk exposures. Includes trading books and banking books exposed to price risk
Look-back period	2 years	2 years
Liquidity Horizon (holding period)	10 days	1 day

Regulatory VaR allows oversight of the total potential losses, at a given confidence level, of those trading books which received approval from the regulator to be covered via an internal model. Regulatory VaR levels contribute to the calculation of the market risk RWAs.

Management VaR allows the bank to supervise the total market risk across the Group, including all trading books and some banking books.

Management VaR is also utilised for internal capital model (economic capital).

Regulatory VaR is fundamentally the same as the Management VaR (see page 74), with the key differences listed above.

The model is complemented with RNIVs, as described on page 136. See page 76 for significant RNIVs over the year.

Stressed Value at Risk (SVaR)

- Estimates the potential loss arising from unfavourable market movements in a stressed environment.
- Identical to Regulatory VaR, but calibrated over a one-year stressed period.

Regulatory capital is allocated to individual businesses. For regulatory capital calculation purposes the Group computes a market risk capital requirement based on a ten-day, 99% VaR metric calibrated to a period of significant financial stress. This Stressed VaR ('SVaR') capital requirement is added to the market risk capital requirement arising from regulatory VaR, the Incremental Risk Charge and the All Price Risk on an undiversified basis.

The SVaR model must be identical to the VaR model used by the Group, with the exception that the SVaR model must be calibrated to a one-year period of significant financial stress ('the SVaR period'). The Group selects the SVaR period to be a one-year period that maximises the sum of general market risk Regulatory VaR and specific market risk Regulatory VaR for positions in scope of regulatory approval. The SVaR period is reviewed on a quarterly basis or when required by material changes in market conditions or the trading portfolio.

SVaR cannot be meaningfully backtested as it is not sensitive to current market conditions. Many market risk factors with complete historical data over a two-year period may not have complete data covering the SVaR period and consequently, more proxies may be required for SVaR than for VaR. The SVaR metric itself has the same strengths and weaknesses as the Group's VaR model.

Incremental Risk Charge (IRC)

- Captures risk arising from rating migrations and defaults for traded debt instruments incremental to that already captured by Regulatory VaR and SVaR.

IRC captures the risk arising from ratings migrations or defaults in the traded credit portfolio. IRC measures this risk at a 99.9% confidence level with a one-year holding period and applies to all positions in scope for specific risk including sovereign exposure.

The Group's IRC model simulates default and ratings transition events for individual names. The behaviour of names is correlated with one another to simulate a systemic factor to model the possibility of multiple downgrades or defaults. The correlations between non-sovereign names are based on the Basel-defined correlations stipulated in the IRB approach to measuring credit risk capital, with a fixed correlation between sovereign names.

The Group's IRC model simulates the impact of a ratings transition by estimating the improvement or deterioration in credit spreads resulting from the transition and assumes that the historically observed average change in credit spreads (measured in relative terms) resulting from ratings transitions provides an accurate estimate of likely widening or tightening of credit spreads in future transitions. For each position, the model computes the impact of spread moves up or down at pre-specified relative movements, and the actual impact is obtained by interpolating or extrapolating the actual spread move from these pre-computed values.

The Group's IRC model assumes that ratings transitions, defaults and any spread increases occur on an instantaneous basis.

All Price Risk (APR)

Captures all market risks affecting the correlation trading portfolio.

APR covers the correlation trading portfolio and is intended to adequately capture all risk factors relevant to corporate Nth-to-default (on a basket of referenced names) and tranched credit derivatives. The capital requirement is based on a 99.9% confidence interval over a one-year holding period. The model generates a scenario based on a Monte Carlo simulation and revalues the portfolio under the simulated market scenario. The model captures the following risk factors in the correlation trading portfolio:

- default and ratings migration over a one-year time horizon
- credit spread volatility
- recovery risk: uncertainty of the recoverable value under default
- correlation risk
- basis risk: basis between credit indices and its underlying constituents
- hedge slippage: portfolio rebalancing assumption.

The Group's APR model is based on the IRC model but also captures market risks not related to transition or default events, such as movements in credit spreads or correlations. These risk factors are included as part of the Monte Carlo simulation using distributions calibrated to historically observed moves.

Table 72: Market risk models selected features

Component modelled	Number of significant models and size of associated portfolio (RWAs)	Model description and methodology	Applicable regulatory thresholds
Regulatory VaR	1 model; £3.9bn	Equally-weighted historical simulation of potential daily P&L arising from market moves	Regulatory VaR is computed with 10-day holding period and 99% confidence level
SVaR	1 model; £6.9bn	Same methodology as used for VaR model, but using a different time series	Regulatory SVaR is computed with 10-day holding period and 99% confidence level
IRC	1 model; £1.6bn	Monte Carlo simulation of profit and loss arising from ratings migrations and defaults	IRC is computed with one-year holding period and 99.9% confidence level
APR	1 model; £0.1bn	Same approach as IRC, but it incorporates market-driven movements in spreads and correlations for application to correlation trading portfolios.	APR is computed with one-year holding period and 99.9% confidence level. As required in CRD IV, the APR charge is subject to a floor set with reference to standard rules charge

See page 75 for a review of regulatory measures in 2015.

Regulatory back testing

Back testing is the method by which the Group checks and affirms that its procedures for estimating VaR are reasonable and serve its purpose of estimating the potential loss arising from unfavourable market movements. The back testing process is a regulatory requirement and seeks to estimate the performance of the regulatory VaR model. Performance is measured by the number of exceptions to the model i.e. net trading P&L loss in one trading day is greater than the estimated VaR for the same trading day. The Group's procedures could be underestimating VaR if exceptions occur regularly (a 99% confidence interval indicates that one exception will occur in 100 days).

Back testing is performed at a legal entity level, sub-portfolio levels and business-aligned portfolios (shown in the table below and in the charts on the next page) on the Group's regulatory VaR model. Regulatory back testing compares Regulatory VaR at 99% confidence level (one-day holding period equivalent) to actual and hypothetical changes in portfolio value as defined in CRR Article 366. The consolidated Barclays Bank PLC and Barclays Capital Securities Ltd is the highest level of consolidation for the VaR models that are used in the calculation of regulatory capital.

A back testing exception is generated when a loss is greater than the daily VaR for any given day.

As defined by the PRA, a green model is consistent with a good working VaR model and is achieved for models that have four or fewer back testing exceptions in a 12-month period. Back testing counts the number of days when a loss exceeds the corresponding VaR estimate, measured at the 99% regulatory confidence level. For the Investment Bank's regulatory DVaR model, green model status was maintained for 2015.

Back testing is also performed on management VaR to ensure it remains reasonable and fit for purpose.

The table below shows the VaR back testing exceptions on legal entities aligned to the Group's business in 2015. A back testing exception is generated when a loss is greater than the VaR for a given day. Exceptions are shown by legal entity rather than asset class as in prior disclosures. Model performance at a legal entity level determines regulatory capital within those entities. Legal entity disclosure also reflects the management perspective as Barclays moves forward with structural change, where VaR and model performance of VaR for a legal entity across asset class becomes more relevant than asset class metrics across legal entity.

Legal Entities	Total Exception	Status
BBPLC Trading and BCSL	3	Green
BBPLC Trading	4	Green
BCSL	4	Green
BBSA	2	Green
BCI	2	Green

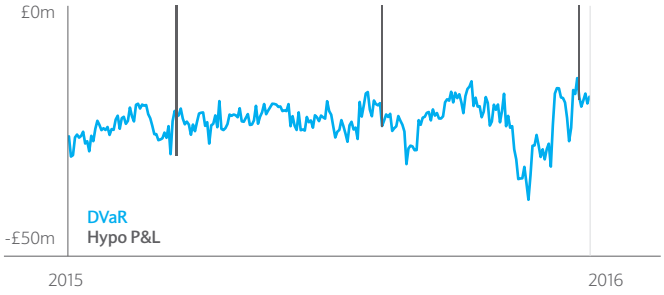
Barclays' approach to managing risks
Management of market risk

The charts below show VaR for the Group's regulatory portfolios aligned to legal entity where at least one exception has occurred during 2015. The dark blue lines indicate losses on the small number of days on which they exceeded the VaR amount.

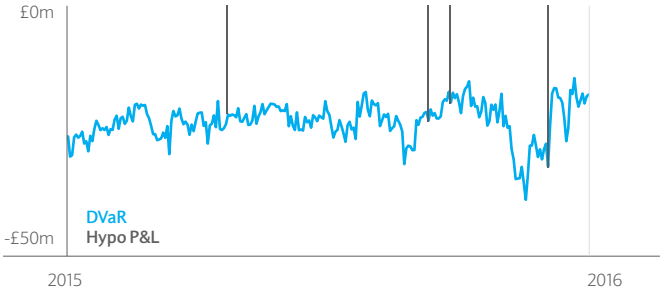
The majority of the backtesting exceptions in the year were driven by markets moving in a fashion unanticipated by the model, primarily by increases in realised volatility compared to that predicted by the VaR at the 99% confidence level. Additional exceptions are caused by non-VaR type risks which may be related to events, such as corporate actions or pricing remarks in line with valuation policies, which are not captured in the VaR model.

Exceptions are reported to internal management and regulators on a regular basis and exceptions are investigated to ensure the model performs as expected. Overall back testing for the consolidated legal entity remains in the green zone, suggesting that the VaR remains fit for purpose.

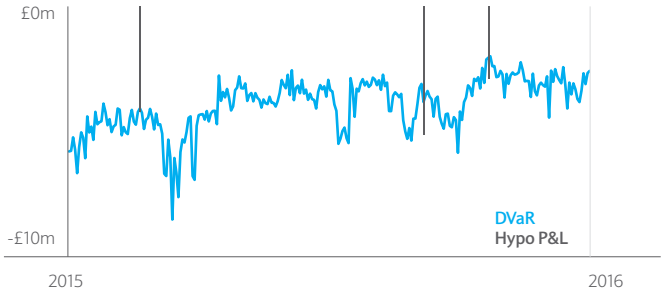
BBPLC Trading and BCSL



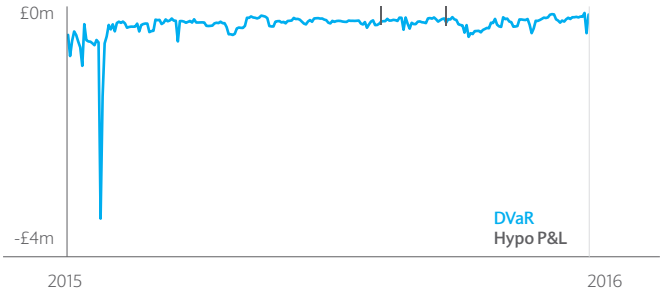
BBPLC Trading



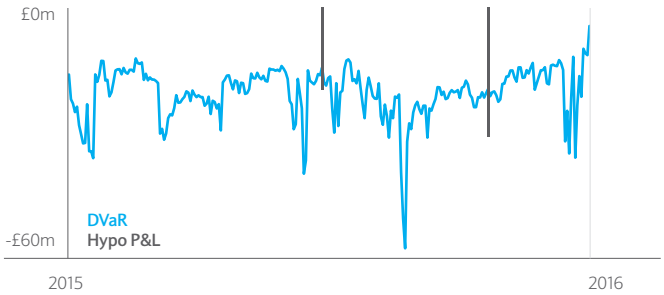
BCSL



BBSA



BCI



Management of risks not fully captured in models, including Risks not in VaR (RNIVs)

The Group's' risk identification process captures risks that either have been observed to, or have the capacity to, produce material losses in normal and stressed market conditions. To ensure risk coverage, the range of key risks is identified following either market convention, regulatory guidance, or the specific historical experience of the Group's and is considered as part of the new product processes.

In some instances, the Management and Regulatory VaR model may not appropriately measure some market risks, especially where market moves are not directly observable via prices, the Group has policies to ensure that add-ons are applied where risks are not captured by the model. RNIVs refer to those key risks that are not captured, or not adequately captured, in VaR and SVaR. RNIVs can include:

- risks not fully captured elsewhere and/or illiquid risk factors such as cross-risks;
- basis risks;
- higher-order risks;
- calibration parameters, for instance to model parameter uncertainty; and
- potential losses in excess of fair valuation adjustments taken in line with the Valuation Control Framework. Please see Note 18 in the 2015 Annual Report 'Fair value of assets and liabilities' for more details on fair value adjustments.

The treatment of RNIVs follows whether the risks are considered VaR type or non-VaR type, which depends on, and can change with, the evolving state of financial markets:

- **VaR-type RNIVs:** Typically represent risks that are not well captured in VaR, mainly because of infrastructure limitations or methodology limitations. In this instance two metrics are calculated, a VaR RNIV and a SVaR RNIV, using the same confidence level, capital horizon and observation period as VaR and SVaR respectively and are capitalised using the same multipliers as VaR and SVaR
- **Non-VaR-type RNIVs:** Typically represent risks which would not be well captured by any VaR model either because it rcepresents an event not historically observed in the VaR time series (e.g. currency peg break) or a market risk factor which is not seen to move frequently (e.g. correlation). These are typically estimated using stress scenarios. The stress methodology is calibrated equivalently to at least 99% confidence level and a capital horizon of at least 10 days over an appropriate observation period, depending on the liquidity of the risk. For the purpose of regulatory capital, the capital charge is equal to the loss arising from the stress test except when these risks are already adequately captured elsewhere e.g. via the IRC or APR models, which are intended to capture certain risks not adequately covered by VaR

For regulatory capital these RNIVs are aggregated without any offsetting or diversification benefit.

Traded market risk control

The metrics that are used to measure market risk are controlled through the implementation of appropriate limit frameworks. Limits are set at the total Group level, asset class level, for example, interest rate risk, and at business level, for example, securitised products. Stress limits and many book limits, such as foreign exchange and interest rate sensitivity limits, are also used to control risk appetite.

Firm-wide limits are reported to the BRC and are termed A-level limits for total management VaR, asset class VaR, primary stress and secondary stresses and business scenarios. These are then cascaded down by risk managers in order to meet the firm-wide risk appetite.

Each A-level limit is set after consideration is given to revenue generation opportunities and overall risk appetite approved by the Board. Compliance with limits is monitored by the independent risk functions in the trading businesses with oversight provided by Group Market Risk.

Throughout 2015, Group Market Risk continued its ongoing programme of conformance reviews on the trading businesses' market risk management practices. These reviews are intended to verify the business's conformance with the Market Risk Control Framework and best practices.

Traded market risk reporting

Trading businesses market risk managers produce a number of detailed and summary market risk reports daily, weekly, fortnightly and monthly for business and risk managers. Where relevant on a Group-wide basis, these are sent to Group Market Risk for review and a risk summary is presented at the Group Market Risk Committee and the trading businesses' various market risk committees. The overall market risk profile is also presented to BRC on a regular basis.

Management of non-traded market risk, mitigation and hedging policies

Barclays actively seeks to minimise interest risk in the banking book by actively hedging this risk with the use of interest rate products. At the same time Barclays actively manages the potential asset and liability mismatches and changes to interest rates that could reduce the value of our investment portfolios.

Non-traded risk measurement

Barclays uses a range of complementary technical approaches to measure non-traded market risk.

Summary of measures for non-traded market risk

Measure	Definition
Annual earnings at risk	Impact on earnings of a parallel (upward or downward) movement in interest rates.
Economic value of equity (EVE)	Change in the present value of the banking book of a parallel (upward or downward) interest rate shock.
Economic capital	Economic Capital (EC) is held to protect against unexpected loss (in excess of expected loss) and calculated over a one-year time horizon.
Value at risk (VaR)	An estimate of the potential loss arising from unfavourable market movements, if the current positions were to be held unchanged for a set period of time.
Stress testing	Scenario based stress testing using a variety of economic parameters to quantify the impact to profit and loss and the balance sheet under various levels of stress.

The risk in each business is measured and controlled using both an income metric (Annual Earnings at Risk) and value metrics (Economic Value of Equity, Economic Capital and VaR).

Annual Earnings at Risk (AEaR)

AEaR measures the sensitivity of net interest income over the next one-year period. It is calculated as the difference between the estimated income using the expected base rate forecast and the lowest estimated income following a parallel increase or decrease in interest rates (200bps), subject to a minimum interest rate of 0%. 200bp shocks are consistent with industry best practice and supported by banking regulators.

The main model assumptions are:

- The balance sheet is kept at the current level, i.e. no growth is assumed; and
- Balances are adjusted for an assumed behavioural profile. This includes the treatment of fixed rate loans including mortgages.

AEaR is applied to the entire banking book, including the liquidity buffer and internal trades with the trading book to hedge against interest rate risk in the banking book exposures. The metric provides a measure of how interest rate risk may impact the Group's earnings, providing a simple comparison between risk and returns. The main disadvantage of the metric is its short-term focus, as it only measures the impact on a position in the first 12 months. In order to counter this, the Group has implemented additional economic value risk metrics.

See page 77 for a review of AEaR in 2015.

Economic Value of Equity (EVE)
EVE calculates the change in the present value of the non traded exposure for a parallel upward and downward interest rate (200bps) shock. This shock is useful for drawing comparisons across portfolios, and is also a regulatory reporting requirement. Note that the EVE calculation measures sensitivity in terms of present value, while AEaR measures income sensitivity.

The EVE measure is applied to the entire banking book, that is, the same coverage as AEaR, and covers the full life of transactions and hedges ensuring the risk over the whole life of positions are considered. The main weaknesses of this model stem from its simplicity. In particular, it does not capture the impact of business growth or of management actions, and is based on the balance sheet as at the reporting date.

Economic Capital (EC, for recruitment, prepayment and residual risk)
EC consistent models, based on DVaR methodologies, are used to measure unexpected losses to a 99.98% confidence interval over a one-year period. Within non-traded risk, this measure aims to capture recruitment risk, prepayment risk and residual risk for banking book products (see definitions on page 129). EC metrics typically measure variations in economic value from specific sources of risk, for example, prepayment risk EC for fixed rate mortgages predicts the cost of hedging to reduce any mismatch exposure resulting from the impact of an interest rate shock on customer prepayment levels.

EC is used in the active management of the banking book. Limits are set against EC metrics and breaches trigger mitigating actions to reduce exposure to appropriate levels. EC modelling is typically applied only to fixed rate products and the majority of variable rate and administered rate portfolios are not subject to an EC measure.

Advantages of EC are that it can calculate unexpected losses to an appropriate degree of confidence given the nature of the risks, and that it covers sources of loss beyond the scope of other models (AEaR only covers income changes over a one-year period; EVE only considers existing business and does not include any dynamic customer behaviour assumptions). The main weaknesses come from necessary simplifying assumptions. In the case of models based on statistical confidence intervals, the choice of the statistical distribution may drive under-prediction of very extreme events (i.e. the real distribution may be fat-tailed). To mitigate this, the Group continues to improve its models using long time series of historical data to capture extreme effects.

See page 77 for a review of EC in 2015.

Value at Risk (VaR)
VaR is an estimate of the potential loss arising from unfavourable market movements, if the current positions were to be held unchanged for a set period. For internal market risk management purposes, a historical simulation methodology is used with a two-year equally weighted historical period, at the 95% confidence level for banking book portfolios covered by the measure. This calculation is a present value sensitivity while AEaR is an income sensitivity.

Daily VaR is used to measure residual interest and foreign exchange risks within certain banking book portfolios.

Quarterly scaled VaR is used to measure risk in the Liquidity Buffer Investment Portfolio. The calculation uses a five-year historical period, a 95% confidence level and is scaled from daily to quarterly by an approved constant factor.

Stress testing
Stress losses are calculated for the liquidity buffer portfolio, but not subject to controlled limits.

All non-traded market risk positions are subject to the Group's annual stress testing exercise, where scenarios based on economic parameters are used to determine the potential impact of the positions on results and the balance sheet.

Non-traded market risk control
Non-traded market risk is controlled through the use of limits on many of the above risk measures. Limits are set at the total business level and then cascaded down. The total business level limits are owned by the BCROs, while the overall Group AEaR limit is agreed with Group Market Risk and approved by the FRC. Compliance with limits is monitored by the respective business market risk team with oversight provided by Group Market Risk.

Businesses manage their interest rate risk exposures by transferring this risk to Group Treasury, who then mitigate this risk using external markets if appropriate to keep the overall exposure within the agreed risk appetite. Group policy prevents non-trading businesses to run trading books; this is only permitted for the Investment Bank, Group Treasury, Barclays Non-Core and Africa Banking.

Non-traded market risk reporting
The Group Market Risk function produces a number of detailed market risk reports on a daily, weekly, fortnightly and monthly basis, for business and risk managers. A risk summary is presented at the Group Market Risk Committee and other market risk forums.

Management of Pension Risk

Pension risk control
The investment strategy of the UKRF is owned and defined by the Trustee who is independent to the bank. As such, pension risk is not governed by the conventional limit framework observed in traded and non-traded market risk. Instead, Group Market Risk have put in place a pension risk control framework to create consistency in the evaluation and monitoring of the risk in a coordinated way with other key risks across Barclays.

The risk and positions are reported monthly to the Market Risk Committee (MRC) and periodically to the Pensions Management Group (PMG), Pension Executive Board (PEB) and BRC.

Group Market Risk is responsible for the ongoing challenge of the risk profile and to that aim will ensure:

- At least annual review of all pension funds shortfalls;
- Detailed review of liability driven data;
- A continuous and detailed interaction exists between Group Market Risk, the pension asset manager and other key stakeholders;
- To conduct, where necessary, any ad-hoc analyses to ensure a consistent view of the risk positions of the fund.

Pension risk measurements
The following metrics are used to describe pension risk:

- Asset/Liability mismatch under IAS19, Funding and Solvency Rules;
- Asset VaR and liability VaR;
- Total pension risk VaR i.e. which captures the hedging effect of the matching assets, and potential diversification between assets and liabilities.

The VaR used for pension risk is calibrated at a 95% confidence level, with a one year horizon to reflect the long-term nature of the risk. Whilst the asset portfolio is sensitive to the volatility to any asset class the pension asset manager invests in, the liabilities are mainly exposed to interest rates and corporate credit spreads which are the main components of the discount rate; and inflation which drives the pension increase assumptions.

Group Market Risk also conduct regulatory and internal stress tests on material pension schemes to assess how these react to potential shock scenarios, the results of which form part of Barclays submission for the EU and Bank of England Stress Tests.

See page 80 for a review of pension risk in 2015.

Management of insurance risk

Insurance risk measurement

Risk measurement is largely based on best practice actuarial methodologies for the measurement of assets and liabilities, capital quantification and the monitoring of exposures against predetermined limits, in compliance with regulatory standards relevant to their application. The methodology can be deterministic or stochastic (both closed-form and simulation), depending on the application. Capital adequacy calculations are calculated at a 99.5% confidence level for regulatory purposes, and a higher confidence level for economic capital purposes. Absa Life extrapolates the underwriting Capital Adequacy Requirement (CAR) by assuming that life underwriting risk follows an appropriate statistical distribution.

The estimation of insurance technical provisions requires a number of assumptions. The appropriateness of the actuarial assumptions are reviewed by the independent external actuaries. Furthermore, the internal risk function acts as second line of defence, and provides oversight, review and challenge to the actuarial functions. Assumptions are made around demographic factors (e.g. mortality, morbidity), statistical factors (e.g. claims incidence, reporting and development patterns), and economic factors (e.g. yield curves, market returns). Stress testing can also be used to isolate and examine the impact of specific, or combinations of, variables.

Insurance risk control

Insurance risk is managed within Barclays Africa Group Limited. From an economic capital perspective, four significant categories of insurance risk and their governance procedures are:

- **short-term insurance underwriting risk:** monitored on a quarterly basis by the Underwriting Committee to ensure the risk taken is in line with underwriting guidelines and appropriately priced and reserved for. Risk governance is monitored by the Control Review Committee (CRC), the Actuarial Review Committee (ARC) and Key Risk reporting
- **life insurance underwriting risk:** monitored on a quarterly basis by the Underwriting Committee to ensure the risk taken is in line with underwriting guidelines and appropriately priced and reserved for. Risk governance is monitored by the CRC, the ARC and Key Risk reporting
- **life insurance mismatch risk:** monitored every other month by the entity's Capital and Investment Risk Committee. A quarterly review is conducted by the Wealth, Investment Management and Insurance (WIMI) Financial Risk Committee, and an annual review by the ARC
- **life and short-term insurance investment risk:** monitored by the entity Capital and Investment Risk Committee on at least a quarterly basis.

Short-term insurance underwriting activities are undertaken by Absa Insurance Company and Absa idirect. Life insurance underwriting activities are undertaken by Absa Life, Barclays Life Botswana, Barclays Life Zambia and Woolworths Financial Services (through an Absa Life cell captive). Global Alliance Mozambique underwrites both life and short-term insurance business.

Short-term insurance underwriting risk, life insurance underwriting risk, life insurance mismatch risk and investment risks are core to the business of the insurance entities. The successful management of these risks ultimately impacts the success of the entities. The same risk management frameworks and governance structures that enabled the effective management of risks for the South African entities are implemented and embedded in any new entities.

Securitisations give rise to credit, market and other risks. This section discusses the types of business activities and exposures that we incur in the course of activities related to securitisations.

- The objectives pursued in securitisation activities and the types of activities undertaken are discussed on page 140.
- A description of the risks incurred in the course of securitisation activities, and how we manage them, is contained on page 141.

This section discloses information about the Group's securitisation activities distinguishing between the various functions performed in supporting its customers and managing its risks. It includes traditional securitisations as well as synthetic transactions effected through the use of derivatives.

For the purposes of Pillar 3 disclosures on pages 82 to 91, a securitisation is defined as a transaction or scheme where the payments are dependent upon the performance of a single exposure or pool of exposures and where the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme. Such transactions are ordinarily undertaken to transfer risk for the Group or on behalf of a client.

Certain transactions undertaken by the Group are not disclosed in the quantitative section (pages 82 to 91) as they do not fall under the regulatory securitisation framework (defined under Part Three, Title II, Chapter 5 of the CRR, part of the CRD IV package). These include funding transactions for the purposes of generating term liquidity, and certain government-guaranteed transactions.

Objectives of securitisation activities

In the course of its business, the Group has undertaken securitisations of its own originated assets as well as the securitisation of third party assets via special purpose vehicles, sponsored conduit vehicles and shelf programmes.

The Group has securitised its own originated assets in order to manage the Group's credit risk position and to generate term liquidity for the Group balance sheet. In addition, the Group has warehoused assets prior to securitising them at clients' request. The Group also participates in primary securitisations in commercial mortgage-backed securities (CMBS) and asset-backed securities (ABS), and distributes bonds to clients.

Further, the Group makes a secondary market for a range of securitised products globally, including residential mortgage-backed securities (RMBS) and whole loans, CMBS and ABS. The Group also provides derivative transactions to securitisations sponsored by itself and third parties. These transactions are included in the Group trading book and form part of its market-making activities.

The role and involvement of the Group in securitisations in 2015

The Group adopts the following roles in the securitisation processes in which it is involved:

Originator of assets prior to securitisation
The Group originates or purchases commercial mortgage loans or asset-backed loans for the purpose of securitisation. The securities are then sold to investors through a broker-dealer subsidiary, or retained on the Group's balance sheet to access central bank funding.

Providing warehousing facilities collateralised by third-party assets prior to securitisation or exit via whole-loan sale
The Group provides warehouse financing to third party loan originators, including for agency eligible loans that can be securitised by the Federal National Mortgage Association ('Fannie Mae'), the Federal Home Loan Mortgage Corporation ('Freddie Mac'), or the Government National Mortgage Association ('Ginnie Mae').

Executor of securitisation trades including bond marketing and syndication
The Group transacts primarily as a principal in RMBS, ABS and CMBS with institutional investors and other broker-dealers. Agency-backed residential and commercial mortgage securitisations include collateralised mortgage obligations (CMOs) and Credit Risk Transfer securities (Fannie Mae-sponsored CAS and Freddie Mac-sponsored STACR bonds). ABS securitisations include consumer ABS (e.g. credit card, student loan and auto) and non-traditional ABS (e.g. timeshares, mobile phone towers, whole business securitisations). Non-agency commercial mortgage securitisations include CMBS and commercial real estate collateralised loan obligations (CRE CLO). The bank can also create re-securitisations of real estate mortgage investment conduits (Re-REMICs) of mortgage-backed securities.

Purchaser of third party securitisations to support client franchise
The Group may purchase third party securitisations, acting as an investor. The Group also funds on its own balance sheet securitisations similar to the ones funded via its sponsored conduit (see below). In such transactions the Group would not be defined as an originator or sponsor for regulatory purposes.

Sponsoring conduit vehicles
The Group acts as managing agent and administrative agent of a multi-seller asset-backed commercial paper (ABCP) conduits, Sheffield Receivables Corporation (Sheffield), through which interests in securitisations of third-party-originated assets are funded via the issuance of asset-backed commercial paper.

From a regulatory perspective, the Group would be defined primarily as a sponsor of Sheffield. In relation to such conduit activity, the Group provides all or a portion of the backstop liquidity to the commercial paper, programme-wide credit enhancement and, as appropriate, interest rate and foreign currency hedging facilities. The Group receives fees for the provision of these services.

The conduit is a vehicle that holds securities classified as available for sale, measured at fair value with changes in fair value recognised through other comprehensive income (OCI) and non-securities classified as loans and receivables, measured at amortised cost on their standalone financial statements. It funds the assets through the issuance of asset-backed commercial paper. Note that the conduit vehicle is consolidated for accounting but not regulatory purposes.

Funding transactions to generate term liquidity
Secured funding forms one of the key components of the Group's diversified funding sources providing access to secured wholesale market and complementing the diversification of funding by maturity, currency and geography. The Group issues ABS that are secured primarily by customer loans and advances. In 2015, the Group raised secured term funding (including both private and public issuances).

The Group currently manages four primary, on-balance sheet asset-backed funding programmes to obtain term financing for mortgage and credit card lending. The UK regulated covered bond and the residential mortgage master trust securitisation programmes both utilise assets originated by the Group's UK residential mortgage business. The third programme is a credit card master trust securitisation and uses receivables from the Group's UK credit card business. The fourth programme is a SEC registered securitisation programme backed by US domiciled credit card receivables established in Q4 2012.

Synthetic transactions
The Group participates in a number of risk transfer schemes under the UK NewBuy umbrella. These are cash collateralised and insolvency-remote insurance structures which fall under the CRD IV framework for regulatory capital reporting purposes.

Securitisation risks, monitoring and hedging policies

Capital requirements against securitisation exposures are subject to a separate framework under CRD IV (see CRR article 449) to account for the particular characteristics of this asset class. For risk management purposes, however, a securitisation is aligned to the risk type to which it gives rise.

Credit risks

In a securitisation structure, the payments are dependent upon the performance of a single exposure or pool of exposures. As these underlying exposures are usually credit instruments, the performance of the securitisation is exposed to credit risk.

Securitisation exposures are subject to the Group Credit Risk policies and standards and business level procedures. This includes the requirement to review in detail each transaction at a minimum on an annual basis. As collateral risk is the primary driver the analysis places a particular focus on the underlying collateral performance, key risk drivers, servicer due diligence and cash flows, and the impact of these risks on the securitisation notes. The risk is addressed through the transaction structure and by setting an appropriate modelled tolerance level. Structural features incorporate wind-down triggers set against factors including, but not limited to, defaults/charge-offs, delinquencies, excess spread, dilution, payment rates and yield, all of which help to mitigate potential credit deterioration. Qualitative aspects such as counterparty risk and ancillary issues (operational and legal risk) are also considered. Changes to the credit risk profile of securitisation exposures will also be identified through ongoing transaction performance monitoring. In addition, periodic stress tests of the portfolio as part of ongoing risk management are conducted as well as in response to Group-wide or Regulatory requests.

The principal committee responsible for the monitoring of the credit risk arising from securitisations is Credit Portfolio Risk Committee (CPRC) and Wholesale Credit Risk Management Committee (WCRMC). Executive responsibility rests with the Head of Counterparty and Financial Institutions Credit Risk.

Market and liquidity risks

Market risk for securitised products is measured, controlled and limited through a suite of VaR, non-VAR and stress metrics in accordance with the Group's Market Risk Policies and Procedures. The key risks of securitisation structures are interest rate, credit, spread, prepayment and liquidity risk. Interest rate and spread risk is hedged with standard liquid interest rate instruments (including interest rate swaps, US Treasuries and US Treasury futures). The universe of hedging instruments for credit and prepayment risk is limited and relatively illiquid, resulting in basis risks. In providing warehouse financing, the Group is exposed to mark to market (if counterparty defaults on related margin call).

Hedging

Securitisation and re-securitisation exposures benefit from the relative seniority of the exposure in the capital structure. Due to lack of availability in the credit default swap market for individual asset-backed securities, there are no material CDS hedge counterparties relating to the securitisation and re-securitisation population.

Operational risks

Operational risks are incurred in all of the Group's operations. In particular, all securitised (and re-securitised) assets are subject to a degree of risk associated with documentation and the collection of cash flows.

In providing warehouse financing, we incur potential operational risks related to representations and warranties should it be later discovered that the underlying loans were not underwritten to agency agreed criteria. Such risks are mitigated by daily collateral margining and ready agency bids. Market risk is also mitigated by employing forward trades.

The Operational Risk Review Forum oversees the management of operational risks for the entire range of the Group's activities.

Rating methodologies, ECAIs and RWA calculations

RWAs reported for securitised and re-securitised banking book and trading book assets at 31 December 2015 are calculated in line with CRR and UK PRA rules and guidance. The Group has approval to use, and therefore applies, the Internal Ratings-Based Approach for the calculation of RWAs where appropriate, and the Standardised Approach elsewhere.

The Group employs eligible ratings issued by nominated External Credit Assessment Institutions (ECAIs) to risk weight its securitisation and re securitisation exposure where their use is permitted. Ratings are considered eligible for use if they comply with requirements in both CRR and European Credit Rating Agency regulation. The ECAIs nominated by the Group for this purpose are Standard & Poor's, Moody's, Fitch and DBRS.

As required by CRR, the Group uses credit ratings issued by these ECAIs consistently for all exposures within the securitisation exposure class. For that reason, there is no systematic assignment of particular agencies to types of transactions within the securitisation exposure class.

For each Asset-Backed Commercial Paper (ABCP) transaction, the Internal Assessment Approach (IAA) framework mirrors the ECAI methodology, which also includes Moody's and S&P, who rate the Sheffield and Salisbury programmes. Under the IAA framework, the securitisation exposure must be internally rated, and the bank's internal assessment process must meet certain requirements in order to map its own internal rating to an ECAI. Cash flow stress analysis on a securitisation structure is performed as prescribed by an ECAI methodology for the relevant ratings level, and is at least as conservative as the published methodology. Stress factors may include, among other factors, asset yields, principal payment rates, losses, delinquency rates and interest rates.

In determining an internal rating, collateral risks are the primary driver and are addressed through the transaction structure and modelled statistical confidence. The analysis reflects the Group's view on the transaction, including dilution risk, concentration and tenor limits, as well as qualitative aspects such as counterparty risk and important ancillary issues (operational and legal risks). The adequacy and integrity of the servicer's systems and processes for underwriting, collections policies and procedures are also reviewed. The Group conducts a full due diligence review of the servicer for each transaction. Each transaction is reviewed on, at least, an annual basis with a focus on the performance of underlying assets. The results of any due diligence review and the financial strength of the seller/servicer, are also factored into the analysis. Ratings of the transaction are reaffirmed with the most up to date ECAI methodologies. Any transaction which deviates from the current methodology is amended accordingly.

Summary of the accounting policies for securitisation activities

Certain Group-sponsored entities have issued debt securities or have entered into funding arrangements with lenders in order to finance specific assets. An entity is consolidated by the Group when the Group has control over the entity. The Group controls an entity if it has all of the three elements of control which are i) power over the entity; and ii) exposure, or rights, to variable returns from its involvement with the entity; iii) the ability to use its power over the entity to affect the amount of the Group returns.

The consolidation treatment must be initially assessed at inception and is reassessed if facts and circumstances indicate that there are changes to one or more of the three elements of control.

Typically, assets that are awaiting securitisation on the Group balance sheet are measured at fair value through profit and loss, using the appropriate method for the asset class as they are classified as held for trading or are designed at fair value through profit and loss, under the IAS 39 fair value option. However some non-derivative assets held prior to securitisation may qualify as loans and receivables and are measured at amortised cost. When securitised assets have been included on the Group balance sheet it is necessary to consider whether those assets may be removed from the Group balance sheet. Assets which have been transferred to third parties (i.e. an unconsolidated Group entity), will remain on the Group balance sheet, and treated as financings, unless the following criteria apply:

- substantially all the risks and rewards associated with the assets have been transferred, in which case, they are derecognised in full
- if a significant portion, but not all, of the risks and rewards have been transferred, the asset is derecognised entirely if the transferee has the ability to sell the financial asset, otherwise the asset continues to be recognised only to the extent of the Group's continuing involvement.

Any financial support or contractual arrangements provided to unconsolidated entities, over securitised assets, would be recognised as a liability on balance sheet if it met the relevant IFRS criteria, or gave rise to a provision under IAS 37, and have to be disclosed (see Note 39 in the 2015 Annual Report). Note, however, that the Group has a Significant Risk Transfer policy that does not allow for any support to be provided to any transactions that fall under the securitisation framework.

Assets may be transferred to a third party through a legal sale or an arrangement that meets the 'passthrough' criteria where the substance of the arrangement is principally that the Group is acting solely as a cash collection agent on behalf of the eventual recipients.

Where the transfer applies to a fully proportionate share of all or specifically identified cash flows, the relevant accounting treatment is applied to that proportion of the asset.

When the above criteria support the case that the securitisation should not be accounted for as financing, the transaction will result in sale treatment or partial sale treatment to the extent the Group has no continuing involvement. Where the Group has continuing involvement the assets will continue to be recognised to the extent of the continuing involvement. Gains are recognised to the extent that proceeds that can be measured using observable market data exceed the assets derecognised.

Any retained interests, which will consist of loans and/or securities depending on the nature of the transaction, are valued in accordance with the Group's Accounting Policies, as set out in the 2015 Annual Report. To the extent that these interests are measured at fair value, they will be included within the fair value disclosures in the financial statements in the Annual Report. As outlined in these disclosures, key valuation assumptions for retained interests of this nature will include spreads to discount rates, default and recovery rates and prepayment rates that may be observable or unobservable.

In a synthetic securitisation transaction, the underlying assets are not sold into the relevant special purpose entity (SPE). Instead, their performance is transferred into the vehicle through a synthetic instrument such as a CDS, a credit linked note or a financial guarantee. The accounting policies outlined above will apply to synthetic securitisations.

The sources of operational risks, and how those risks are managed, are detailed in this section.

- Governance, management and measurement techniques are covered on pages 144 to 146.
- The types of risks that are classified as operational risks are described on page 145.

Barclays' approach to managing risks
Management of operational risk

Operational risk

Any instance where there is a potential or actual impact to the Group resulting from inadequate or failed internal processes, people, systems, or from an external event. The impacts to the Group can be financial, including losses or an unexpected financial gain, as well as non-financial such as customer detriment, reputational or regulatory consequences.

Overview

The management of operational risk has two key objectives:

- minimise the impact of losses suffered, both in the normal course of business (small losses) and from extreme events (large losses)
- improve the effective management of the Group and strengthen its brand and external reputation.

The Group is committed to the management and measurement of operational risk and was granted a waiver by the FSA (now the PRA) to operate an Advanced Measurement Approach (AMA) for operational risk, which commenced in January 2008. The majority of the Group calculates regulatory capital requirements using AMA (93% of capital requirements); however, in specific areas, the Basic Indicator Approach (7%) is applied. The Group works to benchmark its internal operational risk management and measurement practices with peer banks and to drive the further development of advanced techniques.

The Group is committed to operating within a strong system of internal control that enables business to be transacted and risk taken without exposing the Group to unacceptable potential losses or reputational damage. The Group has an overarching framework that sets out the approach to internal governance. This guide establishes the mechanisms and processes by which the Board directs the organisation, through setting the tone and expectations from the top, delegating authority and monitoring compliance.

Organisation and structure

A key component is the Enterprise Risk Management Framework (ERMF), the purpose of which is to identify and set minimum requirements in respect of the main risks to achieving the Group's strategic objectives and to provide reasonable assurance that internal controls are effective. The ERMF also defines the characteristics of an effective Control Environment, against which the businesses are assessed. Management, in all three lines of defence, are required to manage their businesses and functions in accordance with the characteristics set out below:

- there is a strong tone from the top and culture supporting the management of controls
- there is clear individual accountability and responsibility for the management of the control environment, starting at senior levels, and incorporated into performance objectives
- key customer processes and other activities are clearly identified and understood
- the material risks arising from these are identified and assessed
- a risk appetite is established for the variable outcomes in these risks
- a set of comprehensive and sustainable key controls is established and operated to remain within the risk appetite
- any issues, events outside of risk appetite including control failures are identified and escalated
- programmes for the remediation of control gaps or execution failures are established and implemented
- a feedback loop including a "Lessons Learnt" process is used to inform and improve control performance
- assurance is provided by 1st line and 2nd lines of defence on the reliability of control solutions and remediation activities for their own control areas.

The key elements of the Group's system of internal control, which is aligned to the recommendations of The Committee of Sponsoring Organizations of the Treadway Commission, Internal Control – Integrated Framework (COSO), are set out in the risk control frameworks relating to each of the Group's Key Risks and in the Group Operational Risk Framework.

Operational Risk comprises a number of specific Key Risks defined as follows:

- external supplier: inadequate selection and ongoing management of external suppliers
- financial crime: failure to comply with anti money laundering , anti-bribery and anti-corruption and sanctions policies. In early January 2016, the oversight of financial crime was transferred to Group Compliance
- financial reporting: reporting mis-statement or omission within external financial or regulatory reporting
- fraud: dishonest behaviour with the intent to make a gain or cause a loss to others
- information: inadequate protection of the Group's information in accordance with its value and sensitivity
- legal: failure to identify and manage legal risks
- payments process: failure in operation of payments processes
- people: inadequate people capabilities, and/or performance/reward structures, and/or inappropriate behaviours
- premises and security: unavailability of premises (to meet business demand) and/or safe working environments, and inadequate protection of physical assets, employees and customers against external threats
- taxation: failure to comply with tax laws and practice which could lead to financial penalties, additional tax charges or reputational damage
- technology (including cyber security): failure to develop and deploy secure, stable and reliable technology solutions which includes risk of loss or detriment to the Group's business and customers as a result of actions committed or facilitated through the use of networked information systems
- transaction operations: failure in the management of critical transaction processes.

In order to ensure complete coverage of the potential adverse impacts on the Group arising from operational risk, the operational risk taxonomy extends beyond the operational Key Risks listed above to cover areas included within conduct risk. For more information on Conduct Risk please see pages 152 to 154.

These risks may result in financial and/or non-financial impacts including legal/regulatory breaches or reputational damage.

Roles and responsibilities

The prime responsibility for the management of operational risk and the compliance with control requirements rests with the business and functional units where the risk arises. The operational risk profile and control environment is reviewed by business management through specific meetings which cover governance, risk and control. Businesses are required to report their operational risks on both a regular and an event-driven basis. The reports include a profile of the material risks that may threaten the achievement of their objectives and the effectiveness of key controls, material control issues, operational risk events and a review of scenarios.

The Group Head of Operational Risk, as Principal Risk Officer, is responsible for establishing, owning and maintaining an appropriate Group-wide Operational Risk Framework and for overseeing the portfolio of operational risk across the Group.

Operational risk management acts in a second line of defence capacity is responsible for implementation of the framework and monitoring operational risk events, risk exposures and material control issues. Through attendance at Business Unit Governance, Risk and Controls meetings, it provides specific risk input into the issues highlighted and the overall risk profile of the business. Operational risk issues escalated from these meetings are considered by the Principal Risk Officer through the second line of defence review meetings, which also consider material control issues and their effective remediation. Depending on their nature, the outputs of these meetings are presented to the BRC or the BAC.

Specific reports are prepared by businesses, Key Risk Officers and Group Operational Risk on a regular basis for BRC and BAC.

Operational risk framework

The Operational Risk Strategy and Framework comprises a number of elements which allow the Group to manage and measure its operational risk profile and to calculate the amount of operational risk capital that the Group needs to hold to absorb potential losses. The minimum, mandatory requirements for each of these elements are set out in the group operational risk framework and supporting standards. This framework is implemented across the Group:

- vertically, through the organisational structure with all businesses required to implement and operate an operational risk framework that meets, as a minimum, the requirements detailed in these operational risk policies
- horizontally, with the Group Key Risk officers required to monitor information relevant to their Key Risk from each operational risk framework element.

The Operational Risk framework is a key component of the ERMF and has been designed to improve risk management and meet a number of external governance requirements including the Basel Capital Accord, the Capital Requirements Directive and Turnbull guidance as an evaluation framework for the purposes of Section 404(a) of the Sarbanes-Oxley Act. It also supports the Sarbanes-Oxley requirements.

The operational risk strategy and framework includes the following elements:

Risk and Control Self-Assessments

The Group identifies and assesses all material risks within each business and evaluates the key controls in place to mitigate those risks. Managers in the businesses use self-assessment techniques to identify risks, evaluate the effectiveness of key controls in place and assess whether the risks are effectively managed within business risk appetite. The businesses are then able to make decisions on what action, if any, is required to reduce the level of risk to the Group. These risk assessments are monitored on a regular basis to ensure that each business continually understands the risks it faces.

Risk events

An operational risk event is any circumstance where, through the lack or failure of a control, the Group has actually, or could have, made a loss. The definition includes situations in which the Group could have made a loss, but in fact made a gain, as well as incidents resulting in reputational damage or regulatory impact only.

A standard threshold is used across the Group for reporting risk events and part of the analysis includes the identification of improvements to processes or controls, to reduce the recurrence and/or magnitude of risk events. For significant events, both financial and non-financial, this analysis includes the completion of a formal lessons learnt.

The Group also maintains a record of external risk events which are publicly available and is a member of the Operational RiskData eXchange (ORX), a not-for-profit association of international banks formed to share anonymous loss data information. This external loss information is used to support and inform risk identification, assessment and measurement.

Operational risk appetite

The Group's approach to determining its operational risk appetite combines both quantitative measures and qualitative judgement, in order to best reflect the nature of non-financial risks.

The monitoring and tracking of operational risk measures is supplemented with qualitative review and discussion at senior management executive committees on the actions being taken to improve controls and reduce risk to an acceptable level.

Operational risk appetite is aligned to the Group's Risk Appetite Framework. The BRC considers, and recommends to the Board for approval, the Group's risk appetite statement for operational risk based on performance in the current year and the projections for financial volatility the following year.

Key Risk appetite statements are agreed with the Principal Risk Officer, utilising the same approach, and are contained within the respective Key Risk Frameworks.

Key indicators
Key indicators (KIs) are metrics which allow the Group to monitor its operational risk profile. KIs include measurable thresholds that reflect the risk appetite of the business and are monitored to alert management when risk levels exceed acceptable ranges or risk appetite levels and drive timely decision making and actions.

Key Risk scenarios
Key Risk scenarios are a summary of the extreme potential risk exposure for each Key Risk in each business and function, and include an assessment of the potential frequency of risk events, the average size of losses and three extreme scenarios. The Key Risk scenario assessments are a key input to the Advanced Measurement Approach calculation of regulatory and economic capital requirements (see following section on operational risk measurement). The assessment considers analysis of internal and external loss experience, Key Risk Indicators, risk and control self-assessments and other risk information. The businesses and functions analyse potential extreme scenarios, considering the:

- circumstances and contributing factors that could lead to an extreme event
- potential financial and non-financial impacts (for example reputational damage)
- controls that seek to limit the likelihood of such an event occurring, and the mitigating actions that would be taken if the event were to occur (for example crisis management procedures, business continuity or disaster recovery plans).

Management may then conclude whether the potential risk is acceptable (within appetite) or whether changes in risk management control or business strategy are required.

The key risk scenarios are regularly re-assessed, taking into account trends in risk factors such as mis-selling, conduct and financial crime risks.

Reporting
The ongoing monitoring and reporting of operational risk is a key component of the Operational Risk Framework. Reports are used by the operational risk function and by business management to understand, monitor, manage and control operational risks and losses.

The operational risk profile is reviewed by senior management at the Operational Risk Review Forum, as well as BRC, BAC and the Board.

Operational risk measurement
The Group assesses its operational risk capital requirements using an Advanced Measurement Approach. The approach involves estimating the potential range of losses that could be incurred in a year from operational risk events, using statistical distributions. Regulatory capital requirements are set to cover 99.9% of the estimated losses. The Group also assesses its economic capital requirements to cover 99.98% of the estimated losses that exceed the typical losses (diversified across all risk classes).

The potential frequency and severity of losses is estimated for each Key Risk (within the Operational Risk and Conduct risk categories) across the Group's businesses and functions. The potential range of individual loss severities is represented by a statistical distribution, estimated from the average loss size and three extreme scenarios (from Risk Assessments), as well as loss data from the Operational Riskdata eXchange (ORX).

The capital calculation also takes into account the possibility of dependences between operational risk losses occurring in a year (between businesses and functions and between risks).

In certain joint ventures and associates, the Group uses the Basic Indicator Approach to determine the capital requirements: some Africa Retail Banking, including Barclays Bank Mozambique and National Bank of Commerce (Tanzania); the business activities acquired from Lehman Brothers; and the portfolios of assets purchased from Woolworths Financial Services in South Africa, Standard Life Bank, ING Direct, MBNA Corporate Cards, Upromise, RCI, Egg Cards, EdCon, Sallie Mae, Ameriprice, Hawaiian Airlines and US Airways.

Insurance
As part of its risk management approach, the Group also uses insurance to mitigate the impact of some operational risks.

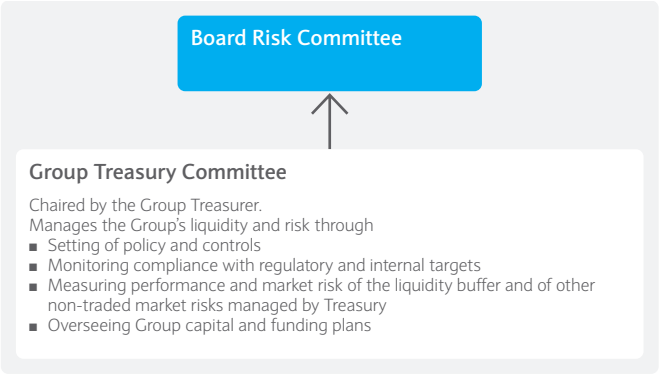
This section provides an analysis of the management of liquidity and capital risk.

- Liquidity risk, with a focus on how it is managed to ensure that resources are adequate at all times including under stress, is discussed on pages 148 to 150
- Capital risk, including how the risk of insufficient capital and leverage ratios is managed, is discussed on pages 150 and 151.

Funding Risk

The ability of the Group to achieve its business plans may be adversely impacted if it does not effectively manage its capital (including leverage) and liquidity ratios. Group Treasury manage funding risk on a day-to-day basis with the Treasury Committee acting as the key governance forum.

Organisation and structure



Capital and Liquidity Risks are managed by two separate areas; these are covered below.

Liquidity Risk

The risk that the Group, although solvent, either does not have sufficient financial resources available to enable it to meet its obligations as they fall due, or can secure such resources only at excessive cost.This also results in a firm's inability to meet regulatory liquidity requirements. This risk is inherent in all banking operations and can be affected by a range of Group-specific and market-wide events.

The Board has formally recognised a series of risks that are continuously present in Barclays and materially impact the achievement of Barclays objectives one of which is funding risk. Liquidity risk is recognised as a Key Risk within funding risk. The efficient management of liquidity is essential to the Group in retaining the confidence of the financial markets and ensuring that the business is sustainable. Liquidity risk is managed through the Liquidity Risk Management Framework (the Liquidity Framework) which is designed to meet the following objectives:

- to maintain liquidity resources that are sufficient in amount and quality and a funding profile that is appropriate to meet the liquidity risk appetite (LRA) as expressed by the Board
- to maintain market confidence in the Group's name.

This is achieved via a combination of policy formation, review and governance, analysis, stress testing, limit setting and monitoring. Together, these meet internal and regulatory requirements.

Governance and organisation

Barclays Treasury operates a centralised governance control process that covers all of the Group's liquidity risk management activities. As per the ERMF the Key Risk Officer (KRO) approves the Key Risk Control Framework for Liquidity Risk ('Key Risk Control Framework') under which the treasury function operates. The KRO is in the Risk function. The Key Risk Control Framework describes liquidity policies and controls that the Group has implemented to manage liquidity risk within the LRA and is subject to annual review.

The Board sets the LRA, over Group stress tests, being the level of risk the Group chooses to take in pursuit of its business objectives and in meeting its regulatory obligations. The approved LRA is implemented and managed by the Treasury Committee through the Key Risk Control Framework.

Liquidity risk framework

Barclays has a comprehensive Key Risk Control Framework for managing the Group's liquidity risk. The Key Risk Control Framework describes liquidity policies and controls that the Group has implemented to manage liquidity risk within the LRA. The Key Risk Control Framework is designed to deliver the appropriate term and structure of funding consistent with the LRA set by the Board.

The Key Risk Control Framework incorporates a range of ongoing business management tools to monitor, limit and stress test the Group's balance sheet and contingent liabilities and a Contingency Funding Plan. Limit setting and transfer pricing are tools that are designed to control the level of liquidity risk taken and drive the appropriate mix of funds, which together reduce the likelihood that a liquidity stress event could lead to an inability to meet the Group's obligations as they fall due. The stress tests assess potential contractual and contingent stress outflows under a range of scenarios, which are then used to determine the size of the liquidity pool that is immediately available to meet anticipated outflows, if a stress occurred.

The Group maintains a Contingency Funding Plan which details how liquidity stress events of varying severity would be managed. Since the precise nature of any stress event can not be known in advance, the plans are designed to be flexible to the nature and severity of the stress event and provide a menu of options that could be used as appropriate at the time. Barclays also maintains Recovery Plans which consider actions to generate additional liquidity in order to facilitate recovery in a severe stress.

Ongoing business management	Early signs/ Mild stress	Severe stress	Recovery	Resolution
■ Stress testing and planning ■ Liquidity limits ■ Early warning indicators	■ Monitoring and review ■ Management actions not requiring business rationalisation	■ Activate Contingency Funding Plan ■ Management actions with a positive impact on the franchise	■ Activate appropriate recovery option to restore the capital and/or liquidity position of the Group	■ Ensure an orderly resolution can be carried out if necessary, without adverse systemic risk or exposing the public funds to loss

Barclays' approach to managing risks
Management of funding risk

Ongoing business management
Risk Appetite and Planning

Under the Key Risk Control Framework, Barclays has established a Liquidity Risk Appetite (LRA), over Group stress tests, being the level of liquidity risk the Group chooses to take in pursuit of its business objectives and in meeting its regulatory obligations.

The key expression of the liquidity risk is through stress test. It is measured with reference to the liquidity pool compared to anticipated stressed net contractual and contingent outflows for each of five stress scenarios.

The LRA for internal stress tests is approved by the Board. The LRA is reviewed on a continuous basis and is subject to formal review at least annually as part of the Individual Liquidity Adequacy Assessment Process (ILAAP).

Statement of Liquidity Risk Appetite: The Board has approved that the Group will maintain an amount of available liquidity resources to meet modelled and prescribed regulatory liquidity stress outflows over a period of time (minimum buffer duration):

- 30 days in a Barclays specific stress
- 90 days in a market wide stress
- 30 days in a combined stress
- Liquidity Coverage Ratio (LCR) 30 days minimum ratio 100% (Pillar 1 basis)

The stress outflows are used to determine the size of the Group Liquidity Pool, which represents those resources immediately available to meet outflows in a stress. In addition to the liquidity pool, the Key Risk Control Framework provides for other management actions, including generating liquidity from other liquid assets on the Group's balance sheet in order to meet additional stress outflows, or to preserve or restore the Liquidity Pool in the event of a liquidity stress.

Liquidity Limits
Barclays manages limits on a variety of on and off-balance sheet exposures, a sample of which is shown in the table below. These limits serve to control the overall extent and composition of liquidity risk taken by managing exposure to the cash outflows.

Examples of Liquidity limits			
Gross Repo limits	FX Cashflow limits	Concentration limits	Minimum Cash Requirement
Secured Mismatch limits	Debt Buyback limits	Off-Balance Sheet commitment limits	Ratings Downgrade limits

Internal Pricing and Incentives
Barclays actively manages the composition and duration of the balance sheet and of contingent liabilities through the transfer of liquidity premium directly to business units. Liquidity premiums are charged and credited to businesses according to the behavioural life of assets and liabilities and contingent liquidity risk under stress. These transfer pricing mechanisms are designed to ensure that liquidity risk is reflected in product pricing and performance measurement, thereby ensuring that the Liquidity Framework is integrated into business level decision making to drive the appropriate mix of sources and uses of funds.

Early Warning Indicators
Barclays monitors a range of market indicators for early signs of liquidity risk either in the market or specific to Barclays, a sample of which are shown in the table below. These are designed to immediately identify the emergence of increased liquidity risk to maximise the time available to execute appropriate mitigating actions. Early Warning Indicators are used as part of the assessment of whether to invoke the Group's Contingency Funding Plan, which provides a framework for how the liquidity stress would be managed.

Examples of Early Warning Indicators		
Change in composition of deposits	Deterioration in stress test surplus	Rising funding costs
Widening CDS spreads	Change in maturity profile	Stress in financial markets

Contingency Funding Plan
Barclays maintains a Contingency Funding Plan (CFP), which is designed to provide a framework where a liquidity stress could be effectively managed. The CFP is proportionate to the nature, scale and complexity of the business and is tested to ensure that it is operationally robust. The CFP details the circumstances in which the plan could be invoked, including as a result of adverse movements in Liquidity Early Warning Indicators. As part of the plan the Barclays Treasurer has established a Liquidity Management Committee (LMC.) On invocation of the CFP by the Executive Committee (ExCo), the LMC would meet to identify the likely impact of the event on the Group and determine the response, which would be proportionate to the nature and severity of the stress.

The CFP provides a communication plan and includes management actions to respond to liquidity stresses of varying severity. This could include monetising the liquidity pool, slowing the extension of credit, increasing the tenor of funding and securitising or selling assets.

Recovery and resolution planning (RRP)
In accordance with the requirements of the PRA Rulebook: Recovery and Resolution, Barclays has developed a Group Recovery Plan. The key objectives are to provide the Group with a range of options to ensure the viability of the firm in a stress, set consistent early warning indicators to identify when the Recovery Plan should be invoked and to enable the Group to be adequately prepared to respond to stressed conditions.

Capital Risk

Overview

Capital risk
Capital risk is the risk that the Group has insufficient capital resources to:

- meet minimum regulatory requirements in the UK and in other jurisdictions such as the US and South Africa where regulated activities are undertaken. The Group's authority to operate as a bank is dependent upon the maintenance of adequate capital resources at each level where prudential capital requirements are applied
- support its credit rating. A weaker credit rating would increase the Group's cost of funds
- support its growth and strategic options.

Organisation and structure

Capital Management is integral to the Group's approach to financial stability and sustainability management and is therefore embedded in the way businesses and legal entities operate. Capital demand and supply is actively managed on a centralised basis, at a business level, at a local entity level and on a regional basis, taking into account the regulatory, economic and commercial environment in which Barclays operates.

Roles and responsibilities

The Group's Capital Management strategy is driven by the strategic aims of the Group and the Risk Appetite set by the Board. The Group's objectives are achieved through well embedded capital management practices:

Capital planning

Capital forecasts are managed on a top-down and bottom-up basis through both short-term (one year) and medium-term (three to five years) financial planning cycles. Barclays' capital plans are developed with the objective of maintaining capital that is adequate in quantity and quality to support the Group's risk profile, regulatory and business needs. As a result, the Group holds a diversified capital base that provides strong loss absorbing capacity and optimised returns.

Barclays' capital forecasts are continually monitored against relevant internal target capital ratios to ensure they remain appropriate, and consider risks to the plan, including possible future regulatory changes.

Local management ensures compliance with an entity's minimum regulatory capital requirements by reporting to local Asset and Liability Committees with oversight by the Group's Treasury Committee, as required.

Primary objectives	Core practices
Ensure the Group and legal entities maintain adequate capital to withstand the impact of the risks that may arise under the stressed conditions analysed by the Group.	▪ Meet minimum regulatory requirements at all times in the UK and in all other jurisdictions that the Group operates in, such as the US and South Africa where regulated activities are undertaken. ▪ Perform Group-wide internal and regulatory stress tests. ▪ Maintain capital buffers over regulatory minimums. ▪ Develop contingency plans for severe (stress management actions) and extreme stress tests (recovery actions).
Support a strong credit rating.	▪ Maintain capital ratios aligned with rating agency expectations.
Provide a viable and sustainable business offering by maintaining adequate capital to cover the Group's current and forecast business needs and associated risks.	▪ Maintain a capital plan on a short-term and medium-term basis aligned with strategic objectives, balancing capital generation of the business with business growth and shareholder distributions.

Regulatory requirements
Capital planning is set in consideration of minimum regulatory requirements in all jurisdictions in which the Group operates. Regulatory capital requirements are determined by the PRA.

Under these regulatory frameworks, capital requirements are set in consideration of the level of risk that the firm is exposed to which is measured through both risk weighted assets (RWAs) and leverage.

Capital held to support the level of risk identified is set in consideration of minimum ratio requirements and internal buffers. Capital requirements are set in accordance with the firm's level of risk.

Target ratios
The Group's capital plan is set in consideration of our risk profile, business and regulatory requirements as determined by the PRA. The Group expects to meet the minimum requirements for leverage and capital ratios including the CET1, AT1, T2 and MREL/TLAC minima, both during the transition period and upon full implementation and also hold an internal buffer sized according to the firm's assessment of various risks including uncontrollable market factors.

Regulatory reform
Further changes to capital requirements may occur due to continued regulatory focus on the risk weighting of assets, including Basel Committee on Banking Supervision (BCBS) proposals on fundamental review of the trading book, revisions to standardised rules for credit risk, counterparty credit risk, CVA volatility risk and operational risk as well as the application of RWA floor based on standardised approach to limit the use of internal models in certain areas.

Additional capital requirements may also arise from other regulatory reforms, including UK, EU and US proposals on bank structural reform and current European Banking Authority (EBA) proposals for 'Minimum Requirement for own funds and Eligible Liabilities' (MREL) under the EU Bank Recovery and Resolution Directive (BRRD). Included within these reforms are the Bank of England proposals on MREL requirements for UK banks which were published in December 2015. We expect these requirements to be finalised and communicated to banks during the course of 2016.

However, many of the proposals are still subject to finalisation and implementation and may have a different effect when in final form, the impact of these proposals is still being assessed. For further information see Funding Risk in Material Risks Review and Regulatory Developments in the section on Supervision and Regulation.

Governance

The Group and legal entity capital plans are underpinned by the Capital Risk Framework, which includes capital management policies and practices approved by the Principal Risk Officer. These plans are implemented consistently in order to deliver on the Group objectives.

The Board approves the Group capital plan, stress tests and recovery plan. The Treasury Committee manages compliance with the Group's capital management objectives. The Committee reviews actual and forecast capital demand and resources on a monthly basis. The Board Risk Committee annually reviews risk appetite and then analyses the impacts of stress scenarios on the Group capital forecast in order to understand and manage the Group's projected capital adequacy.

Monitoring and managing capital

Capital is monitored and managed on an ongoing basis through:

Stress testing: Internal group-wide stress testing is undertaken to quantify and understand the impact of sensitivities on the capital plan and capital ratios arising from stressed macroeconomic conditions. Actual recent economic, market and peer institution stresses are used to inform the assumptions of stress tests and assess the effectiveness of mitigation strategies.

The Group also undertakes stress tests prescribed by the BoE and EBA. Legal entities undertake stress tests prescribed by their local regulators. These stress tests inform decisions on the size and quality of capital buffer required and the results are incorporated into the Group capital plan to ensure adequacy of capital under normal and severe, but plausible, stressed conditions.

Risk mitigation: As part of the stress testing process actions are identified that should be taken to mitigate the risks that could arise in the event of material adverse changes in the current economic and business outlook.

As an additional layer of protection, the Barclays Recovery Plan defines the actions and implementation strategies available for the Group to increase or preserve capital resources in the event that stress events are more extreme than anticipated.

Senior Management awareness and transparency: Treasury works closely with Risk, businesses and legal entities to support a proactive approach to identifying sources of capital ratio volatilities which are considered in the Group's capital plan. Capital risks against firm-specific and macroeconomic early warning indicators are monitored and reported to Treasury Committee, associated with clear escalation channels to senior management.

Capital management information is readily available at all times to support the Executive Management's strategic and day-to-day business decision making, as may be required.

The Group submits its Board approved ICAAP document to the PRA on an annual basis, which forms the basis of the Individual Capital Guidance (ICG) set by the PRA.

Capital allocation: Capital allocations are approved by the Group Executive committee and monitored by the Treasury Committee, taking into consideration the risk appetite, growth and strategic aims of the Group. Regulated legal entities are, at a minimum, allocated adequate capital to meet their current and forecast regulatory and business requirements.

Transferability of capital: The Group's policy is for surplus capital held in Group entities to be repatriated to BB PLC in the form of dividends and/or capital repatriation, subject to local regulatory requirements, exchange controls and tax implications. This approach provides optimal flexibility on the re-deployment of capital across legal entities. The Group is not aware of any material impediments to the prompt transfer of capital resources, in line with the above policy, or repayment of intra-group liabilities when due.

Foreign exchange risk: The Group has capital resources and risk weighted assets denominated in foreign currencies. Changes in foreign exchange rates result in changes in the Sterling equivalent value of foreign currency denominated capital resources and RWAs. As a result, the Group's regulatory capital ratios are sensitive to foreign currency movements.

The Group's capital ratio management strategy is to minimise the volatility of the capital ratios caused by foreign exchange rate movements. To achieve this, the Group aims to maintain the ratio of foreign currency CET1, Tier 1 and Total Capital Resources to foreign currency RWAs the same as the Group's consolidated capital ratios.

The Group's investments in foreign currency subsidiaries and branches, to the extent that they are not hedged for foreign exchange movements, translate into GBP upon consolidation creating CET1 capital resources sensitive to foreign currency movements. Changes in the GBP value of the investments due to foreign currency movements are captured in the currency translation reserve, resulting in a movement in CET1 capital.

To create foreign currency Tier 1 and Total Capital Resources additional to the CET1 capital resources, the Group issues, where possible, debt capital in non-Sterling currencies. This is primarily achieved by the issuance of debt capital from Barclays PLC or Barclays Bank PLC in USD and EUR, but can also be achieved by subsidiaries issuing capital in local currencies, such as Barclays Africa Group Limited in South Africa.

This section provides an analysis of the management of conduct risk (including reputation risk).

- Conduct risk is the risk that detriment is caused to our customers, clients, counterparties or the Group and its employees because of inappropriate judgement in the execution of our business activities
- Reputation risk is the risk of damage to the Barclays brand arising from association, action or inaction which is perceived by stakeholders to be inappropriate or unethical

Barclays' approach to managing risks
Management of conduct risk (including reputation risk)

Conduct risk

The risk that detriment is caused to customers, clients, counterparties or the Group because of inappropriate judgement in the execution of our business activities.

Overview

The Group defines, manages and mitigates conduct risk with the goal of providing good customer outcomes and protecting market integrity.

The Group has defined seven Key Risks that are the main sub-risk types to Conduct Risk:

- our products or services do not meet customers' needs or have the potential to cause customer detriment
- the way we design and undertake transaction services has the potential to cause customer detriment
- the way we design or undertake customer servicing has the potential to cause customer detriment
- our strategy or business model has the potential to cause customer detriment
- our governance arrangements or culture has the potential to cause customer detriment
- we fail to obtain and maintain relevant regulatory authorisations, permissions and licence requirements
- damage to Barclays reputation is caused during the conduct of our business

Organisation and structure

The Conduct and Reputation Risk Committee (CRRC) derives its authority from the Barclays Group Head of Compliance. The purpose of the CRRC is to review and monitor the effectiveness of Barclays' management of Conduct and Reputation Risk. In addition, specific committees monitor conduct risk and the control environment at the business level.

Roles and responsibilities

The Conduct Risk Principal Risk Framework (PRF) comprises a number of elements that allow the Group to manage and measure its conduct risk profile.

The PRF is implemented across the Group:

- vertically, through an organisational structure that requires all businesses to implement and operate their own conduct risk framework that meets the requirements detailed within the ERMF
- horizontally, with Group Key Risk Officers (KROs) required to monitor information relevant to their Key Risk from each element of the Conduct Risk PRF

The primary responsibility for managing conduct risk and compliance with control requirements sits with the business where the risk arises. The Conduct Risk Accountable Executive for each business is responsible for ensuring the implementation of, and adherence to the PRF.

The Conduct Principal Risk Officer is responsible for owning and maintaining an appropriate Group-wide Conduct Risk PRF and for overseeing Group-wide Conduct Risk management.

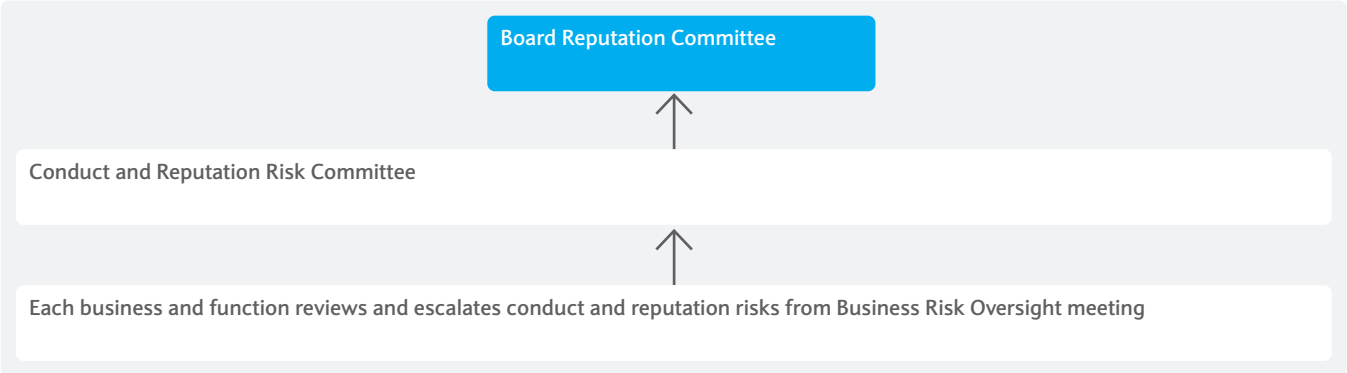
Businesses are required to report their conduct risks on both a quarterly and an event-driven basis. The quarterly reports detail conduct risks inherent within the business strategy and include forward looking horizon scanning analysis as well as backward looking evidence-based indicators from both internal and external sources. For details please refer to the Risk Review, Conduct Risk Performance section of the 2015 Annual Report (page 208).

Business level reports are reviewed within Compliance. Compliance then creates Group level reports for consideration by CRRC and RepCo. The Group periodically assesses its management of conduct risk through independent audits and addresses issues identified.

Event-driven reporting consists of any risks or issues that breach certain thresholds for severity and probability. Any such risks or issues must be promptly escalated to the business and the appropriate KRO.

In 2015 Reputation Risk was re-designated as a Key Risk under the Conduct Risk Principal Risk. The Reputation Key Risk Framework outlines the processes and actions required of the business. These include regular and forward looking reviews of current and emerging reputation risks so that a topical and comprehensive reputation risk profile of the organisation can be maintained.

Organisation and structure



Barclays' approach to managing risks

Management of conduct risk (including reputation risk)

Reputation risk is the risk of damage to the Group's brand arising from any association, action or inaction which is perceived by stakeholders (e.g. customers, clients, colleagues, shareholders, regulators, opinion formers) to be inappropriate or unethical. Damage to the Group's brand and consequent erosion of our reputation reduces the attractiveness of the Group to stakeholders and may lead to negative publicity, loss of revenue, regulatory or legislative action, loss of existing and potential client business, reduced workforce morale and difficulties in recruiting talent. Ultimately it may destroy shareholder value.

Reputation risk may arise in many different ways, for example:

- failure to act in good faith and in accordance with the Group's values and code of conduct
- failure (real or perceived) to comply with the law or regulation, or association (real or implied) with illegal activity
- failures in corporate governance, management or technical systems
- failure to comply with internal standards and policies
- association with controversial sectors or clients
- association with controversial transactions, projects, countries or governments
- association with controversial business decisions, including but not restricted to, decisions relating to: products (in particular new products), delivery channels, promotions/advertising, acquisitions, branch representation, sourcing/supply chain relationships, staff locations, treatment of financial transactions
- association with poor employment practices.

In each case, the risk may arise from failure to comply with either stated norms, which are likely to change over time, so an assessment of reputation risk cannot be static. If not managed effectively, stakeholder expectations of responsible corporate behavior will not be met.

Reputation Risk may also arise and cause damage to the Group's image, through association with clients, their transactions or their projects if these are perceived by external stakeholders to be environmentally damaging. Where the Group is financing infrastructure projects which have potentially adverse environmental impacts, the Group's Client Assessment and Aggregation policy and supporting Environmental and Social Risk Standard will apply. This policy identifies the circumstances in which the Group requires due diligence to include assessment of specialist environmental reports. These reports will include consideration of a wide range of the project's potential impacts including on air, water and land quality, on biodiversity issues, on locally affected communities, including any material upstream and downstream impacts, and on working conditions together with employee and community health and safety. Adherence to the Environmental and Social Risk Standard is the mechanism by which Barclays fulfils the requirements of the Equator Principles. These Principles are an internationally recognised framework for environmental due diligence in project finance. Barclays was one of the four banks which collaborated in developing the Principles, ahead of their launch in 2003 with 10 adopting banks. There are now more than 80 banks worldwide which have adopted the Equator Principles (see www.equator-principles.com).

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PD, LGD, RWA and Exposure by country

The following tables show IRB data for countries in which Barclays is active where the IRB RWA amount is more than 1% of the Group total for any asset class. The countries are shown in descending order of aggregated total RWAs for all asset classes.

Table 73: PD, LGD, RWA and exposure values by country for IRB – all asset classes

Asset class – all asset classes

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	2.72%	32.0%	90,980	280,688	Jersey	0.37%	33.6%	1,192	2,202
United States	1.10%	35.7%	20,214	63,738	Portugal	4.84%	31.4%	1,054	2,939
South Africa	4.97%	33.1%	16,265	34,449	Australia	0.10%	45.7%	890	3,460
Italy	4.24%	28.7%	6,320	15,307	Brazil	0.53%	46.1%	857	1,162
Germany	1.38%	55.1%	3,387	11,032	Belgium	0.33%	43.5%	680	3,771
France	0.68%	36.1%	2,155	8,251	India	0.24%	53.0%	505	937
Ireland	1.22%	43.3%	1,923	4,766	Switzerland	0.20%	45.0%	481	2,150
Spain	4.02%	53.4%	1,686	2,430	Saudi Arabia	0.04%	45.1%	216	3,066
Netherlands	0.39%	45.4%	1,637	4,569	Qatar	0.07%	53.2%	163	531
Japan	0.09%	42.1%	1,447	8,355	China	0.05%	47.6%	160	804
Canada	0.41%	41.7%	1,281	3,890					

Table 73a: PD, LGD, RWA and exposure values by country for IRB – central governments and central banks

Asset class – central governments and central banks

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	0.02%	41.7%	99	5,275	Jersey	–	–	–	–
United States	0.01%	45.0%	52	875	Portugal	0.26%	50.0%	57	95
South Africa	0.14%	40.1%	1,229	3,389	Australia	0.00%	45.0%	23	373
Italy	0.19%	45.0%	1,534	1,901	Brazil	0.49%	45.0%	10	30
Germany	0.01%	45.0%	79	514	Belgium	0.02%	45.0%	14	113
France	0.01%	45.0%	28	280	India	0.35%	45.0%	109	247
Ireland	0.04%	50.0%	50	390	Switzerland	0.01%	45.0%	–	7
Spain	0.16%	45.0%	328	548	Saudi Arabia	0.04%	45.0%	202	3,010
Netherlands	0.01%	45.0%	11	141	Qatar	0.04%	45.0%	54	236
Japan	0.08%	34.1%	385	3,484	China	0.03%	53.0%	28	272
Canada	0.02%	45.0%	2	104					

Table 73b: PD, LGD, RWA and exposure values by country for IRB – institutions

Asset class – institutions

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	0.32%	43.4%	4,087	12,843	Jersey	0.88%	56.0%	151	77
United States	0.07%	22.3%	869	7,532	Portugal	1.60%	45.2%	55	49
South Africa	0.39%	45.1%	391	853	Australia	0.04%	42.6%	330	1,556
Italy	0.45%	45.3%	160	176	Brazil	0.47%	45.2%	774	1,042
Germany	0.04%	42.8%	738	2,806	Belgium	0.03%	34.3%	145	516
France	0.09%	26.6%	940	3,459	India	0.47%	49.3%	88	114
Ireland	0.21%	44.2%	181	320	Switzerland	0.03%	44.1%	208	1,111
Spain	0.13%	46.2%	183	333	Saudi Arabia	0.04%	53.5%	13	47
Netherlands	0.03%	43.0%	263	907	Qatar	0.06%	45.0%	31	112
Japan	0.08%	47.5%	635	3,371	China	0.06%	44.8%	124	484
Canada	0.05%	38.2%	149	762					

Table 73c: PD, LGD, RWA and exposure values by country for IRB – corporates

Asset class – corporates

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	2.36%	36.8%	42,365	81,092	Jersey	0.35%	32.9%	1,041	2,124
United States	1.25%	37.4%	19,291	55,319	Portugal	1.81%	47.0%	134	155
South Africa	3.74%	34.6%	7,088	12,898	Australia	0.18%	49.0%	537	1,529
Italy	0.91%	51.5%	893	1,433	Brazil	1.26%	57.0%	73	89
Germany	0.39%	49.1%	1,429	4,977	Belgium	0.40%	45.0%	521	3,140
France	1.18%	42.8%	1,185	4,502	India	0.14%	57.2%	308	576
Ireland	1.13%	42.7%	1,670	4,030	Switzerland	0.36%	46.3%	271	1,016
Spain	4.36%	48.8%	825	1,141	Saudi Arabia	0.04%	45.0%	1	9
Netherlands	0.48%	46.1%	1,361	3,517	Qatar	0.11%	68.8%	78	183
Japan	0.14%	48.4%	427	1,500	China	0.03%	45.3%	8	48
Canada	0.51%	42.5%	1,130	3,024					

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Appendix A
PD, LGD, RWA and Exposure by country

Table 73d: PD, LGD, RWA and exposure values by country for IRB – SME retail

Asset class – SME retail

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	7.79%	35.5%	2,998	6,781	Jersey	5.35%	16.2%	–	1
United States	0.50%	28.0%	–	–	Portugal	–	–	–	–
South Africa	4.48%	50.2%	609	1,107	Australia	0.52%	10.7%	–	1
Italy	0.18%	87.5%	–	–	Brazil	–	–	–	–
Germany	–	–	–	–	Belgium	–	–	–	–
France	0.70%	5.0%	–	–	India	–	–	–	–
Ireland	2.84%	31.9%	–	1	Switzerland	–	–	–	–
Spain	16.15%	18.7%	–	–	Saudi Arabia	–	–	–	–
Netherlands	–	–	–	–	Qatar	–	–	–	–
Japan	–	–	–	–	China	–	–	–	–
Canada	0.18%	87.5%	–	–					

Table 73e: PD, LGD, RWA and exposure values by country for IRB – secured retail

Asset class – secured retail

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	1.80%	11.5%	19,428	130,661	Jersey	–	–	–	–
United States	7.56%	25.3%	2	12	Portugal	5.25%	29.6%	808	2,640
South Africa	6.26%	13.0%	3,019	10,783	Australia	0.37%	21.3%	–	1
Italy	5.28%	23.1%	3,732	11,789	Brazil	0.24%	19.6%	–	1
Germany	4.91%	23.4%	–	3	Belgium	0.24%	22.1%	–	2
France	3.12%	25.8%	2	9	India	–	–	–	–
Ireland	46.78%	26.2%	22	26	Switzerland	2.04%	24.2%	2	16
Spain	7.76%	25.3%	1	6	Saudi Arabia	0.12%	24.7%	–	–
Netherlands	14.54%	22.7%	2	4	Qatar	–	–	–	–
Japan	0.19%	22.7%	–	–	China	0.13%	25.4%	–	–
Canada	0.28%	14.4%	–	–					

Table 73f: PD, LGD, RWA and exposure values by country for IRB – revolving retail

Asset class – revolving retail

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	5.75%	77.6%	15,842	38,647	Jersey	–	–	–	–
United States	–	–	–	–	Portugal	–	–	–	–
South Africa	10.28%	75.8%	1,433	2,220	Australia	–	–	–	–
Italy	–	–	–	–	Brazil	–	–	–	–
Germany	4.81%	80.4%	1,141	2,734	Belgium	–	–	–	–
France	–	–	–	–	India	–	–	–	–
Ireland	–	–	–	–	Switzerland	–	–	–	–
Spain	11.44%	84.1%	349	402	Saudi Arabia	–	–	–	–
Netherlands	–	–	–	–	Qatar	–	–	–	–
Japan	–	–	–	–	China	–	–	–	–
Canada	–	–	–	–					

Table 73g: PD, LGD, RWA and exposure values by country for IRB – other retail exposures

Asset class – other retail exposures

Country	PD %	LGD %	RWA £m	Exposure £m	Country	PD %	LGD %	RWA £m	Exposure £m
United Kingdom	10.85%	88.4%	6,161	5,389	Jersey	–	–	–	–
United States	–	–	–	–	Portugal	–	–	–	–
South Africa	8.38%	49.2%	2,496	3,199	Australia	–	–	–	–
Italy	96.39%	90.8%	1	8	Brazil	–	–	–	–
Germany	–	–	–	–	Belgium	–	–	–	–
France	–	–	–	–	India	–	–	–	–
Ireland	–	–	–	–	Switzerland	–	–	–	–
Spain	–	–	–	–	Saudi Arabia	–	–	–	–
Netherlands	–	–	–	–	Qatar	–	–	–	–
Japan	–	–	–	–	China	–	–	–	–
Canada	–	–	–	–					

Appendices
Appendix B
Disclosure on asset encumbrance

Asset encumbrance arises from collateral pledged against secured funding and other collateralised obligations. Barclays funds a portion of trading portfolio assets and other securities via repurchase agreements and other similar borrowing and pledges a portion of customer loans and advances as collateral in securitisation, covered bond and other similar structures. Barclays monitors the mix of secured and unsecured funding sources within the Group's funding plan and seeks to efficiently utilise available collateral to raise secured funding and meet other collateralised obligations. The encumbered assets below will not agree to those disclosed in the Annual Report (page 196). The assets below are disclosed on a quarterly averaging basis and include BAGL. The Annual Report disclosure is reported as at year end and excludes BAGL. There will also be a difference in consolidation between the Annual Report (IFRS consolidation) and the Pillar 3 Report (regulatory consolidation).

Template A – Assets

		Carrying amount of encumbered assets 010 £bn	Fair value of encumbered assets 040 £bn	Carrying amount of unencumbered assets 060 £bn	Fair value of unencumbered assets 090 £bn
010	**Assets of the reporting institution**	199.4		1,010.8	
030	Equity instruments	27.0	27.0	20.6	20.6
040	Debt securities	49.6	49.6	105.9	105.9
120	Other assets	–		382.9	

Template B – Collateral received

		Fair value of encumbered collateral received or own debt securities issued 010 £bn	Fair value of collateral received or own debt securities issued available for encumbrance 040 £bn
130	**Collateral received by the reporting institution**	283.2	46.5
150	Equity instruments	57.1	9.6
160	Debt securities	223.7	38.6
230	Other collateral received	–	–
240	**Own debt securities issued other than own covered bonds or ABSs**	–	4.8

Template C – Encumbered assets/collateral received and associated liabilities

		Matching liabilities, contingent liabilities or securities lent 010 £bn	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered 030 £bn
010	**Carrying amount of selected financial liabilities**	190.8	308.3

The Group's average asset encumbrance for 2015 was £199.4bn, which primarily related to firm financing of trading portfolio assets and other securities, cash collateral and secured funding against loans and advances to customers. Encumbered assets have been identified in a manner consistent with the Group's reporting requirements under CRR. Securities and commodity assets are considered encumbered when they have been pledged or used to secure, collateralise or credit enhance a transaction which impacts their transferability and free use.

Appendices
Appendix C
Disclosures on remuneration

Remuneration

The following tables show the remuneration awards made to Barclays' Material Risk Takers (MRTs) in respect of the 2015 performance year. Information on decision-making policies for remuneration and the links between pay and performance and Barclays' remuneration policy and process (including information on remuneration design, performance measurement and risk adjustment, deferral and vesting, fixed to variable remuneration ratio and variable remuneration and benefits policy) is contained in the Remuneration report, which can be found on pages 83 to 116 of the 2015 Annual Report.

The disclosure below is made in accordance with Article 450 of the Capital Requirements Regulation in relation to employees who have been identified as MRTs and to the extent it is applicable to the 2015 performance year.

MRTs

MRTs are the members of the Barclays PLC Board and Barclays' employees whose professional activities could have a material impact on the Group's risk profile. A total of 1,523 individuals were MRTs in 2015 (2014: 1,277).

'Senior management' means members of the Barclays PLC Board (executive Directors and non-executive Directors) and members of the Barclays Group Executive Committee in accordance with Article 3(9) of CRDIV.

MRT aggregate remuneration by business

	Investment Bank £m	Personal and Corporate Banking £m	Barclaycard £m	Africa Banking £m	Group Functions £m	Non-Core £m
2015	**842**	**103**	**18**	**28**	**199**	**34**
2014	748	124	11	30	175	44

MRT aggregate remuneration by remuneration type

	2015		2014	
	Senior management	Other MRTs	Senior management	Other MRTs
Fixed pay				
Number of individuals	**29**	**1,494**	29	1,248
Fixed pay (£m)	**27**	**602**	25	522
Variable pay				
Number of individuals	**14**	**1,246**	9	1,059
Current year cash bonus (£m)	**3**	**49**	2	44
Current year share bonus (£m)	**3**	**39**	2	39
Deferred cash bonus (£m)	**7**	**242**	2	242
Deferred share bonus (£m)	**7**	**243**	4	245
Total variable pay (£m)	**20**	**573**	10	570
Long-term incentive award (outcome contingent on future performance)(£m)[a]	**2**	**–**	5	–

MRT deferred remuneration

	2015		2014	
	Senior management £m	Other MRTs £m	Senior management £m	Other MRTs £m
Awarded in year[b]	**27**	**684**	40	892
Paid in year[c]	**40**	**793**	59	761
Reduced through performance adjustments[d]	**(9)**	**(7)**	(14)	(22)
Outstanding at 31 December, of which:[d]	**50**	**1,317**	91	1,622
– vested	**–**	**6**	2	19
– unvested	**50**	**1,311**	89	1,603

Notes
a Value of long-term incentive awards is the face value at grant.
b Valued at grant price.
c Valued at date of payment.
d Valued at 31 December of the relevant year.

Appendices
Appendix C
Disclosures on remuneration

MRT joining and severance payments

	2015		2014	
	Senior management	Other MRTs	Senior management	Other MRTs
Sign-on awards				
Number of individuals	–	3	–	–
Made during the year (£m)	–	1	–	–
Buy-out awards				
Number of individuals	1	9	1	24
Made during the year (£m)	2	5	4	21
Severance awards				
Number of individuals	–	14	–	42
Made during the year (£m)	–	1	–	4
Highest individual award	–	–	–	–

MRT aggregate remuneration by band[a]

	2015[a]	2014	
		Constant currency[b]	Actual[c]
Remuneration band	Number of MRTs	Number of MRTs	Number of MRTs
€1,000,001 to €1,500,000	291	318	279
€1,500,001 to €2,000,000	119	132	132
€2,000,001 to €2,500,000	69	85	59
€2,500,001 to €3,000,000	56	34	28
€3,000,001 to €3,500,000	16	18	19
€3,500,001 to €4,000,000	19	18	22
€4,000,001 to €4,500,000	14	19	7
€4,500,001 to €5,000,000	10	9	5
€5,000,001 to €6,000,000	4	8	5
€6,000,001 to €7,000,000	8	2	2
€7,000,001 to €8,000,000	3	2	–
€8,000,001 to €9,000,000	1	–	1
€9,000,001 to €10,000,000	–	1	–
€10,000,001 to €11,000,000	1	–	–
€11,000,001 to €12,000,000	–	–	–
€12,000,001 to €13,000,000	–	–	–
€13,000,001 to €14,000,000	1	–	1
€14,000,001 to €15,000,000	–	–	–
€15,000,001 to €16,000,000	–	1	–

Notes
a The table is prepared in Euros in accordance with Article 450 of the Capital Requirements Regulation, at an exchange rate of £1:€1.4227.
b Prior year constant currency comparatives shown at an exchange rate of £1:€1.4227.
c Prior year actual comparatives are shown at the December 2014 European Commission Financial Programming and Budget rate of £1:€1.2626.

Appendices
Appendix D
CRD IV reference

Table 74: CRD IV reference

CRR ref.	High-level summary	Compliance reference
Scope of disclosure requirements		
431 (1)	Requirement to publish Pillar 3 disclosures	Barclays publishes Pillar 3 disclosures
431 (2)	Firms with permission to use specific operational risk methodologies must disclose operational risk information.	The Operational Risk section from page 143 contains a description of the operational risk framework, and required Pillar 3 disclosures.
431 (3)	Institution must have a policy covering frequency of disclosures. Their verification, comprehensiveness and overall appropriateness.	Barclays has a dedicated Pillar 3 policy.
431 (4)	Explanation of ratings decision upon request	Barclays provides explanations of rating decisions to SMEs whose loan applications were declined in writing, and suggests alternative sources of finance. Barclays participates in a formal appeals process, one of the successful initiatives implemented as part of Business Finance Taskforce, with a government-appointed overseer. In the case of larger corporates, written explanations are not usually requested as direct discussions with relationship managers take place.
Non-material, proprietary or confidential information		
432 (1)	Institutions may omit information that is not material if certain conditions are respected.	Compliance with this provision is covered by Barclays' policy.
432 (2)	Institutions may omit information that is proprietary or confidential if certain conditions are respected.	Compliance with this provision is covered by Barclays' policy.
432 (3)	Where 432 (1) and (2) apply this must be stated in the disclosures, and more general information must be disclosed.	This table specifies where disclosures are omitted.
432 (4)	Use of 432 (1) or (2) is without prejudice to scope of liability for failure to disclose material information	
Frequency of disclosure		
433	Disclosures must be published once a year at a minimum, and more frequently if necessary.	Compliance with this provision is covered by Barclays' policy. See under 'Notes on basis of preparation' (page 5).
Means of disclosures		
434 (1)	To include of disclosures in one appropriate medium, or provide clear cross-references.	Most disclosures are contained within this document. Signposting directs the reader to other publications where appropriate. Note that remuneration disclosures are contained in a dedicated publication.
434 (2)	Disclosures made under other requirements (e.g. accounting) can be used to satisfy Pillar 3 if appropriate.	Any cross-references to accounting or other disclosures are clearly signposted in this document. In particular, see page 168 for 'Location of Risk Disclosures'.
Risk management objectives and policies		
435 (1) (a) 435 (1) (b) 435 (1) (c) 435 (1) (d)	Disclose information on strategies and processes; organisational structure, reporting systems and risk mitigation/hedging.	Risk management strategy: pages 96-106 Credit Risk: pages 107-123 Counterparty Credit Risk: pages 124-127 Market Risk: pages 128-138 Operational Risk: pages 143-146 Other Principal Risks: Funding Risk – Liquidity: pages 148-150 and page 138 in 2015 Annual Report Funding Risk – Capital: pages 150-151 and page 136 in 2015 Annual Report Conduct including Reputation Risk: pages 152-154 and page 141 in 2015 Annual Report
435 (1) (e)	Inclusion of a declaration approved by the Board on adequacy of risk management arrangements.	See page 101. This statement covers all Principal Risks.
435 (1) (f)	Inclusion of a concise risk statement approved by the Board.	Please see page 102 for effectiveness of risk management arrangements. This statement covers all Principal Risks.
435 (2)	Information on governance arrangements, including information on Board composition and recruitment, and risk committees.	See pages 97-99 for a description of the risk committees. Page 36-37 of the 2015 Annual Report contains information on Board composition, experience and recruitment.
435 (2) (a)	Number of directorships held by directors.	Please see pages 36-37 of the 2015 Annual Report.
435 (2) (b)	Recruitment policy of Board members, their experience and expertise.	Please see pages 36-37, 39-40 of the 2015 Annual Report.
435 (2) (c)	Policy on diversity of Board membership and results against targets.	Please see pages 39-40 of the 2015 Annual Report.
435 (2) (d)	Disclosure of whether a dedicated risk committee is in place, and number of meetings in the year.	Please see pages 52-56 of the 2015 Annual Report.
435 (2) (e)	Description of information flow on risk to Board.	Figure on page 98 in the risk management strategy section illustrates the reporting structure to Board committees.

Appendices
Appendix D
CRD IV reference

Table 74: CRD IV continued

CRR ref.	High-level summary	Compliance reference
Scope of application		
436 (a)	Name of institution	See under 'Scope of consolidation' (page 9).
436 (b)	Difference in basis of consolidation for accounting and prudential purposes, naming entities that are:	Figure 1: Summary of regulatory scope of consolidation as at 31.12.15
436 (b) (i)	Fully consolidated;	
436 (b) (ii)	Proportionally consolidated;	
436 (b) (iii)	Deducted from own funds;	
436 (b) (iv)	Neither consolidated nor deducted.	
436 (c)	Impediments to transfer of funds between parent and subsidiaries	There are no such impediments. See page 151.
436 (d)	Capital shortfalls in any subsidiaries outside of scope of consolidation	Entities outside the scope of consolidation are appropriately capitalised.
436 (e)	Making use of articles on derogations from a) prudential requirements or b) liquidity requirements for individual subsidiaries/entities	Barclays makes use of these provisions according to its waiver from the PRA.
Own funds		
437 (1)	Requirements regarding capital resources table	Page 16/Table 5: Capital resources Page 17/Table 6: Summary of movements in capital resources Pages 20-22/Table 8: Summary of terms and conditions of capital resources
437 (1) (a)		
437 (1) (b)		
437 (1) (c)		
437 (1) (d) (i)		
437 (1) (d) (ii)		
437 (1) (d) (iii)		
437 (1) (e)		
437 (1) (f)		
437 (2)	EBA to publish implementation standards for points above.	Barclays follows the implementation standards.
Capital requirements		
438 (a)	Summary of institution's approach to assessing adequacy of capital levels.	Discussions of capital calculations are contained in each risk type management section (credit, market and operational). General discussion on capital planning is on page 150.
438 (b)	Result of ICAAP on demand from authorities.	Barclays has not received this request from its regulator.
438 (c)	Capital requirement amounts for credit risk for each Standardised Approach exposure class.	Pages 30-31/Table 13: Detailed view of exposure at default, post-CRM by business. Various other tables contain capital requirements throughout the report.
438 (d)	Capital requirements amounts for credit risk for each Internal Ratings Based Approach exposure class .	Pages 30-31/Table 13: Detailed view of exposure at default, post-CRM by business. Various other tables contain capital requirements throughout the report.
438 (d) (i)		
438 (d) (ii)		
438 (d) (iii)		
438 (d) (iv)		
438 (e)	Capital requirements amounts for market risk or settlement risk, or large exposures where they exceed limits .	Capital requirements for market risk are disclosed in Page 76/Table 51: Minimum capital requirement for market risk.
438 (f)	Capital requirement amounts for operational risk, separately for the basic indicator approach, the standardised approach, and the advanced measurement approaches as applicable.	Page 93/Table 69: Risk weighted assets for operational risk
438 (endnote)	Requirement to disclose specialised lending exposures and equity exposures in the banking book falling under the simple risk weight approach.	Specialised lending exposures: Page 52/Table 28: Corporate exposures subject to the slotting approach

Table 74: CRD IV continued

CRR ref.	High-level summary	Compliance reference
Exposure to counterparty credit risk (CCR)		
439 (a)	Description of process to assign internal capital and credit limits to CCR exposures.	Page 127
439 (b)	Discussion of process to secure collateral and establishing reserves.	Pages 125-126
439 (c)	Discussion of management of wrong-way exposures.	Page 127
439 (d)	Disclosure of collateral to be provided (outflows) in the event of a ratings downgrade.	See the liquidity risk management section, pages 148-149.
439 (e)	Derivation of net derivative credit exposure.	Page 69/Table 44: Counterparty credit exposure by approach
439 (f)	Exposure values for mark-to-market, original exposure, standardised and internal model methods.	Page 68/Table 43: Counterparty credit exposures analysed by financial contract type
439 (g)	Notional value of credit derivative hedges and current credit exposure by type of exposure.	Page 70/Table 46: Notional value of credit derivative contracts held for hedging purposes
439 (h)	Notional amounts of credit derivative transactions for own credit, intermediation, bought and sold, by product type.	Page 69/Table 45: Notional exposure associated with credit derivative contracts
439 (i)	Estimate of alpha, if applicable.	The alpha used by Barclays is 1.4. See page 7.
Capital buffers		
440 (1) (a)	Geographical distribution of relevant credit exposures.	Barclays' counter cyclical capital buffer (CCCB) is currently set at 0% for UK exposures. In other jurisdictions where CCCB is being applied we do not expect this to be material. See page 8. High level indication of the distribution of exposures is disclosed in Table 73, for each country in which Barclays operates.
440 (1) (b)	Amount of the institution specific countercyclical capital buffer.	
440 (2)	EBA will issue technical implementation standards related to 440 (1)	Barclays will comply with the standards once applicable.
Indicators of global systemic importance		
441 (1)	Disclosure of the indicators of global systemic importance	Discussed on page 8.
441 (2)	EBA will issue technical implementation standards related to 441 (1)	Barclays will comply with the standards once applicable.
Credit risk adjustments		
442 (a)	Disclosure of bank's definitions of past due and impaired.	Impairment on page 265 of the 2015 Annual Report; online glossary for 'Past Due'. Pages 109-116 provide a complete description of credit quality measures.
442 (b)	Approaches for calculating credit risk adjustments.	Pages 112-116
442 (c)	Disclosure of pre-CRM EAD by exposure class.	See points 442 (d), (e), (f) below which break down this total.
442 (d)	Disclosures of pre-CRM EAD by geography and exposure class.	Pages 35-36/Table 16: Geographic analysis of credit exposure
442 (e)	Disclosures of pre-CRM EAD by industry and exposure class.	Pages 37-39/Table 17: Industry analysis of credit exposure
442 (f)	Disclosures of pre-CRM EAD by residual maturity and exposure class.	Pages 39-40/Table 18: Residual maturity analysis credit exposures
442 (g)	Breakdown of impaired, past due, specific and general credit adjustments, and impairment charges for the period, by exposure class or counterparty type.	Page 57/Table 33: Analysis of impaired and past due exposures and allowance for impairment by exposure type
442 (g) (i)		
442 (g) (ii)		
442 (g) (iii)		
442 (h)	Impaired, past due exposures, by geographical area, and amounts of specific and general impairment for each geography.	Page 58/Table 34: Geographic analysis of impaired and past due exposures and allowance for impairment
442 (i)	Reconciliation of changes in specific and general credit risk adjustments.	Page 58/Table 35: Analysis of movement on impairment and amounts taken directly to profit and loss Page 59/Table 36: Regulatory adjustments to statutory impairment
442 (i) (i)		
442 (i) (ii)		
442 (i) (iii)		
442 (i) (iv)		
442 (i) (v)		
442 endnote	Specific credit risk adjustments recorded to income statement are disclosed separately.	Page 58/Table 35: Analysis of movement on impairment and amounts taken directly to profit and loss

Table 74: CRD IV continued

CRR ref.	High-level summary	Compliance reference
Unencumbered assets		
443	Disclosures on unencumbered assets	Page 158
Use of ECAIs		
444 (a)	Names of the ECAIs used in the calculation of Standardised Approach RWAs, and reasons for any changes	Page 42
444 (b)	Exposure classes associated with each ECAI	Page 42
444 (c)	Explanation of the process for translating external ratings into credit quality steps	Page 42
444 (d)	Mapping of external rating to credit quality steps	Page 42/Table 20: Relationship of long-term external credit ratings to credit quality steps under the standardised approach Page 42/Table 21: Credit quality steps and risk weights under the standardised approach
444 (e)	Exposure value pre- and post-credit risk mitigation, by credit quality step.	Page 43/Table 22: Credit quality step analysis of pre-CRM exposure and capital deductions under the standardised approach Page 44/Table 23: Credit quality step analysis of post-CRM exposure and capital deductions under the standardised approach
Exposure to market risk		
445	Disclosure of position risk, large exposures exceeding limits, FX, settlement and commodities risk.	Page 76/Table 51: Minimum capital requirement for market risk
Operational risk		
446	Disclosure of the scope of approaches used to calculate operational risk, discussion of advanced methodology and external factors considered.	Pages 92 and 146
Exposure in equities not included in the trading book		
447 (a)	Differentiation of exposures based on objectives	Page 62/Table 40: Fair value of, and gains and losses on equity investments
447 (b)	Recorded and fair value, and actual prices of exchange traded equity where it differs from fair value.	
447 (c)	Types, nature and amounts of the relevant classes of equity exposures.	
447 (d)	Realised cumulative gains and losses on sales over the period.	
447 (e)	Total unrealised gains/losses, latent revaluation gains/losses, and amounts included within Tier 1 capital.	
Exposure to interest rate risk on positions not included in the trading book		
448 (a)	Nature of risk and key assumptions in measurement models.	Model assumptions on pages 136-137.
448 (b)	Variation in earnings or economic value, or other measures used by the bank from upward and downward shocks to interest rates, by currency.	Page 77/Table 52: Net interest income sensitivity (AEaR) by business unit Page 77/Table 53: Net interest income sensitivity (AEaR) by currency

Table 74: CRD IV continued

CRR ref.	High-level summary	Compliance reference
Exposure to securitisation positions		
449	Exposure to securitisations positions.	
449 (a)	Objectives in relation to securitisation activity.	Page 140
449 (b)	Nature of other risks in securitised assets, including liquidity.	Pages 140-141
449 (c)	Risks in re-securitisation activity stemming from seniority of underlying securitisations and ultimate underlying assets.	Page 141
449 (d)	The roles played by institutions in the securitisation process.	Page 140
449 (e)	Indication of the extent of involvement in these roles.	Page 140
449 (f)	Processes in place to monitor changes in credit and market risks of securitisation exposures, and how the processes differ for re-securitisation exposures.	Pages 140-141
449 (g)	Description of the institution's policies with respect to hedging and unfunded protection, and identification of material hedge counterparties.	Page 141
449 (h)	Approaches to calculation of RWA for securitisations mapped to types of exposures.	Page 141 'Rating methodologies, ECAIs and RWA calculations'
449 (i)	Types of SSPEs used to securitise third-party exposures, and list of SSPEs.	Page 140 'Sponsoring conduit vehicles'
449 (j)	Summary of accounting policies for securitisations:	Page 142 'Summary of the accounting policies for securitisation activities'
449 (j) (i)	Treatment of sales or financings;	
449 (j) (ii)	Recognition of gains on sales;	
449 (j) (iii)	Approach to valuing securitisation positions;	
449 (j) (iv)	Treatment of synthetic securitisations;	
449 (j) (v)	Valuation of assets awaiting securitisations;	
449 (j) (vi)	Recognition of arrangements that could require the bank to provide support to securitised assets.	
449 (k)	Names of ECAIs used for securitisations.	Page 141
449 (l)	Full description of Internal Assessment Approach.	Page 42/Table 20: Relationship of long-term external credit ratings to credit quality steps under the standardised approach
449 (m)	Explanation of changes in quantitative disclosures.	Satisfied throughout; we comment on every quantitative table in the securitisation section.
449 (n)	Banking and trading book securitisation exposures:	
449 (n) (i)	Amount of outstanding exposures securitised;	Page 86/Table 63: Outstanding amount of exposures securitised – Asset value and impairment charges
449 (n) (ii)	On balance sheet securitisation retained or purchased, and off-balance sheet exposures;	Page 87/Table 64: Securitisation exposures – by exposure class
449 (n) (iii)	Amount of assets awaiting securitisation;	Page 85/Table 62: Assets awaiting securitisation
449 (n) (iv)	Early amortisation treatment; aggregate drawn exposures, capital requirements;	There is no applicable data to publish in respect of this table. See page 83
449 (n) (v)	Deducted or 1250%-weighted securitisation positions;	See page 83. Pages 88-89/Table 65: Securitisation exposures – by capital approach. Pages 89-90/Table 66: Re-securitisation exposures – by risk weight band
449 (n) (vi)	Amount of exposures securitised and recognised gains or losses on sales.	Page 84/Table 61: Securitisation activity during the year
449 (o)	Banking and trading book securitisations by risk band:	
449 (o) (i)	Retained and purchased exposure and associated capital requirements, broken down by risk-weight bands;	Pages 88-89/Table 65: Securitisation exposures – by capital approach Pages 89-90/Table 66: Re-securitisation exposures – by risk weight band
449 (o) (ii)	Retained and purchased re-securitisation exposures before and after hedging and insurance; exposure to financial guarantors broken down by guarantor credit worthiness.	There is no applicable data to publish in respect of this table. See page 83
449 (p)	Impaired assets and recognised losses related to banking book securitisations, by exposure type	Page 86/Table 63: Outstanding amount of exposures securitised – Asset value and impairment charges
449 (q)	Exposure and capital requirements for trading book securitisations, separately into traditional	
449 (r)	Whether the institution has provided financial support to securitisation vehicles	There is no applicable data to publish in respect of this table – no support was provided in 2014. See Note 39 of 2015 Annual Report

Table 74: CRD IV continued

CRR ref.	High-level summary	Compliance reference
Remuneration disclosures		
450	Remuneration	Appendix C contains the remuneration awards made to Barclays' Material Risk Takers. See the Directors' remuneration report (DRR) of the 2015 Annual Report for other remuneration disclosures.
Leverage		
451 (1) (a)	Leverage ratio, and breakdown of total exposure measure, including reconciliation to financial statements, and derecognised fiduciary items	Page 26/Table 11: Leverage ratio
451 (1) (b)		Page 26/Table 11: Leverage ratio
451 (1) (c)		Page 26/Table 11: Leverage ratio
451 (1) (d)	Description of the risk management approach to mitigate excessive leverage, and factors that impacted the leverage ratio during the year.	See page 150, management of capital risk.
451 (1) (e)		
451 (2)	EBA to publish implementation standards for points above.	Barclays follows the implementation standards.
Use of the IRB approach to credit risk		
452 (a)	Permission for use of the IRB approach from authority	Pages 12-13
452 (b)	Explanation of:	
452 (b) (i)	Internal rating scales, mapped to external ratings;	Page 45/Table 24: Internal default grade probabilities and mapping to external ratings
452 (b) (ii)	Use of internal ratings for purposes other than capital requirement calculations;	Page 117 'Applications of internal ratings'
452 (b) (iii)	Management and recognition of credit risk mitigation;	
452 (b) (iv)	Controls around ratings systems.	Page 118. 'Management of model risk within Barclays – the control mechanisms for the rating system'
452 (c)	Description of ratings processes for each IRB asset class, provided separately	Pages 117-118. Separate descriptions apply to retail and wholesale classes collectively; hence this is not repeated for each separate class. Pages 119-120/Table 70: IRB credit risk models selected features.
452 (c) (i)		
452 (c) (ii)		
452 (c) (iii)		
452 (c) (iv)		
452 (c) (v)		
452 (d)	Exposure values by IRB exposure class, separately for Advanced and Foundation IRB.	This is shown throughout the report.
452 (e)	For wholesale exposure classes, disclosed separately by obligor grade:	
452 (e) (i)	Total exposure, separating loans and undrawn exposures where applicable;	Pages 46-47/Table 25: IRB wholesale obligor grade disclosure for central governments and central banks Pages 48-49/Table 26: IRB wholesale obligor grade disclosure for institutions Pages 50-51/Table 27: IRB wholesale obligor grade disclosure for corporates
452 (e) (ii)	Exposure-weighted average risk weight;	
452 (e) (iii)	Undrawn commitments and average exposure values by asset class.	
452 (f)	For retail exposure classes, same disclosures as under 452 (e), by risk grade or EL grade.	Page 53/Table 29: IRB retail obligor grade disclosure for SME Page 54/Table 30: IRB retail obligor grade disclosure for secured retail Page 55/Table 31: IRB retail obligor grade disclosure for revolving retail Page 56/Table 32: IRB retail obligor grade disclosure for other retail exposures
452 (g)	Actual specific risk adjustments for the period and explanation of changes.	Page 60/Table 38: Impairment charges, other value adjustments and individual impairment charges for IRB exposures
452 (h)	Commentary on drivers of losses in preceding period.	
452 (i)	Disclosure of predicted against actual losses for sufficient period, and historical analysis to help assess the performance of the rating system over a sufficient period.	Page 61/Table 39: Analysis of expected loss versus actual losses for IRB exposures Pages 121-123/Table 71: Analysis of expected performance versus actual results
452 (j)	For all IRB exposure classes:	
452 (j) (i)	Where applicable, PD and LGD by each country where the bank operates	Appendix A, Page 156/Table 73: PD, LGD, RWA and Exposure by country.
452 (j) (ii)		

Table 74: CRD IV continued

CRR ref.	High-level summary	Compliance reference
Use of credit risk mitigation techniques		
453 (a)	Use of on- and off-balance sheet netting	Pages 125-127
453 (b)	How collateral valuation is managed	Pages 125-127
453 (c)	Description of types of collateral used by Barclays	Pages 125-127
453 (d)	Types of guarantor and credit derivative counterparty, and their creditworthiness	Pages 125-127
453 (e)	Disclosure of market or credit risk concentrations within risk mitigation exposures	Pages 125-127
453 (f)	For exposures under either the Standardised or Foundation IRB approach, disclose the exposure value covered by eligible collateral	Page 41/Table 19: Collateral and guarantees for IRB approach
453 (g)	Exposures covered by guarantees or credit derivatives	
Use of the Advanced Measurement Approaches to operational risk		
454	Description of the use of insurance or other risk transfer mechanisms to mitigate operational risk	Page 146
Use of internal market risk models		
455 (a) (i)	Disclosure of the characteristics of the market risk models.	Page 134/Table 72: Market risk models selected features
455 (a) (ii)	Disclosure of the methodology and description of all-price risk measure and incremental risk charge.	Pages 133-134
455 (a) (iii)	Descriptions of stress tests applied to the portfolios.	Page 132
455 (a) (iv)	Methodology for back-testing and validating the models.	Pages 134-135
455 (b)	Scope of permission for use of the models.	Page 13/Table 4: Summary of the scope of application of regulatory methodologies for market and operational risk
455 (c)	Policies and processes to determine which exposures are to be included in the trading book, and to comply with prudential valuation requirements.	Pages 132-133
455 (d)	High/Low/Mean values over the year of VaR, sVaR, all-price risk measure and incremental risk charge.	Page 75/Table 49: Analysis of regulatory VaR, SVaR, IRC and All Price Risk Measure
455 (d) (i)		
455 (d) (ii)		Page 74/Table 48: The daily average, maximum and minimum values of management VaR
455 (d) (iii)		
455 (e)	The elements of the own fund calculation.	Page 76/Table 51: Minimum capital requirement for market risk
455 (f)	Weighted average liquidity horizons of portfolios covered by models.	Disclosed in model discussions on page 133.
455 (g)	Comparison of end-of-day VaR measures compared with one-day changes in portfolio's value.	Pages 134-135.

Appendices
Location of risk disclosures

Barclays' risk disclosures are located across the Annual Report and Pillar 3 Report

		Annual Report	Pillar 3 Report
Material existing and emerging risks			
Insight into the level of risk across our business and portfolios, the material existing and emerging risks and uncertainties we face and the key areas of management focus.	▪ Credit risk	120	n/a
	▪ Market risk	121	n/a
	▪ Funding risk	121	n/a
	▪ Operational risk	122	n/a
	▪ Conduct risk	124	n/a
	▪ Material existing and emerging risks potentially impacting more than one Principal risk	125	n/a
Risk management			
Overview of Barclays' approach to risk management. A more comprehensive overview together with more specific information on policies that the Group determines to be of particular significance in the current operating environment can be found in Barclays PLC 2015 Pillar 3 Report or at home.barclays	▪ Risk management strategy	128	97
	▪ Governance structure	128	97
	▪ Risk governance and assigning responsibilities	130	100
	▪ Principal risks and Key risks	131	101
	▪ Credit risk management	132	107
	▪ Management of credit risk mitigation techniques and counterparty credit risk	n/a	124
	▪ Market risk management	134	128
	▪ Management of securitisation exposures	n/a	139
	▪ Funding risk management	136	147
	▪ Capital risk management	136	150
	▪ Liquidity risk management	138	148
	▪ Operational risk management	139	143
	▪ Conduct risk management	141	152
Risk performance			
Credit risk: The risk of suffering financial loss should the Group's customers, clients or market counterparties fail to fulfil their contractual obligations.	▪ Credit risk overview and summary of performance	145	107
	▪ Analysis of the balance sheet	145	39, 43
	▪ Maximum exposure and collateral and other credit enhancement held	146	28, 41
	▪ The Group's approach to manage and represent credit quality	148	42, 45
	▪ Loans and advances to customers and banks	150	n/a
	▪ Analysis of the concentration of credit risk	151	35, 37
	▪ Group exposures to specific countries and industries	152	n/a
	▪ Analysis of specific portfolios and asset types	155	n/a
	▪ Analysis of loans on concession programmes	164	n/a
	▪ Analysis of problem loans	167	57
	▪ Impairment	168	57
Market risk: The risk of a reduction to earnings or capital due to volatility of the trading book positions or as a consequence of running a banking book balance sheet and liquidity funding pools.	▪ Market risk overview, measures in the Group and summary of performance	172	72
	▪ Balance sheet view of trading and banking books	173	73
	▪ Traded market risk	174	74
	▪ Business scenario stresses	175	75
	▪ Review of regulatory measures	175	75
	▪ Non-traded market risk	176	76
	▪ Foreign exchange risk	178	79
	▪ Pension risk review	179	80
	▪ Insurance risk review	180	81
Funding risk – Capital: The risk that the Group is unable to maintain appropriate capital ratios.	▪ Capital risk overview and summary of performance	182	n/a
	▪ Regulatory minimum capital and leverage requirements	182	8
	▪ Capital resources	183	16
	▪ Leverage ratio requirements	183	26
Funding risk – Liquidity: The risk that the firm, although solvent, either does not have sufficient financial resources available to enable it to meet its obligations as they fall due, or can secure such resources only at excessive cost.	▪ Liquidity risk overview and summary of performance	188	n/a
	▪ Liquidity risk stress testing	188	n/a
	▪ Liquidity pool	191	n/a
	▪ Funding structure and funding relationships	192	n/a
	▪ Wholesale funding	193	n/a
	▪ Term financing	195	n/a
	▪ Encumbrance	195	158
	▪ Credit ratings	199	n/a
	▪ Liquidity management at Barclays Africa Group Limited	200	n/a
	▪ Contractual maturity of financial assets and liabilities	200	n/a

Appendices
Location of risk disclosures

		Annual Report	Pillar 3 Report
Risk performance continued			
Operational risk: The risk of direct or indirect impacts resulting from human factors, inadequate or failed internal processes and systems or external events.	▪ Operational risk overview and summary of performance in the period	206	92
	▪ Operational risk profile	206	93, 94
Conduct risk: The risk that detriment is caused to our customers, clients, counterparties or Barclays and its employees because of inappropriate judgement in the execution of our business activities.	▪ Conduct risk overview	208	n/a
	▪ Reputation risk	208	n/a
	▪ Summary of performance	208	n/a
	▪ Salz recommendations	209	n/a
	▪ Conduct reputation measure	209	n/a
Supervision and regulation: The Group's operations, including its overseas offices, subsidiaries and associates, are subject to a significant body of rules and regulations that are a condition for authorisation to conduct banking and financial services business.	▪ Supervision of the Group	210	n/a
	▪ Global regulatory developments	210	8
	▪ Influence of European legislation	211	n/a
	▪ EU developments	211	n/a
	▪ Regulation in the UK	212	n/a
	▪ Resolution of UK banking groups	212	n/a
	▪ Structural reform of banking groups	213	8
	▪ Compensation schemes	213	159
	▪ Regulation in the US	214	n/a
	▪ Regulation in Africa	215	n/a
Pillar 3 Report			
Contains extensive information on risk as well as capital management.	▪ High level summary of risk and capital profile	n/a	3
	▪ Notes on basis of preparation	n/a	5
	▪ Scope of application of Basel rules	n/a	6
Risk and capital position review: Provides a detailed breakdown of Barclays' regulatory capital adequacy and how this relates to Barclays' risk management.	▪ Group capital resources, requirements and leverage	n/a	15
	▪ Analysis of credit risk	n/a	27
	▪ Analysis of counterparty credit risk	n/a	63
	▪ Analysis of market risk	n/a	71
	▪ Analysis of credit value adjustment	n/a	81
	▪ Analysis of securitisation exposures	n/a	82
	▪ Analysis of operational risk	n/a	92

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