HSBC HOLDINGS PLC
Form 6-K
February 28, 2014
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FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Report of Foreign Private Issuer

Pursuant to Rule 13a - 16 or 15d - 16 of

the Securities Exchange Act of 1934

For the month of February 2014

Commission File Number: 001-14930

HSBC Holdings plc

42nd Floor, 8 Canada Square, London E14 5HQ, England

(Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F).

Form 20-F x Form 40-F ¨

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ¨

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ¨

(Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934).

Yes ¨ No x

(If Yes is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82-).

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HSBC HOLDINGS PLC

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013

Certain defined terms

Unless the context requires otherwise, HSBC Holdings means HSBC Holdings plc and HSBC , the Group , we , us and our refers to HSBC Holdings together its subsidiaries. Within this document the Hong Kong Special Administrative Region of the People s Republic of China is referred to as Hong Kong . When used in the terms shareholders equity and total shareholders equity , shareholders means holders of HSBC Holdings ordinary shares and those preference shares classified as equity. The abbreviations US$m and US$bn represent millions and billions (thousands of millions) of US dollars, respectively.

Cautionary statement regarding forward-looking statements

The Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (Pillar 3 Disclosures 2013) contain *certain forward-looking statements with respect to HSBC s financial condition, results of operations and business.*

Statements that are not historical facts, including statements about HSBC s beliefs and expectations, are forward-looking statements. Words such as expects , anticipates , intends , plans , believes , seeks , estimates , potential and reasonably possible , variations of these words and similar expressions are intende forward-looking statements. These statements are based on current plans, estimates and projections, and therefore undue reliance should not be placed on them. Forward-looking statements speak only as of the date they are made. HSBC makes no commitment to revise or update any forward-looking statements to reflect events or circumstances occurring or existing after the date of any forward-looking statements.

Written and/or oral forward-looking statements may also be made in the periodic reports to the US Securities and Exchange Commission, summary financial statements to shareholders, proxy statements, offering circulars and prospectuses, press releases and other written materials, and in oral statements made by HSBC s Directors, officers or employees to third parties, including financial analysts.

Forward-looking statements involve inherent risks and uncertainties. Readers are cautioned that a number of factors could cause actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement. These factors include changes in general economic conditions in the markets in which we operate, changes in government policy and regulation and factors specific to HSBC.

Verification

Whilst the Pillar 3 Disclosures 2013 *are not required to be externally audited, the document has been verified internally in accordance with the Group s policies on disclosure and its financial reporting and governance processes. Controls comparable to those for the* Annual Report and Accounts 2013 *have been applied to confirm compliance with PRA Handbook rules in BIPRU 11 and consistency with HSBC s governance, business model and other disclosures.*

Frequency

We publish comprehensive Pillar 3 disclosures annually on the HSBC internet site www.hsbc.com, simultaneously with the release of our Annual Report and Accounts 2013. *Our interim reports and management statements include relevant summarised regulatory capital information complementing the financial and risk information presented there.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Tables

Who we are

HSBC is one of the largest banking and financial services organisations in the world.

Customers:

54 million

Served by:

254,000 employees

Through four global businesses:

Retail Banking and Wealth Management

Commercial Banking

Global Banking and Markets

Global Private Banking

Located in:

75 countries and territories

Across six geographical regions:

Europe

Hong Kong

Rest of Asia-Pacific

Middle East and North Africa

North America

Latin America

Offices:

Over 6,300

Global headquarters:

London

Market capitalisation:

US$207 billion

Listed on stock exchanges in:

London

Hong Kong

New York

Paris

Bermuda

Shareholders:

216,000 in 131 countries and territories

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Introduction

Purpose

This document comprises HSBC s Pillar 3 disclosures on capital and risk management at 31 December 2013. It has two principal purposes:

- to meet the regulatory disclosure requirements under the rules of the United Kingdom (UK) Prudential Regulation Authority (PRA) set out in BIPRU, the Prudential Sourcebook for Banks, Building Societies and Investment Firms, Chapter 11, and as the PRA has otherwise directed; and
- to provide further useful information on the capital and risk profile of the HSBC Group, in particular on the impact of the European and UK implementation of the Basel III framework.

Additional relevant information may be found in the HSBC Holdings plc *Annual Report and Accounts 2013*.

Key regulatory metrics

Core tier 1 capital

US$149.1bn *up 7%*

2012: US$138.8bn
2011: US$122.4bn

Core tier 1 ratio

13.6%

2012: 12.3%
2011: 10.1%

Total RWAs

US$1,093bn *down 3%*

2012: US$1,124bn
2011: US$1,210bn

Tier 1 capital

US$158.2bn *up 5%*

2012: US$151.0bn
2011: US$139.5bn

Tier 1 ratio

14.5%

2012: 13.4%
2011: 11.5%

Credit risk EAD

US$2,160bn *down 1%*

2012: US$2,171bn
2011: US$2,183bn

Total regulatory capital

US$194.0bn *up7%*

2012: US$180.8bn
2011: US$170.3bn

Total capital ratio

17.8%

2012: 16.1%
2011: 14.1%

Credit risk RWA density

40%

2012: 41%
2011: 44%

Common equity tier 1 capital

US$132.5bn *up 8%*

2012: US$122.5bn

Common equity tier 1 ratio[1]

10.9%

2012: 9.5%

Estimated CRD IV RWAs

US$1,215bn *down 6%*

2012: US$1,292bn

Leverage ratio[2]

4.4%

2012: 4.2%

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 1: Pillar 1 overview

	RWAs			Capital required[3]	
	2013	2012		**2013**	2012
	US$bn	US$bn		**US$bn**	US$bn
Credit risk	**864.3**	898.4	*down 4%*	**69.1**	71.9
Standardised approach	**329.5**	374.5		**26.4**	30.0
IRB foundation approach	**13.6**	10.3		**1.1**	0.8
IRB advanced approach	**521.2**	513.6		**41.6**	41.1
Counterparty credit risk[4]	**45.8**	48.3	*down 5%*	**3.7**	3.9
Standardised approach	**3.6**	2.6		**0.3**	0.2
IRB approach	**42.2**	45.7		**3.4**	3.7
Market risk	**63.4**	54.9	*up 15%*	**5.1**	4.4
Operational risk	**119.2**	122.3	*down 3%*	**9.5**	9.8
Total	**1,092.7**	1,123.9	*down 3%*	**87.4**	90.0
Of which:					
Run-off portfolios	**104.9**	145.7		**8.4**	11.7
Legacy credit in GB&M	**26.4**	38.6		**2.1**	3.1
US CML and Other[5]	**78.5**	107.1		**6.3**	8.6
Card and Retail Services[6]	**1.1**	6.9		**0.1**	0.6

1 *A Basel III measure of common equity tier 1 (CET 1) capital expressed as a percentage of total risk exposure amount.*
2 *For a detailed basis of preparation, see Appendix III.*
3 *Capital required , here and in all tables where the term is used, represents the Pillar I capital charge at 8% of RWAs.*
4 *For a breakdown of counterparty credit risk (CCR) exposure and RWAs by internal model and mark-to-market methods, see table 35.*
5 *Other includes treasury services related to the US Consumer and Mortgage Lending (CML) business and operations in run-off.*
6 *Operational risk RWAs, under the standardised approach, are calculated using an average of the last three years revenues. For business disposals, the operational risk RWAs are not released immediately on disposal, but diminish over a period of time. The RWAs for the Card and Retail Services business at 31 December 2013 represent the remaining operational risk RWAs for this business.*

RWAs by risk type

Credit risk RWAs by Basel approach

RWAs by geographical region

RWAs by global business

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Regulatory framework for disclosures

HSBC is supervised on a consolidated basis in the UK where, on 1 April 2013, three new regulatory bodies were established: the Financial Policy Committee (FPC), the PRA and the Financial Conduct Authority (FCA).

The FPC does not directly supervise firms, being responsible for macro-prudential regulation and considering systemic risk affecting economic and financial stability. The FPC does, however, have power to direct the PRA or FCA, and it may make recommendations to the Treasury, to the PRA, FCA or other persons . The PRA and FCA inherited the micro-prudential supervisory functions of the Financial Services Authority (FSA), and hold formal powers to issue directions to qualifying parent undertaking entities such as HSBC Holdings plc.

As the PRA supervises HSBC on a consolidated basis, it receives information on the capital adequacy of, and sets capital requirements for, the Group as a whole. Individual banking subsidiaries are directly regulated by their local banking supervisors, who set and monitor their local capital adequacy requirements. In most jurisdictions, non-banking financial subsidiaries are also subject to the supervision and capital requirements of local regulatory authorities.

At consolidated group level, we calculated capital for prudential regulatory reporting purposes throughout 2013 using the Basel II framework of the Basel Committee on Banking Supervision (Basel Committee), as implemented by the European Union (EU) in the (amended) Capital Requirements Directive, and subsequently by the FSA and, latterly, the PRA in their rulebooks for the UK banking industry.

The Basel II framework has been updated by the Basel Committee in Basel III, which in the EU has been implemented with legal effect from 1 January 2014 through a Directive and a Regulation (CRD IV) which together supersede earlier Directives. Significant matters within the scope of CRD IV include the quality and quantity of regulatory capital, the calculation of capital requirements for major risk types, liquidity and funding, capital buffers and leverage.

The regulators of Group banking entities outside the EU are at varying stages of implementation of the Basel framework; local regulation in 2013 may have been still on a Basel I basis, on Basel II, or in some cases already on Basel III.

In December 2013, the PRA issued final rules implementing CRD IV in the UK. In summary, these deploy available national discretion in order to accelerate significantly the transition timetable to full end-point CRD IV compliance. They apply to HSBC, being headquartered in the UK, on a group consolidated basis. Details are set out under Basel III implementation and CRD IV on page 23 of this Report.

Important elements of the capital adequacy framework in the UK have yet to be clarified, and uncertainties remain around the amount of capital that banks will be required to hold. These include the quantification and interaction of capital buffers and the definitions of several significant adjustments to regulatory capital. In addition, many technical standards and guidelines have been issued by the European Banking Authority (EBA) in draft form for consultation, or are pending publication in 2014. These require adoption by the European Commission to come legally into force.

Moreover, the environment for approval and operation of internal ratings-based (IRB) analytical models remains challenging. During 2013, the PRA introduced a number of measures to constrain modelling approaches used to calculate RWAs; these generally have driven higher capital requirements. These measures included a 45% floor for loss-given-default (LGD) on senior unsecured sovereign IRB exposures and a requirement to adopt supervisory slotting for certain commercial real estate exposures. Given that all European Economic Area (EEA) sovereign exposures are treated under the standardised approach, the new LGD floor effectively only applies to non-EEA sovereign exposures. Further details are set out in the RWA commentary from page 17 and in Wholesale models from page 42 below.

In November 2013, the PRA published its expectations in relation to capital ratios of major UK banks and building societies, namely that from 1 January 2014 capital resources should be held equivalent to at least 7% of RWAs, using a CRD IV end point definition of CET1 but after taking into account any adjustments set by the PRA to reflect the FPC s capital shortfall exercise recommendations. These include an assessment of expected future losses and future costs of conduct redress, and adjusting for a more prudent calculation of risk weights. In addition to the above, the PRA has established for the Group a forward-looking Basel III end point CET1 target ratio, post-FPC adjustments, to be met by 2019. This effectively replaced the capital resources floor that was set by the FSA towards the end of 2012.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Our approach to managing Group capital is designed to ensure that we exceed current regulatory requirements and are well placed to meet those expected in the future. In 2013, we managed our capital position to meet an internal target CET1 ratio of 9.5-10.5% on a CRD IV end point basis, changing to greater than 10% from 1 January 2014. We continue to keep this under review.

Pillar 3 Disclosures 2013

Basel II is structured around three pillars . The Pillar 1 minimum capital requirements and Pillar 2 supervisory review process are complemented by Pillar 3: market discipline. The aim of Pillar 3 is to produce disclosures which allow market participants to assess the scope of application by banks of the Basel framework and the rules in their jurisdiction, their capital condition, risk exposures and risk assessment processes, and hence their capital adequacy. Pillar 3 requires all material risks to be disclosed, enabling a comprehensive view of a bank s risk profile.

The *Pillar 3 Disclosures 2013* comprise all information required under Pillar 3 in the UK, both quantitative and qualitative, and are prepared at the HSBC Group consolidated level. Where disclosure has been withheld as proprietary or non-material, as the rules permit, we comment as appropriate. The PRA also allows certain Pillar 3 requirements to be met by inclusion within the financial statements.

Where we adopt this approach, references are provided to the relevant pages of the Annual Report and Accounts 2013.

We continue to engage constructively in the work of the UK authorities and industry associations to improve the transparency and comparability of UK banks Pillar 3 disclosures. We also take due account of other regulatory assessments, such as reviews by the EBA of best practice in historical disclosures. Our 2013 disclosures further enhance our implementation at 2012 year-end of the recommendations of the Enhanced Disclosure Task Force (EDTF) in October 2012, taking account of their subsequent progress report.

An overview of disclosures reflecting HSBC s implementation of those recommendations is given on page 131 of the Annual Report and Accounts 2013.

The disclosures in this report have mainly been prepared according to the Basel II rules that remained in place until and at 2013 year-end.

With CRD IV coming into force on 1 January 2014, and reflecting the way we now manage capital, we have further developed our disclosures of our estimated capital position at 2013 year-end on an end point CRD IV basis with regard to both the supply of, and the demand for, capital. We also make certain disclosures in line with PRA requirements for UK banks on the composition of capital and leverage in a Basel III/ CRD IV environment. These disclosures are clearly distinguished from those made on a Basel II basis.

The principal changes to our *Pillar 3 Disclosures 2013,* compared with the prior year, are:

enhanced capital and leverage disclosures:

an extended analysis of the different scope of our financial accounting and regulatory balance sheets;

development of tables on the composition of regulatory capital on transitional and end-point CRD IV bases; and

a reconciliation of the leverage ratio exposure measure to financial balance sheet assets.

more granular risk disclosures:

new tables on the key characteristics of our principal credit IRB models, wholesale and retail, and market risk models;

a corporate portfolio analysis by geography;

more granular backtesting data for retail risk analytical models; and

an improved analysis of expected loss (EL), impairment charges and allowances.

other items:

enhancement of the Glossary; and

presentational improvements, e.g. charts for Tables 19 and 22 on portfolio quality distribution.

Future developments

UK regulatory update

The UK authorities have a number of areas of ongoing regulatory focus. A common theme is the ability of banks internal models to adequately capture the risk of the portfolio.

During 2013, the PRA proposed a wholesale LGD and exposure at default (EAD) framework to UK banks that includes the treatment of low-default portfolios. This imposed LGD and EAD floors based on the foundation approach in the case of portfolios with data quality shortcomings and also those with fewer than 20 events of default per country.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

In December 2013, the PRA concluded its review of HSBC and confirmed that the floors should be implemented across a range of portfolios by the end of March 2014. Work is underway to implement the change, which is currently estimated to have a negative impact on our CET1 ratio in the range of 25bps to 35bps.

In December 2013, the PRA issued its Supervisory Statement SS13/13 in relation to Market Risk. This requires firms to identify risks not adequately captured by models and to hold additional funds against those under its Risks not in VaR (RNIV) framework. In assessing these risks, no offsetting or diversification will be allowed across risk factors. To align with this, we are currently reviewing and revising our methodology.

In July 2013, the EBA published a consultation paper on prudent valuation together with a Quantitative Impact Study. We await the outcome of the EBA consultation process and the finalised standard during 2014.

Systemically important banks

In parallel with the Basel III proposals, the Basel Committee issued a consultative document in July 2011, Global systemically important banks: assessment methodology and the additional loss absorbency requirement . In November 2011, it published its rules and the Financial Stability Board (FSB) issued the initial list of global systemically important banks (G-SIB s). This list, which includes HSBC and 28 other major banks from around the world, will be re-assessed periodically through annual re-scoring of the individual banks and a triennial review of the methodology.

The banks included in the list, depending on their relative ranking, will be required to hold a buffer in the form of CET1 capital on a scale between 1% and 2.5%. The requirements, initially for those banks identified as G-SIBs in November 2014, on the basis of end-2013 data, are envisaged to be phased in from 1 January 2016, becoming fully effective on 1 January 2019. However, national regulators have discretion to introduce higher thresholds than the minima.

In July 2013, the Basel Committee issued updated final rules, Global systemically important banks: updated assessment methodology and the additional loss absorbency requirement . Based on this, in November 2013 the FSB and the Basel Committee updated the list of G-SIBs, using end-2012 data. One more institution was added to the list of 28 banking groups identified as G-SIBs in 2012, increasing the overall number to 29. The add-

on of 2.5% previously assigned to HSBC was left unchanged.

The EBA is currently consulting on the implementation of the Basel methodology within the EU.

Regulatory capital buffers

CRD IV, in addition to giving effect to the Basel Committee s surcharge for G-SIBs in the form of a global systemically important institutions buffer (G-SIIB), establishes a number of additional capital buffers, to be met by CET1 capital, broadly aligned with the Basel III framework. CRD IV contemplates that these will be phased in from 1 January 2016, subject to national discretion.

These new capital requirements include a capital conservation buffer designed to ensure banks build up capital outside periods of stress that can be drawn down when losses are incurred, set at 2.5% of RWAs.

Additionally, CRD IV sets out a systemic risk buffer (SRB) for the financial sector as a whole, or one or more sub-sectors, to be deployed as necessary by each EU member state with a view to mitigate structural macro-prudential risk. It is expected that, if such a risk was found to be prevalent, the SRB would be set at a minimum of 1% of the exposures to which it would apply. This is not restricted to exposures within the member state itself. To the extent it would apply at a global level, it is expected that the higher of the G-SIIB and the SRB would apply.

To implement the CRD IV capital buffers in the UK, in August 2013 the PRA issued a consultation proposing changes to the Pillar 2 framework and explaining its interaction with the buffers. Under the Pillar 2 framework, banks are already required to hold capital in respect of the internal capital adequacy assessment and supervisory review which leads to a final determination by the PRA of individual capital guidance under Pillar 2A. This is currently met by total capital, and in accordance with PS 7/13, is now to be met 56% by CET1 from 1 January 2015.

The PRA also proposed to introduce a PRA buffer, to replace the current capital planning add-on (known as Pillar 2B), also to be held in the form of CET1 capital.

The PRA buffer is intended to be calculated independently and then compared to the extent to which other CRD IV buffers may already cover the same risks. Depending upon the business undertaken by an individual firm, the PRA has

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

stated its expectation that the capital conservation buffer and relevant systemic buffers should serve a similar purpose to the PRA buffer and therefore be deducted from it.

In PS 7/13, the PRA delayed the publication of the remaining rules on capital buffers, pending confirmation from HM Treasury of the UK authority responsible for setting the systemic buffers. The designated UK authority will have the discretion to set the precise buffer rates above the CRD IV minima and to accelerate the timetable for their implementation.

CRD IV also contemplates a cyclical buffer in line with Basel III, in the form of an institution- specific countercyclical capital buffer (CCB), to protect against future losses where unsustainable levels of leverage, debt or credit growth pose a systemic threat. Should a CCB be required, it is expected to be set in the range of 0-2.5%, whereby the rate shall consist of the weighted average of the CCB rates that apply in the jurisdictions where relevant exposures are located.

In January 2014, the FPC issued a policy statement on its powers to supplement capital requirements, through use of the CCB and the sectoral capital requirements (SCR) tools. The CCB allows the FPC to raise capital requirements above the microprudential level for all exposures to borrowers in the UK. The SCR is a more targeted tool which allows the FPC to increase capital requirements above minimum regulatory standards for exposures to three broad sectors judged to pose a risk to the stability of the financial system as a whole: residential and commercial property; and other parts of the financial sector, potentially on a global basis.

In October 2013, the Bank of England published a discussion paper A framework for stress testing the UK banking system . The framework replaces the current stress testing for the capital planning buffer with annual concurrent stress tests, the results of which are expected to inform the setting of the PRA buffer, the CCB, sectoral capital requirements and other FPC recommendations to the PRA. The PRA is expected to further consult on Pillar 2, the transition to the PRA buffer and the relationship between the PRA buffer and the stress testing exercise in 2014.

Until outstanding consultations are published and guidance issued, there remains uncertainty as to the interaction between these buffers, the exact buffer rate requirements and the ultimate capital impact.

For a high-level representation of the proposed buffers under the new regime, see figure below.

Potential effect of regulatory proposals on HSBC s capital requirements

Given the developments outlined above, it remains uncertain what HSBC s final capital requirement will be. However, elements of the capital requirements that are known to date are as follows:

	%
Minimum CET1[1]	**4.5**
Capital conservation buffer[1]	**2.5**
G-SIIB buffer (to be phased in up to 2019)[2]	**2.5**

1 *In November 2013, the PRA published its expectations that from 1 January 2014, capital resources should be held equivalent to at least 7% of risk-weighted assets using a CRD IV end point definition of CET1 but after taking into account any adjustments set by the PRA to reflect the FPC s capital shortfall exercise*

recommendations. We assume but it has not yet been confirmed that the 7% constitutes the 4.5% minimum CET1 and the 2.5% capital conservation buffer requirements.

2 *The systemic buffers are still pending transposition in the UK.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

In December 2011, against the backdrop of eurozone instability, the EBA recommended that banks aim to reach a 9% EBA-defined core tier 1 ratio by the end of June 2012. In July 2013, the EBA replaced the 2011 recapitalisation recommendation with a new measure on capital preservation. This equates for HSBC to US$104bn, compared with actual core tier 1 capital held of US$141bn at 30 June 2013. To monitor this, banks submitted additional reporting and capital plans in November 2013 to demonstrate that appropriate levels of capital are being preserved. The EBA indicated they will review this recommendation by December 2014.

RWA integrity

In July 2013, the Basel Committee published its findings on the Analysis of risk-weighted assets for credit risk in the banking book , reporting that while the majority of RWA variability arises from the underlying credit quality of a portfolio, differences also arise from banks choices under the IRB approach. One of its recommendations to counteract this variance was the introduction of new or increased capital floors.

In parallel with the above and as part of the review of the Basel capital framework, also in July 2013, the Basel Committee published a discussion paper on its findings, The regulatory framework: balancing risk sensitivity, simplicity and comparability . The Basel Committee proposed that a range of measures should be considered, including the possibility of additional floors, as a potential tool to constrain the effect of variation in RWAs derived from internal model outputs, to provide further comfort that banks risks are adequately capitalised and to make capital ratios more comparable.

In November 2013, the FPC postponed a decision on whether to propose parallel RWA disclosures by UK banks on the Basel standardised approach, pending further assessment by the PRA of the merits, cost and benefits of such a proposition.

In December 2013, the EBA published the final results of its investigation into RWAs in the banking book, aimed at identifying any material difference in RWA outcomes between banks and understanding the sources of such differences. The report concluded that differences in implementation of the IRB approach were linked to differences in practice on the part of both supervisors and banks.

The EBA set out a number of policy recommendations to address its findings. These

include enhancing the disclosure and transparency of RWA-related information, supporting supervisors in properly implementing the single rulebook with the delivery of existing mandates set out in CRD IV and developing additional guidance that specifically addresses and facilitates consistency in supervisory and bank practice.

We are reviewing these proposals and aim to further develop the measures that have already been taken to support and provide transparency to our metrics, such as RWA flow analysis (on pages 302 and 303 of the *Annual Report and Accounts 2013*) and RWA density analysis (on page 36 of this report), which reflects our compliance with the EDTF framework.

Structural banking reform

The Independent Commission on Banking (ICB) published its final report in September 2011 and the UK government expressed broad approval for the principle of establishing a ring-fenced bank for retail banking activities and greater loss absorbing capacity.

In December 2013, the UK s Financial Services (Banking Reform) Act 2013 received Royal Assent, becoming primary legislation. It implements the recommendations of the ICB and of the Parliamentary Commission on Banking Standards, which *inter alia* establish a framework for ring-fencing the UK retail banking from trading activities, and sets out requirements for loss absorbency in the form of equity capital and loss absorbing debt. The PRA, subject to the approval of HM Treasury, is empowered to require banking groups to restructure their operations if it considers that the operation of the ring-fence in a group is proving to be ineffective. The exercise of these powers may lead to groups being required to split their retail and investment banking operations into separate corporate groups. A consultation has also taken place on draft secondary legislation setting out further details but the underlying rules from supervisory authorities are not yet available.

The UK s Financial Services (Banking Reform) Act 2013 also creates a bail-in mechanism as an additional resolution tool alongside existing options to transfer all or part of the bank to a private sector purchaser, to transfer parts of the bank to a new bridge bank which is later sold or takes the bank into temporary public sector ownership. In a bail-in , shareholders and creditors in the bank have their investments written down in value or converted into new interests (such as new shares) without the bank being placed in liquidation. This allows the bank to continue to provide its core banking services without interruption and ensures that the solvency of the bank is addressed without taxpayer support, while also allowing the Bank of England to provide temporary funding to this newly solvent bank. Certain liabilities such as deposits protected by the Financial Services Compensation Scheme are excluded from bail-in. It is intended that these bail-in provisions will be consistent with the European Recovery and Resolution Directive once it comes into force.

The UK government intends to complete the legislative process by the end of this Parliament in May 2015 and to have reforms in place by 2019.

In February 2012, the European Commission appointed a High Level Expert Group under the Governor of the Bank of Finland, Erkki Liikanen, to consider potential structural changes in banks within the EU. The group recommended, *inter alia*, the ring-fencing of certain market-making and trading activities from the deposit-taking and retail payments activities of major banks and possible amendments to the use of bail-in instruments as a resolution tool, as well as a number of other comments.

In January 2014, following a consultation period, the European Commission published its own legislative proposals on the structural reform of the European banking sector which would prohibit proprietary trading in financial instruments and commodities, and enable supervisors to require trading activities such as market-making, complex derivatives and securitisation operations to be undertaken in a separate subsidiary from deposit taking activities.

The ring-fenced deposit taking entity would be subject to separation from the trading entity including capital and management structures, issuance of own debt and arms-length transactions between entities.

The proposals allow for derogation from these requirements for super-equivalent national regimes.

On the current basis, it is understood that non-EU subsidiaries of the Group which could be separately resolved without a threat to the financial stability of the EU would be excluded from the proposals.

The proposals will now be subject to discussion in the European Parliament and the Council of Ministers (representing the EU member states) and are not expected to be finalised in 2014. The implementation date for any separation under the final rules would depend upon the date on which the final legislation is agreed.

The relationship between the UK, French, German and any EU proposals has still to be clarified (as does the interactivity between any of these proposals and the US Volcker Rule), although the G20 has asked the FSB, in collaboration with the IMF and OECD, to assess the cross-border consistency and global financial stability implications of structural measures, to be completed by the end of 2014.

Comparison with the *Annual Report and Accounts 2013*

Basis of consolidation

The basis of consolidation for the purpose of financial accounting under International Financial Reporting Standards (IFRSs), described on page 430 of the *Annual Report and Accounts 2013,* differs from that used for regulatory purposes as described in Structure of the regulatory group on page 12. Table 2 below provides a reconciliation of the balance sheet from the financial accounting to the regulatory scope of consolidation.

It is the regulatory balance sheet, and not the financial accounting balance sheet, which forms the basis for the calculation of regulatory capital requirements. The alphabetic references in this table link to the corresponding references in table 4: Composition of Regulatory Capital on page 15, identifying those balances which form part of that calculation.

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Table 2: Reconciliation of balance sheets financial accounting to regulatory scope of consolidation

	Ref	At 31 December 2013 Accounting balance sheet US$m	Deconsolidation of insurance/ other entities US$m	Consolidation of banking associates US$m	Regulatory balance sheet US$m
Assets					
Trading assets		303,192	32	1,686	304,910
Loans and advances to customers		1,080,304	(13,182)	110,168	1,177,290
of which:					
impairment allowances on IRB portfolios	*i*	(9,476)			(9,476)
impairment allowances on standardised portfolios	*k*	(5,667)		(2,465)	(8,132)
Financial investments		425,925	(52,680)	31,430	404,675
Capital invested in insurance and other entities			9,135		9,135
Interests in associates and joint ventures		16,640		(15,982)	658
of which:					
positive goodwill on acquisition	*h*	608		(593)	15
Goodwill and intangible assets	*h*	29,918	(5,369)	631	25,180
Other assets		815,339	(37,634)	57,477	835,182
of which:					
goodwill and intangible assets of disposal groups held for sale	*h*	3			3
retirement benefit assets	*g*	2,140			2,140
impairment allowances on assets held for sale		(111)			(111)
of which:					
IRB portfolios	*i*				
standardised portfolios	*k*	(111)			(111)
Total assets		2,671,318	(99,698)	185,410	2,757,030
Liabilities and equity					
Deposits by banks		129,212	(193)	33,296	162,315
Customer accounts		1,482,812	(711)	142,924	1,625,025
Trading liabilities		207,025	(129)	161	207,057
Financial liabilities designated at fair value		89,084	(13,471)		75,613
of which:					
term subordinated debt included in tier 2 capital	*m*	18,230			18,230
hybrid capital securities included in tier 1 capital	*j*	3,685			3,685
Debt securities in issue		104,080	(9,692)	1,021	95,409
Retirement benefit liabilities	*g*	2,931	(11)	56	2,976
Subordinated liabilities		28,976	2	2,961	31,939
of which:					
hybrid capital securities included in tier 1 capital.	*j*	2,873			2,873

perpetual subordinated debt included in tier 2 capital	*l*	**2,777**			**2,777**
term subordinated debt included in tier 2 capital	*m*	**23,326**			**23,326**
Other liabilities		**436,739**	**(73,570)**	**4,991**	**368,160**
of which:					
contingent liabilities and contractual commitments		**177**			**177**
of which:					
credit-related provisions on IRB portfolios	*i*	**155**			**155**
credit-related provisions on standardised portfolios	*k*	**22**			**22**
Total shareholders equity	*a*	**181,871**	**(1,166)**		**180,705**
of which:					
other equity instruments included in tier 1 capital	*c, j*	**5,851**			**5,851**
preference share premium included in tier 1 capital	*b*	**1,405**			**1,405**
Non-controlling interests	*d*	**8,588**	**(757)**		**7,831**
of which:					
non-cumulative preference shares issued by subsidiaries included in tier 1 capital	*e*	**2,388**			**2,388**
non-controlling interests included in tier 2 capital, cumulative preferred stock	*f*	**300**			**300**
non-controlling interests attributable to holders of ordinary shares in subsidiaries included in tier 2 capital	*f,m*	**188**			**188**
Total liabilities and equity		**2,671,318**	**(99,698)**	**185,410**	**2,757,030**

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Reconciliation of balance sheets financial accounting to regulatory scope of consolidations

		At 31 December 2012			
	Ref	Accounting balance sheet US$m	Deconsolidation of insurance/ other entities US$m	Consolidation of banking associates US$m	Regulatory balance sheet US$m
Assets					
Trading assets		408,811	(144)	1,477	410,144
Loans and advances to customers		997,623	(11,957)	119,698	1,105,364
of which:					
impairment allowances on IRB portfolios	*i*	(10,255)			(10,255)
impairment allowances on standardised portfolios	*k*	(5,857)		(2,726)	(8,583)
Financial investments		421,101	(50,256)	33,110	403,955
Capital invested in insurance and other entities			8,384		8,384
Interests in associates and joint ventures		17,834		(17,127)	707
of which:					
positive goodwill on acquisition	*h*	670		(640)	30
Goodwill and intangible assets	*h*	29,853	(4,983)	687	25,557
Other assets		817,316	(34,672)	82,469	865,113
of which:					
goodwill and intangible assets of disposal groups held for sale	*h*	146	(117)		29
retirement benefit assets	*g*	2,846			2,846
impairment allowances on assets held for sale		(703)			(703)
of which:					
IRB portfolios	*i*	(691)			(691)
Standardised portfolios	*k*	(12)			(12)
Total assets		2,692,538	(93,628)	220,314	2,819,224
Liabilities and equity					
Deposits by banks		107,429	(202)	51,296	158,523
Customer accounts		1,340,014	(652)	158,631	1,497,993
Trading liabilities		304,563	(131)	119	304,551
Financial liabilities designated at fair value		87,720	(12,437)		75,283
of which:					
term subordinated debt included in tier 2 capital	*m*	16,863			16,863
hybrid capital securities included in tier 1 capital	*j*	4,696			4,696
Debt securities in issue		119,461	(11,390)	1,888	109,959
Retirement benefit liabilities	*g*	3,905	(21)	52	3,936
Subordinated liabilities		29,479	3	2,953	32,435
of which:					
hybrid capital securities included in tier 1 capital.	*j*	2,828			2,828

perpetual subordinated debt included in tier 2 capital	*l*	2,778			2,778
term subordinated debt included in tier 2 capital	*m*	23,873			23,873
Other liabilities		516,838	(67,562)	5,375	454,651
of which:					
contingent liabilities and contractual commitments		301			301
of which:					
credit-related provisions on IRB portfolios	*i*	267			267
credit-related provisions on standardised portfolios	*k*	34			34
Total shareholders equity	*a*	175,242	(626)		174,616
of which:					
other equity instruments included in tier 1 capital	*c, j*	5,851			5,851
preference share premium included in tier 1 capital	*b*	1,405			1,405
Non-controlling interests	*d*	7,887	(610)		7,277
of which:					
non-cumulative preference shares issued by subsidiaries included in tier 1 capital	*e*	2,428			2,428
non-controlling interests included in tier 2 capital, cumulative preferred stock	*f*	300			300
non-controlling interests attributable to holders of ordinary shares in subsidiaries included in tier 2 capital	*f,m*	201			201
Total liabilities and equity		2,692,538	(93,628)	220,314	2,819,224

The references (a) (m) identify balance sheet components which are used in the calculation of regulatory capital on page 15.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Structure of the regulatory group

HSBC s organisation is that of a financial holding company whose major subsidiaries are almost entirely wholly-owned banking entities. A simplified organisation chart showing the difference between the accounting and regulatory consolidation groups is included at Appendix I to this report.

Interests in associates are equity accounted in the financial accounting consolidation, whereas their exposures are proportionally consolidated for regulatory purposes. Subsidiaries and associates engaged in insurance and non-financial activities are excluded from the regulatory consolidation and deducted from regulatory capital. The regulatory consolidation also excludes Special Purpose Entities (SPEs) where significant risk has been transferred to third parties. Exposures to these SPEs are risk-weighted as securitisation positions for regulatory purposes.

The capital invested in our insurance business that is deducted from regulatory capital was US$10.1bn at 31 December 2013 (2012: US$10.1bn)

of which US$9.1bn (2012: US$8.4bn) is shown as Capital invested in insurance and other entities in the column Deconsolidation of insurance/other entities in the table above. The remainder of the balance is related to regulatory adjustments to the insurance capital. The principal insurance entities comprising this balance are shown in table 3.

The deconsolidation of SPEs connected to securitisation activity and other entities mainly impacts the adjustments to Loans and advances to customers , Financial investments and Debt securities in issue . Table 3 lists the principal SPEs excluded from the regulatory consolidation with their total assets and total equity. Further details of the use of SPEs in the Group s securitisation activities are shown on page 550 in the *Annual Report and Accounts 2013* and on page 76 of this report.

The principal associates subject to proportional regulatory consolidation at 31 December 2013 are shown in table 3, representing 99% of our associates total assets as shown in table 2.

Table 3: Principal entities with a different regulatory and accounting scope of consolidation

	At 31 December 2013		
	Total assets US$m	Total equity US$m	Principal activities
Principal insurance entities excluded from the regulatory consolidation			
HSBC Life (UK) Ltd	**12,259**	**458**	Life insurance manufacturing
HSBC Assurances Vie (France)	**27,814**	**692**	Life insurance manufacturing
HSBC Life (International) Ltd	**28,785**	**2,070**	Life insurance manufacturing
Hang Seng Insurance Company Ltd	**12,289**	**1,142**	Life insurance manufacturing
HSBC Insurance (Singapore) Pte Ltd	**2,416**	**246**	Life insurance manufacturing
HSBC Life Insurance Company Ltd	**354**	**65**	Life insurance manufacturing
HSBC Amanah Takaful (Malaysia) SB	**338**	**29**	Life insurance manufacturing
HSBC Seguros (Brasil) S.A.	**743**	**441**	Life insurance manufacturing
HSBC Vida e Previdência (Brasil) S.A.	**5,154**	**122**	Life insurance manufacturing
HSBC Seguros de Vida (Argentina) S.A.	**201**	**53**	Life insurance manufacturing
HSBC Seguros de Retiro (Argentina) S.A.	**691**	**84**	Life insurance manufacturing

HSBC Seguros S.A. (Mexico)	**1,133**	**266**	Life insurance manufacturing
Principal SPEs excluded from the regulatory consolidation			
Regency Assets Ltd	**13,461**		Securitisation
Mazarin Funding Ltd	**7,431**		Securitisation
Barion Funding Ltd[1]	**3,769**	**(59)**	Securitisation
Malachite Funding Ltd[1]	**3,004**	**(22)**	Securitisation
Performance Trust[1]	**707**	**(3)**	Securitisation
Principal associates			
Bank of Communications Co., Limited (BoCom[2])	**946,332**	**67,609**	Banking services
The Saudi British Bank	**47,564**	**6,088**	Banking services

1 *These SPEs hold no or de minimis share capital. The negative equity represents net unrealised losses on unimpaired assets on their balance sheets and negative retained earnings.*
2 *Total assets and total equity as at 30 September 2013.*

Table 3 also aims to present as closely as possible the total assets and total equity, on a standalone IFRS basis, of the entities which are included in the Group consolidation on different

bases for accounting and regulatory purposes. The figures shown therefore include intra-Group balances.

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

For insurance entities, the figures shown exclude deferred acquisition cost assets as these are derecognised for consolidation purposes due to the recognition of present value of in-force long-term insurance business (PVIF) on long-term insurance contracts and investment contracts with discretionary participation features at Group level. The PVIF asset of US$5.3bn and the related deferred tax liability, however, are recognised at the consolidated level only, and are therefore also not included in the asset or equity positions for the standalone entities presented in table 3.

For associates, table 3 shows the total assets and total equity of the entity as a whole rather than HSBC s share in the entities balance sheets. Table 3 no longer includes Industrial Bank Co., Limited or Yantai Bank Co., Limited. On 7 January 2013, Industrial Bank Co., Limited completed a private placement of additional share capital to a number of third parties, which diluted the Group s equity holding. Similarly, in December 2013, Yantai Bank Co., Limited completed a private placement of additional share capital to a third party which diluted the Group s equity holding. As a result of these and other factors, the Group ceased to account for these investments as associates from the respective dates, and they are therefore no longer consolidated for either accounting or regulatory purposes, but treated as financial investments.

The change in the list of principal insurance entities excluded from the regulatory scope of consolidation is due to the sale of some of these entities. Bryant Park Funding LLC is no longer included in the list of SPEs excluded from the regulatory scope of consolidation, as it has ceased to operate as a securitisation SPE and significant risk is no longer transferred to third parties. It is now included in the regulatory and accounting scope of consolidation.

Measurement of regulatory exposures

The measurement of regulatory exposures is not directly comparable with the financial information presented in the *Annual Report and Accounts*, and this section sets out the main reasons for this.

The Pillar 3 Disclosures 2013 have been prepared in accordance with regulatory capital adequacy concepts and rules, while the *Annual Report and Accounts 2013* are prepared in accordance with IFRSs. The purpose of the regulatory balance sheet is to provide a point in time value of all on balance sheet assets. The regulatory

exposure value includes an estimation of risk, and is expressed as the amount expected to be outstanding if and when the counterparty defaults.

The difference between total assets on the regulatory balance sheet of US$2,757bn as shown in table 2 above and the credit risk exposure values (including CCR) of US$2,304bn as shown in table 7 below is principally attributable to the following factors:

Credit risk and CCR exposures

Various assets on the regulatory balance sheet, such as intangible assets and goodwill, are excluded from the calculation of the credit risk exposure value as they are deducted from capital.

The regulatory balances are adjusted for the effect of the differences in the basis for regulatory and accounting netting, and in the treatment of financial collateral.

Credit risk exposures only

When assessing credit risk exposures within the regulatory balance sheet, the Basel approach used to report the asset in question determines the calculation method for EAD. Using the Basel standardised (STD) approach, the regulatory exposure value is based on the regulatory balance sheet amount, applying a number of further regulatory adjustments. Using IRB approaches, the regulatory EAD is either determined using supervisory (Foundation) or internally modelled (Advanced) methods.

EAD takes account of off balance sheet items, such as the undrawn portion of committed facilities, various trade finance commitments and guarantees, by applying credit conversion factors (CCF) to these items.

Assets on the regulatory balance sheet are net of impairment. EAD, however, is only reduced for individual impairments under the STD approach. Collective impairments under the STD approach, and all impairments under the IRB approach, are not used to reduce the EAD amount.

CCR exposures only

For regulatory purposes, trading book items and derivatives and securities financing items, in the banking book are treated under the rules for CCR which is shown as a separate line item in table 7. CCR exposures express the risk that the counterparty to a transaction may default before completing the satisfactory settlement of the transaction. See table 34 for a comparison of derivative accounting balances and counterparty credit risk exposure for derivatives.

CCR excludes fully collateralised transactions with central counterparties as such exposures are set to nil for regulatory purposes.

HSBC uses the mark-to-market method and the internal model method (IMM) approach to calculate CCR EAD. Under the mark-to-market method EAD is based on the balance sheet value of the instrument plus an add-on for potential future exposure. Under the IMM approach modelled exposure value replaces the fair value on the balance sheet.

Moreover, regulatory exposure classes are based on different criteria to accounting asset types and are therefore not comparable on a line by line basis.

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Capital and Risk

Capital management

Our approach to capital management is driven by our strategic and organisational requirements, taking into account the regulatory, economic and commercial environment in which we operate. We aim to maintain a strong capital base to support the risks inherent in our business and invest in accordance with our six filters framework, exceeding both consolidated and local regulatory capital requirements at all times.

Our capital management process culminates in the annual Group capital plan, which is approved by the Board. HSBC Holdings is the primary provider of equity capital to its subsidiaries and also provides them with non-equity capital where necessary. These investments are substantially funded by HSBC Holdings issuance of equity and non-equity capital and by profit retention. As part of its capital management process, HSBC Holdings seeks to maintain a balance between the composition of its capital and its investment in subsidiaries.

Each subsidiary manages its own capital to support its planned business growth and meet its local regulatory requirements within the context of the Group capital plan. Capital generated by subsidiaries in excess of planned requirements is returned to HSBC Holdings, normally by way of dividends, in accordance with the Group s capital plan. During 2012 and 2013, none of the Group s subsidiaries experienced significant restrictions on paying dividends or repaying loans and advances. The ability of subsidiaries to pay dividends or advance monies to HSBC Holdings depends on, among other things, their respective local regulatory capital and banking requirements, statutory reserves, and financial and operating performance.

At 31 December 2013, there were no known material impediments to the prompt payment of dividends by our subsidiaries or repayment of intra-Group loans and advances when due. None of our subsidiaries which are excluded from the regulatory consolidation has capital resources below their minimum regulatory requirement.

For further details of our approach to capital management, please see page 319 of the Annual Report and Accounts 2013.

Regulatory capital

For regulatory purposes, our capital base is divided into three main categories, namely core tier 1, other tier 1 and tier 2, depending on the degree of permanency and loss absorbency exhibited.

Categories of capital:

- core tier 1 capital comprises shareholders equity and related non-controlling interests. The book values of goodwill and intangible assets are deducted from core tier 1 capital, and other regulatory adjustments are made for items reflected in shareholders equity which are treated differently for the purposes of capital adequacy;

qualifying capital instruments such as non-cumulative perpetual preference shares and hybrid capital securities are included in other tier 1 capital; and

tier 2 capital comprises qualifying subordinated loan capital, related non-controlling interests, allowable collective impairment allowances and unrealised gains arising on the fair valuation of equity instruments held as available for sale. Tier 2 capital also includes reserves arising from the revaluation of properties.

To ensure the overall quality of the capital base, the PRA s rules set restrictions on the amount of hybrid capital instruments that can be included in tier 1 capital relative to core tier 1 capital, and limits overall tier 2 capital to no more than tier 1 capital. We complied with the PRA s capital adequacy requirements throughout 2012 and 2013.

For a table of the movement in total regulatory capital during the year to 31 December 2013, please see page 304 of the Annual Report and Accounts 2013.

All capital securities included in the capital base of HSBC have been issued in accordance with the rules and guidance in the PRA s General Prudential Sourcebook (GENPRU). The main features of capital securities issued by the Group, categorised by tier 1 and tier 2 capital, are set out on pages 528, 529, 544 and 545 of the *Annual Report and Accounts 2013*. The values disclosed there are the IFRSs balance sheet carrying amounts, however, not the amounts that these instruments contribute to regulatory capital. For example, the IFRSs accounting and the regulatory treatments differ in their approaches to issuance costs or regulatory amortisation. The composition of capital under the current regulatory requirement is provided in the table below. The alphabetic references link back to table 2: Reconciliation of balance sheets financial accounting to regulatory scope of consolidation , which shows where these items are presented in the respective balance sheets. Not all items are reconcilable, due to regulatory adjustments that are applied, for example to non-core capital instruments before they can be included in the Group s regulatory capital base.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 4: Composition of regulatory capital

		At 31 December	
		2013	2012
	Ref[1]	**US$m**	US$m
Tier 1 capital			
Shareholders equity		**173,449**	167,360
Shareholders equity per balance sheet[2]	*a*	**181,871**	175,242
Preference share premium	*b*	**(1,405)**	(1,405)
Other equity instruments	*c*	**(5,851)**	(5,851)
Deconsolidation of special purpose entities[3]	*a*	**(1,166)**	(626)
Non-controlling interests		**4,955**	4,348
Non-controlling interests per balance sheet d		**8,588**	7,887
Preference share non-controlling interests e		**(2,388)**	(2,428)
Non-controlling interests transferred to tier 2 capital	*f*	**(488)**	(501)
Non-controlling interests in deconsolidated subsidiaries d		**(757)**	(610)
Regulatory adjustments to the accounting basis		**480**	(2,437)
Unrealised losses on available-for-sale debt securities[4]		**2,595**	1,223
Own credit spread		**1,037**	112
Defined benefit pension fund adjustment[5]	*g*	**(518)**	(469)
Reserves arising from revaluation of property and unrealised gains on available-for-sale equities		**(2,755)**	(3,290)
Cash flow hedging reserve		**121**	(13)
Deductions		**(29,833)**	(30,482)
Goodwill and intangible assets	*h*	**(25,198)**	(25,733)
50% of securitisation positions		**(1,684)**	(1,776)
50% of tax credit adjustment for expected losses		**151**	111
50% of excess of expected losses over impairment allowances	*i*	**(3,102)**	(3,084)
Core tier 1 capital		**149,051**	138,789
Other tier 1 capital before deductions		**16,110**	17,301
Preference share premium	*b*	**1,405**	1,405
Preference share non-controlling interests e		**2,388**	2,428
Hybrid capital securities	*j*	**12,317**	13,468
Deductions		**(7,006)**	(5,042)
Unconsolidated investments[6]		**(7,157)**	(5,153)
50% of tax credit adjustment for expected losses		**151**	111
Tier 1 capital		**158,155**	151,048
Tier 2 capital			
Total qualifying tier 2 capital before deductions		**47,812**	48,231
Reserves arising from revaluation of property and unrealised gains on available-for-sale equities		**2,755**	3,290
Collective impairment allowances	*k*	**2,616**	2,717
Perpetual subordinated debt	*l*	**2,777**	2,778
Term subordinated debt	*m*	**39,364**	39,146

Non-controlling interests in tier 2 capital	*f*	**300**	300
Total deductions other than from tier 1 capital		**(11,958)**	(18,473)
Unconsolidated investments[6]		**(7,157)**	(13,604)
50% of securitisation positions		**(1,684)**	(1,776)
50% of excess of expected losses over impairment allowances	*i*	**(3,102)**	(3,084)
Other deductions		**(15)**	(9)
Total regulatory capital		**194,009**	180,806

1 *The references (a) to (m) refer to those in the reconciliation of balance sheets in table 2 on page 10.*
2 *Includes externally verified profits for the year ended 31 December 2013.*
3 *Mainly comprises unrealised gains/losses on available-for-sale debt securities related to SPEs.*
4 *Under PRA rules, unrealised gains/losses on debt securities net of tax must be excluded from capital resources.*
5 *Under PRA rules, any defined benefit asset is derecognised and a defined benefit liability may be substituted with the additional funding that will be paid into the relevant schemes over the following five-year period.*
6 *Mainly comprise investments in insurance entities. Due to the expiry of the transitional provision, with effect from 1 January 2013, material insurance holding companies acquired prior to 20 July 2006 are deducted 50% from tier 1 and 50% from total capital at 31 December 2013.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Regulatory impact of management actions (2012 only)

	At 31 December			
	Risk-weighted assets	Core tier 1 capital	Tier 1 capital	Total regulatory capital
2012				
Reported capital ratios before management actions		12.3%	13.4%	16.1%
Reported totals (US$m)	1,123,943	138,789	151,048	180,806
Management actions completed in 2013 (US$m)				
Dilution of our shareholding in Industrial Bank and the subsequent change in accounting treatment	(38,073)	981	(423)	(1,827)
Completion of the second tranche of the sale of Ping An		553	4,637	7,984
Estimated total after management actions completed in 2013 (US$m)	1,085,870	140,323	155,262	186,963
Estimated capital ratios after management actions completed in 2013		12.9%	14.3%	17.2%

Calculation of capital requirements

This and the following section describe our Pillar 1 capital requirements, with a high-level view of the related RWAs, the scope of the Group s Pillar 1 permissions and our application of the Pillar 2 framework.

Pillar 1 covers the minimum capital resources requirements for credit risk, market risk and operational risk. These requirements are expressed in terms of RWAs. Where they are not separately

shown, counterparty credit risk and securitisation requirements fall within credit risk.

Tables 5, 6 and 7 set out the distribution of our Pillar 1 RWAs by risk type, global business, geography and modelling approach.

Further details of the Group s risk profile arising from the business activities of our global businesses may be found on page 37 of the Annual Report and Accounts 2013.

Table 5: Risk-weighted assets by global business and geographical region

	Europe	Hong Kong	Rest of Asia-	MENA	North America	Latin America	Total RWAs	Capital required

			Pacific					
	US$bn	**US$bn**	**US$bn**	**US$bn**	**US$bn**	**US$bn**	**US$bn**	**US$bn**
At 31 December 2013								
Retail Banking and Wealth Management	**45.9**	**19.1**	**32.8**	**7.9**	**103.8**	**24.0**	**233.5**	**18.7**
Commercial Banking	**90.5**	**47.8**	**144.6**	**25.2**	**50.7**	**32.9**	**391.7**	**31.3**
Global Banking and Markets[1]	**149.2**	**61.2**	**103.7**	**27.8**	**62.1**	**32.2**	**422.3**	**33.8**
Global Private Banking	**13.1**	**2.3**	**1.3**	**0.4**	**4.4**	**0.2**	**21.7**	**1.7**
Other[2]	**1.4**	**7.9**	**10.0**	**1.2**	**2.8**	**0.2**	**23.5**	**1.9**
	300.1	**138.3**	**292.4**	**62.5**	**223.8**	**89.5**	**1,092.7**	**87.4**
At 31 December 2012								
Retail Banking and Wealth Management	49.4	18.6	33.0	7.6	140.7	27.3	276.6	22.1
Commercial Banking	88.7	41.7	155.9	27.6	46.5	36.6	397.0	31.8
Global Banking and Markets[1]	158.5	42.5	102.3	24.8	59.2	33.8	403.1	32.3
Global Private Banking	13.3	2.2	1.3	0.4	4.3	0.2	21.7	1.8
Other[2]	4.8	6.9	9.7	1.8	2.3		25.5	2.0
	314.7	111.9	302.2	62.2	253.0	97.9	1,123.9	90.0

1 *RWAs are non-additive across geographical regions due to market risk diversification effects within the Group.*
2 *Includes the results of certain property transactions, unallocated investment activities, centrally held investment companies, movements in fair value of own debt, central support costs with associated recoveries, HSBC s holding company and financing operations.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 6: Risk-weighted assets by risk type and geographical region

	Europe US$bn	Hong Kong US$bn	Rest of Asia-Pacific US$bn	MENA US$bn	North America US$bn	Latin America US$bn	Total RWAs US$bn	Capital required US$bn
At 31 December 2013								
Credit risk	**211.4**	**102.8**	**246.0**	**55.0**	**184.2**	**64.9**	**864.3**	**69.1**
Counterparty credit risk	**23.0**	**5.2**	**5.7**	**0.7**	**8.5**	**2.7**	**45.8**	**3.7**
Market risk[1]	**30.6**	**13.5**	**13.4**	**0.8**	**13.9**	**5.1**	**63.4**	**5.1**
Operational risk	**35.1**	**16.8**	**27.3**	**6.0**	**17.2**	**16.8**	**119.2**	**9.5**
	300.1	**138.3**	**292.4**	**62.5**	**223.8**	**89.5**	**1,092.7**	**87.4**
At 31 December 2012								
Credit risk	222.9	82.9	260.0	54.1	204.2	74.3	898.4	71.9
Counterparty credit risk	22.5	5.3	5.9	1.0	11.3	2.3	48.3	3.9
Market risk[1]	35.0	8.3	10.2	1.2	13.8	4.4	54.9	4.4
Operational risk	34.3	15.4	26.1	5.9	23.7	16.9	122.3	9.8
	314.7	111.9	302.2	62.2	253.0	97.9	1,123.9	90.0

1 *RWAs are non-additive across geographical regions due to market risk diversification effects within the Group.*

RWA planning

Pre-tax return on RWAs is an operational metric by which the global businesses are managed on a day-to-day basis. The metric combines return on equity and regulatory capital efficiency objectives. In addition, RWA targets for our global businesses and regions are established and approved through the Group s annual planning process.

Business performance against the targets is monitored through reporting to the HSBC Holdings Asset and Liability Committee. The management of capital deductions is also addressed in the RWA monitoring framework through notional charges for these items, enabling a more holistic approach to performance measurement. A range of analysis is employed in the RWA monitoring framework to identify the key drivers of movements in the position, such as book size and book quality. Particular attention is paid to identifying and segmenting items within the day-to-day control of the business and those items that are driven by changes in risk models or regulatory methodology.

Movements in RWAs in 2013

RWAs reduced by US$31.2bn to US$1,092.7bn mainly due to the reclassification of Industrial Bank from an associate to a financial investment and the continued run-off of the US CML portfolio. These reductions were partly offset by several other drivers discussed below, including implementation of a 45% floor on loss-given-default for sovereign exposures as required by the PRA, and business growth.

Credit risk RWAs

Credit risk RWAs reduced by US$34.1bn, of which US$7.3bn was due to foreign exchange movements, while the remaining US$26.8bn was due to a range of drivers across the regions and global businesses. The commentary below is discussed exclusive of foreign currency translation effects.

Europe

In Europe, credit risk RWAs reduced by US$14.9bn. Credit quality changes for securitisation exposures in Global Banking and Markets (GB&M) reduced RWAs by US$4.5bn and partly reflects the effect of exposures moving from RWAs to capital deductions. Reductions in securitisation exposures resulted in a decline in RWAs of US$1.4bn, reflecting sales and amortisation of assets in the GB&M legacy credit portfolio. Income producing real estate (IPRE) portfolios in CMB, Global Private Banking (GPB) and GB&M were moved from the standardised approach to the IRB slotting approach, with a net reduction in RWAs of US$1.7bn. As a result of business restructuring, a corporate portfolio in GB&M was moved to the IRB approach, and a retail approach was applied to a portfolio of small and medium-sized enterprise (SME) customers in CMB, resulting in reductions in RWAs of US$1.4bn and US$0.8bn respectively.

A decrease in corporate exposure reduced RWAs by US$2.5bn. The implementation of a new corporate exposure model with lower credit conversion factors that are more reflective of

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

historical experience reduced RWAs by US$2.3bn in GB&M. A US$5.3bn RWA management overlay was applied for corporate exposures in CMB and GB&M, in response to increased loss rates and in advance of model recalibration. This was partially offset by favourable movements in corporate and institutional portfolio quality in GB&M with a reduction in RWAs of US$3.2bn. The application of the 45% floor for loss-given-default for sovereign exposures increased RWAs by US$2.6bn, mainly in GB&M.

RBWM RWAs reduced by US$1.7bn on retail mortgage and credit card portfolios, mainly reflecting favourable changes in customer risk and the risk distribution in these portfolios. A further reduction of US$1.4bn was a result of the sale of the HFC Bank UK secured loan portfolio.

Hong Kong and Rest of Asia-Pacific

In Hong Kong, credit risk RWAs increased US$19.9bn, while in Rest of Asia-Pacific credit risk RWAs reduced by US$12.8bn.

In Rest of Asia-Pacific, the reduction in RWAs was primarily due to the reclassification of Industrial Bank from an associate to a financial investment. As a result, the holding was removed from the regulatory consolidation for RWAs and the investment was deducted from capital, resulting in a year-on-year reduction in RWAs of US$39.2bn. This was partly offset by loan growth in the Bank of Communications, increasing RWAs by US$14.5bn.

In Hong Kong and Rest of Asia-Pacific, business growth for CMB and GB&M was mainly driven by corporate term and trade-related lending and trade finance business resulting in an RWA increase of US$12.6bn, with a further increase of US$1.8bn relating to higher institutional exposures. In Hong Kong, an RWA increase of US$4.7bn was attributable to adverse movements in customer credit standing for GB&M and CMB corporate customers, partly offset by favourable shifts in loss-given-default metrics and the risk distribution of the portfolio.

In Hong Kong and Rest of Asia-Pacific, the application of the 45% floor for loss-given-default for sovereign exposures increased RWAs by US$6.2bn mainly in GB&M, while increases in sovereign exposure increased RWAs by a further US$3.2bn. Adverse changes in the internal sovereign rating for Hong Kong increased RWAs by US$1.3bn in GB&M, although this was almost fully offset by favourable shifts in sovereign portfolio quality from a range of other smaller drivers. Corporate exposures

in CMB and GB&M were identified which did not meet full modelling requirements and these were moved to the standardised approach, with a net increase in RWAs of US$0.7bn.

In Hong Kong, credit card and unsecured lending portfolio growth resulted in an increase in RWAs of US$1.2bn in RBWM, while improvements in the quality of the credit card and unsecured lending portfolio reduced RWAs by US$0.5bn. In Rest of Asia-Pacific, residential mortgage growth increased RWAs by US$1.0bn in RBWM.

Middle East and North Africa

In Middle East and North Africa, credit risk RWAs increased by US$1.7bn. Adverse changes in the internal sovereign rating for Egypt increased RWAs by US$1.9bn in GB&M, although this was partially offset by favourable shifts in sovereign portfolio quality reducing RWAs by US$0.4bn in the region. There were reductions in RWAs of US$2.2bn for CMB in the UAE and Oman from lower lending volumes, although this was partly offset by corporate RWA growth in GB&M of US$0.5bn. Growth in The Saudi British Bank associate increased RWAs by US$1.1bn.

North America

In North America, credit risk RWAs reduced by US$18.0bn. RBWM balances were managed down during the period, reducing RWAs by US$14.0bn, primarily due to continued run-off of the US CML retail mortgage portfolio. In line with our objectives to accelerate the run-off of

US CML there have been sales of non-real estate and personal homeowner loans with an RWA reduction of US$8.2bn. Additional sales of defaulted mortgage exposures, which did not accrue RWAs, also had a beneficial impact on the capital position through lower deductions for regulatory expected losses.

In RBWM, further reductions in RWAs of US$4.2bn were from movements in credit quality for retail mortgages, mainly in US CML as a result of accounts moving into default. This was accompanied by a rise in regulatory expected losses, leading to higher deductions from capital.

Commercial real estate portfolios in CMB and GB&M in the US were moved from IRB to the standardised approach as required by the PRA, increasing RWAs by US$3.6bn. Corporate lending growth in CMB resulted in an increase in RWAs of US$3.2bn, while reductions in exposures to institutions reduced RWAs in GB&M by US$1.1bn. Favourable movements in customer credit standing

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

for GB&M and CMB corporate customers reduced RWAs by US$3.5bn.

The application of the 45% floor for loss-given-default for sovereign exposures increased RWAs by US$10.2bn in GB&M. This was partially offset by favourable changes in the internal sovereign rating for the US, reducing RWAs by US$3.6bn in GB&M.

Latin America

In Latin America, credit risk RWAs reduced by US$2.7bn. The disposal of operations in Panama, Peru and Paraguay reduced RWAs by US$7.9bn. Corporate term lending and trade finance growth in GB&M and CMB in Brazil increased RWAs by US$3.7bn.

Counterparty credit risk RWAs

CCR RWAs calculated on the IRB approach reduced by US$3.5bn. Book quality movements drove a reduction in RWAs of US$2.7bn due to improvement in the credit standing of counterparties, mainly in North America. The reduction in book size of US$0.9bn was due to lower exposures across most regions as trades matured and volumes reduced.

CCR RWAs on the standardised approach increased by US$0.9bn, mainly due to higher balance sheet exposures on foreign exchange derivatives with corporate counterparties in Brazil.

Market risk RWAs

Market risk RWAs increased by US$8.5bn, mainly due to model updates in relation to the incremental risk charge (IRC) which increased RWAs by US$17.3bn.

In 2013, the IRC model was updated to account more explicitly for stressed conditions. Key input

parameters were calibrated to a stressed period and further granularity in parameters were introduced to better represent the risk profile. This has led to a one time increase in the IRC requirement which is reflected in the current year. As part of the model oversight, the IRC model will be periodically recalibrated to accurately capture the risk profile in a stressed environment.

Further RWA increases of US$4.6bn were mainly due to changes in stressed Value at Risk (VaR) period and internal methodology updates relating to a change in the basis of consolidation for modelled market risk charges as a result of clarification of the regulatory rules.

These movements were partly offset by reductions in positions sensitive to the IRC and changes in the shape of the trading portfolio due to defensive positions taken by the Equity and Foreign Exchange businesses in GB&M, leading to a lower stressed VAR and VAR, reducing RWAs by US$14.5bn.

Operational risk RWAs

The reduction in Operational Risk RWAs for the Group of US$3.1bn was driven by the decrease in North America of US$6.4bn, mainly due to the acceleration of the amortisation of the operational risk RWAs for the US CRS portfolio disposed of in May 2012. This was partly offset by RWA growth in Hong Kong of US$1.5bn and Rest of Asia Pacific of US$1.2bn due to a higher three-year average operating income from higher loans and advances.

Scope of Basel Pillar 1 approaches

The scope of permissible Basel approaches, and those that HSBC has adopted, are described below. For further information on the approaches used, see page 31 for credit risk, page 69 for CCR, page 81 for market risk and page 84 for operational risk.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Risk category	Scope of permissible approaches	Approach adopted by HSBC
Credit risk	Basel II applies three approaches of increasing sophistication to the calculation of Pillar 1 credit risk capital requirements. The most basic level, the standardised approach, requires banks to use external credit ratings to determine the risk weightings applied to rated counterparties. Other counterparties are grouped into broad categories and standardised risk weightings are applied to these categories. The next level, the IRB foundation approach, allows banks to calculate their credit risk capital requirements on the basis of their internal assessment of a counterparty s probability of default (PD), but subjects their quantified estimates of EAD and LGD to standard supervisory parameters. Finally, the IRB advanced approach allows banks to use their own internal assessment in both determining PD and quantifying EAD and LGD.	For consolidated Group reporting, we have adopted the IRB advanced approach for the majority of our business. Some portfolios remain on the standardised or foundation approaches under Basel II, pending the issuance of local regulations or model approval, or under exemptions from IRB treatment. Further information on our IRB roll-out plan may be found on page 41.
Counterparty credit risk	Three approaches to calculating counterparty credit risk and determining exposure values are defined by Basel II: standardised, mark-to-market and IMM. These exposure values are used to determine capital requirements under one of the credit risk approaches; standardised, IRB foundation and IRB advanced.	We use the mark-to-market and IMM approaches for counterparty credit risk. Our aim is to increase the proportion of positions on IMM over time.
Equity	Equity exposures can be assessed under standardised or IRB approaches.	Whilst some equity exposures are reported locally under the IRB simple risk weight approach, for Group reporting purposes all equity exposures are treated under the standardised approach.
Securitisation	Basel II specifies two methods for calculating credit risk requirements for securitisation positions in the non-trading book: the standardised approach and the IRB approach, which incorporates the Ratings Based Approach (RBM), the Internal Assessment Approach (IAA) and the Supervisory Formula Method (SFM).	For the majority of the securitisation non-trading book positions we use the IRB approach, and within this principally the RBM, with lesser amounts on IAA and SFM. We also use the standardised approach for an immaterial amount of trading book positions.
Market risk	Market risk capital requirements can be determined under either the standard rules or the internal models approach. The latter involves the use of internal VAR models to measure market risks and determine the appropriate capital requirement.	The market risk capital requirement is measured using internal market risk models, where approved by the PRA, or the PRA standard rules. Our internal market risk models comprise VAR, stressed VAR, IRC and, in respect of correlation trading, the CRM.

	The IRC and comprehensive risk measure (CRM) also apply.	
Operational risk	Basel II allows for firms to calculate their operational risk capital requirement under the basic indicator approach, the standardised approach or the advanced measurement approach.	We have historically adopted and currently use the standardised approach in determining our operational risk capital requirement. We are in the process of developing and implementing an advanced measurement approach (AMA).

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 7: Credit risk and counterparty credit risk by Basel approach and exposure class

	Total	Standardised		Foundation		Advanced		Total	Capital
	EAD	EAD	RWAs	EAD	RWAs	EAD	RWAs	RWAs	required
	US$bn	US$bn	US$bn	US$bn	US$bn	US$bn	US$bn	US$bn	US$bn
At 31 December 2013									
Credit risk	**2,160.1**	**667.7**	**329.5**	**23.6**	**13.6**	**1,468.8**	**521.2**	**864.3**	**69.1**
Counterparty credit risk	**143.4**	**10.7**	**3.6**	**3.1**	**1.5**	**129.6**	**40.7**	**45.8**	**3.7**
	2,303.5	**678.4**	**333.1**	**26.7**	**15.1**	**1,598.4**	**561.9**	**910.1**	**72.8**
Central governments and central banks	**572.4**	**226.5**	**0.7**			**345.9**	**53.9**	**54.6**	**4.4**
Institutions	**230.7**	**35.7**	**12.2**			**195.0**	**41.5**	**53.7**	**4.3**
Corporates	**821.3**	**225.5**	**205.6**	**26.7**	**15.1**	**569.1**	**306.0**	**526.7**	**42.1**
Retail									
Secured on real estate property	**361.1**	**50.4**	**28.4**			**310.7**	**105.4**	**133.8**	**10.7**
Qualifying revolving retail	**66.9**					**66.9**	**15.4**	**15.4**	**1.2**
SMEs	**18.6**					**18.6**	**8.9**	**8.9**	**0.7**
Other retail	**94.5**	**47.7**	**36.1**			**46.8**	**11.0**	**47.1**	**3.8**
Equity	**3.3**	**3.3**	**3.5**					**3.5**	**0.3**
Securitisation positions	**45.4**					**45.4**	**19.8**	**19.8**	**1.6**
Other	**89.3**	**89.3**	**46.6**					**46.6**	**3.7**
	2,303.5	**678.4**	**333.1**	**26.7**	**15.1**	**1,598.4**	**561.9**	**910.1**	**72.8**
Market risk								**63.4**	**5.1**
Operational risk								**119.2**	**9.5**
								1,092.7	**87.4**
At 31 December 2012									
Credit risk	2,170.9	681.5	374.5	19.4	10.3	1,470.0	513.6	898.4	71.9
Counterparty credit risk	141.4	5.8	2.6	3.5	1.8	132.1	43.9	48.3	3.9
	2,312.3	687.3	377.1	22.9	12.1	1,602.1	557.5	946.7	75.8
Central governments and central banks	545.1	179.6	0.9			365.5	37.7	38.6	3.1
Institutions	258.0	58.0	19.4			200.0	43.1	62.5	5.0
Corporates	813.1	257.6	239.9	22.9	12.1	532.6	278.5	530.5	42.5
Retail									
Secured on real estate property	362.7	45.3	24.0			317.4	130.8	154.8	12.4
Qualifying revolving retail	64.0					64.0	16.2	16.2	1.3
SMEs	13.1					13.1	6.8	6.8	0.5
Other retail	113.0	52.9	40.1			60.1	17.2	57.3	4.6
Equity	3.1	2.8	2.8			0.3	0.9	3.7	0.3
Securitisation positions	49.1					49.1	26.3	26.3	2.1
Other	91.1	91.1	50.0					50.0	4.0
	2,312.3	687.3	377.1	22.9	12.1	1,602.1	557.5	946.7	75.8
Market risk								54.9	4.4
Operational risk								122.3	9.8
								1,123.9	90.0

Key points

The reclassification of Industrial Bank from an associate to a financial investment, removing the requirement for proportional regulatory consolidation, was the primary driver of the EAD and RWA movements in the corporates, institutions and other retail exposure classes under the standardised approach. These reductions were partially offset by growth in Bank of Communications.

Central governments and central bank exposures growths under the standardised approach was mainly due to higher placements with the Bank of England and holdings of UK gilts.

Higher RWAs for central government and central bank exposures under the IRB advanced approach were due to the application of a loss-given-default floor of 45% for sovereign exposures with an impact of US$19bn on implementation and, to a lesser extent, adverse internal rating changes for sovereign exposures in the Middle East and North Africa and Hong Kong.

Term lending, revolving credit products and trade finance business growth in Rest of Asia-Pacific, Hong Kong and North America were the main drivers of EAD and RWA movements for corporates under the IRB advanced approach.

Continued run-off and sale of loans for the US CML portfolio were the key drivers of RWA movements in the IRB advanced retail secured on real estate property exposure class.

Business restructuring for a portfolio of SME exposures in Europe caused a change from the corporate to the retail SME treatment under the IRB advanced approach, increasing EAD and RWA for this exposure class.

Sale of non-real estate loans for the US CML portfolio has reduced the average exposure of other retail under the advanced approach.

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Pillar 2 and ICAAP

Pillar 2

The processes of internal capital adequacy assessment and supervisory review, known as Pillar 2, lead to final determination by the PRA of Individual Capital Guidance (ICG) and any Capital Planning Buffer (CPB) that may be required.

Within Pillar 2, Pillar 2A considers, in addition to the minimum capital requirements for Pillar 1 risks described above, any supplementary requirements for those risks and in addition any requirements for risk categories not captured by Pillar 1. Such categories include principally: pension risk, insurance risk, non-trading book interest rate risk, structural foreign exchange risk, and concentration risks. Pillar 2A also estimates capital needed to compensate for any shortcomings in management, governance or controls, and to guard against unexpected losses while these deficiencies are addressed.

Pillar 2B considers the capital buffer a firm would require in order to remain above its ICG in adverse circumstances that may be largely outside the firm s normal and direct control, for example during a period of severe but plausible downturn stress, when asset values and the firm s capital surplus may become strained. This is quantified via any CPB requirement the PRA may consider necessary. The assessment of this is informed by stress tests and a rounded judgement of a firm s business model, also taking into account a firm s options and capacity to protect its capital position under stress, for instance through capital generation.

Complementing the above, in 2013 the PRA set a forward-looking CET1 target capital ratio for HSBC, in order to manage our transition to the Basel III capital requirements under CRD IV.

Internal capital adequacy assessment

Through the Internal Capital Adequacy Assessment Process (ICAAP), Group Management Board (GMB) examines the Group s risk profile from both regulatory and economic capital viewpoints, aiming to ensure that capital resources:

- remain sufficient to support our risk profile and outstanding commitments;
- exceed current regulatory requirements, and HSBC is well placed to meet those expected in the future;
- allow the bank to remain adequately capitalised in the event of a severe economic downturn stress scenario; and
- remain consistent with our strategic and operational goals and our shareholder and investor expectations.

The minimum regulatory capital that we are required to hold is determined by the rules and guidance established by the PRA for the consolidated Group and by local regulators for individual Group companies. These capital requirements are a primary influence shaping the business planning process, in which RWA targets are established for our global businesses in accordance with the Group s strategic direction and risk appetite.

Economic capital is the internally calculated capital requirement which we deem necessary to support the risks to which we are exposed. The economic capital assessment is a more risk-sensitive measure than the regulatory minimum, as it covers a wider range of risks and takes account of the substantial diversification of risk accruing from our operations. Both the regulatory and the economic capital assessments rely upon the use of models that are integrated into our management of risk. Our economic capital models are calibrated to quantify the level of capital that is sufficient to absorb potential losses over a one-year time horizon to a 99.95% level of confidence for our banking activities, and to a 99.5% level of confidence for our insurance activities and pension risks.

Preserving our strong capital position remains a priority, and the level of integration of our risk and capital management helps to optimise our response to business demand for regulatory and economic capital. Risks that are explicitly assessed through economic capital, and those that are not, are compared in Appendix II.

Top and emerging risks

A list of our top and emerging risks is regularly evaluated to assess the impact on our core capital position. This evaluation extends to a number of risks not technically within the scope of our top and emerging risks, but which are identified as presenting risks to capital due to their potential to impact the Group s risk-weighted asset and/or capital supply position. The downside or upside scenarios are assessed against the Group s capital management objectives and mitigating actions assigned to senior management as necessary.

Stress testing

Our stress testing and scenario analysis programme is central to the monitoring of top and emerging risks, helping us to understand the sensitivities of the core assumptions in our capital plans to the adverse effect

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

of extreme but plausible events. Stress testing allows us to formulate our response and mitigate risk in advance of actual conditions exhibiting the stresses identified in the scenarios.

Market stresses which occurred throughout the financial system in recent years have been used to inform our capital planning process and enhance the stress scenarios we employ. In addition to our internal stress tests, others are undertaken at the request of regulators using their prescribed assumptions, and by the regulators themselves. We take into account the results of all such stress testing when assessing our internal and regulatory capital requirements.

The Stress Testing and Economic Capital Committee, which reports to the Risk Management Meeting (RMM) exercises governance, oversight and approval authority over ICAAP and economic capital models.

The Group is subject to supervisory stress testing in many jurisdictions. Supervisory requirements are increasing in frequency and in the granularity with which results are required. These exercises include the programmes of the PRA, the Federal Reserve, the EBA, the European Central Bank (ECB) and the Hong Kong Monetary Authority, as well as stress tests undertaken in many other jurisdictions.

The Group is taking part in the Bank of England concurrent stress test exercise in 2014. This programme will include common base and stress scenarios applied across all major UK banks. The exercise will be supported by a complementary programme of data provision to the Bank of England under its Firm Data Submission Framework. At the time of writing, the PRA is considering a range of disclosure options related to the stress test exercise.

HSBC North America Holdings, Inc. (HNAH) and HSBC Bank USA NA (HBUS) are subject to the Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Stress Testing programmes of the Federal Reserve and the Office of the Comptroller of the Currency. HNAH and HBUS made submissions under these programmes on 6 January 2014. Disclosure by the Federal Reserve and by HNAH and HBUS of the results of these exercises will be made in March 2014.

HSBC will be included in the next round of European stress test exercises, scheduled for 2014. HSBC France and HSBC Malta will participate in the ECB s Asset Quality Review, run as part of the ECB s comprehensive assessment prior to inception of the Single Supervisory Mechanism. They will then be subject to the ECB s stress testing

process. The Group will take part in the related exercise run by the EBA. Disclosures of the results of these exercises are planned in late 2014.

Further details of the Group s stress testing activities, areas of special interest and top and emerging risks are given on pages 139,147 and 141 of the Annual Report and Accounts 2013, respectively.

Basel III implementation and CRD IV

(Unaudited)

In June 2013, the European Commission published the final Regulation and Directive, known collectively as CRD IV, to give effect to the Basel III framework in the EU. This came into effect on 1 January 2014.

In December 2013, the PRA issued its final rules on CRD IV in PS 7/13, which transposes the various areas of national discretion within the final CRD IV legislation in the UK.

Despite these final PRA rules further PRA consultations are due in 2014, for CRD IV capital buffers and Pillar 2.

In addition, many technical standards and guidelines have been issued by the EBA in draft form for consultation or are pending publication in 2014. These must be adopted by the European Commission to become legally enforceable, which provides further uncertainty as to the capital requirements under CRD IV.

Following publication of the final CRD IV rules and UK national discretions, in order to provide transparency to the way we manage our transition to Basel III under CRD IV, we set out information for investors on the estimated effects of these rules on our CET1 capital position in table 8: Composition of regulatory capital on an estimated CRD IV end point basis and Year 1 transitional basis on page 24.

This is supplemented by table 9: Reconciliation of current rules to CRD IV end point rules which presents a reconciliation of our reported core tier 1 capital and RWAs to our estimated CET1 end point capital and estimated RWAs at 31 December 2013. The position at 31 December 2013 is presented in comparison with that at 31 December 2012, where the estimated effect was based on the earlier July 2011 draft CRD IV text. The capital position is presented on an end-point definition of CET1 capital, applying all deductions and regulatory adjustments to CET1 capital in full, as they would apply at the end of the transitional period.

The tables quantify the capital and RWA impacts known at this time and are based on

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our interpretation of the final CRD IV regulation and final rules issued by PRA, as supplemented by regulatory guidance.

The effects of draft EBA standards are not captured in our numbers. These could have

additional, potentially significant effects on our capital position and RWAs.

The detailed basis of preparation can be found under Appendix to Capital on page 324 of the *Annual Report and Accounts 2013*.

Table 8: Composition of regulatory capital on an estimated CRD IV end point basis and Year 1 transitional basis

	At 31 December 2013 US$m
Shareholders equity	**164,057**
Shareholders equity per balance sheet[1]	**181,871**
Foreseeable interim dividend	**(3,005)**
Preference share premium	**(1,405)**
Other equity instruments	**(5,851)**
Deconsolidation of special purpose entities[2]	**(1,166)**
Deconsolidation of insurance entities	**(6,387)**
Non-controlling interests	**3,644**
Non-controlling interests per balance sheet	**8,588**
Preference share non-controlling interests	**(2,388)**
Non-controlling interests transferred to tier 2 capital	**(488)**
Non-controlling interests in deconsolidated subsidiaries	**(757)**
Surplus non-controlling interest disallowed in CET1	**(1,311)**
Regulatory adjustments to the accounting basis	**782**
Own credit spread[3]	**1,112**
Debit valuation adjustment	**(451)**
Cash flow hedging reserve	**121**
Deductions	**(35,969)**
Goodwill and intangible assets	**(24,899)**
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	**(680)**
Defined benefit pension fund assets	**(1,731)**
Additional valuation adjustment (referred to as PVA)	**(2,006)**
Investments in own shares through the holding of composite products of which HSBC is a component (exchange traded funds, derivatives, and index stock)	**(677)**
Excess of expected losses over impairment allowances	**(5,976)**
Common equity tier 1 capital	**132,514**

Transitional adjustment:	
Unrealised gains arising from revaluation of property	**(1,281)**
Common equity tier 1 capital on Year 1 transitional basis	**131,233**

For footnotes, see page 26.

Whilst CRD IV allows for the majority of regulatory adjustments and deductions from CET1 to be implemented on a gradual basis from 1 January 2014 to 1 January 2018, the PRA has largely decided not to make use of these transitional provisions. This results in a cost to our transitional CET1 ratio, corresponding to the treatment of unrealised gains on investment property, which are only capable of being recognised in CET1 capital from 1 January 2015.

For tier 1 and tier 2 capital, the PRA followed the transitional provisions timing as set out in CRD IV to apply the necessary regulatory adjustments and deductions. The effect of these adjustments will be phased in at 20% per annum from 1 January 2014 to 1 January 2018.

Furthermore, non-CRD IV compliant additional tier 1 and tier 2 instruments benefit from a grandfathering period. This progressively reduces the eligible amount by 10% annually, following an initial 20% on 1 January 2014, until they are fully phased out by 1 January 2022.

Under CRD IV, banks should maintain a Pillar 1 tier 1 buffer of 1.5% of RWAs and a tier 2 buffer of 2.0% of RWAs. Going forward, as the grandfathering provisions fall away, we intend to meet these buffers in an economic manner by issuing non-equity capital as necessary. At 31 December 2013, the Group had US$11.7bn of CRD IV compliant, non-equity capital instruments and US$37.8bn of non-equity capital instruments

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qualifying as eligible capital under CRD IV by virtue of application of the grandfathering provisions, after applying the 20% reduction outlined above.

For a full disclosure of the CET1, tier 1 and total capital position on a transitional basis at 31 December 2013, see Appendix III on pages 101 and 102 of this report.

Table 9: Reconciliation of current rules to CRD IV end point rules

	Final text At 31 December 2013		July 2011 text[4] At 31 December 2012	
	RWAs	Capital	RWAs	Capital
	US$m	US$m	US$m	US$m
Reported core tier 1 capital under the current regime		**149,051**		138,789
Regulatory adjustments applied to core tier 1 in respect of amounts subject to CRD IV treatment				
Foreseeable interim dividend		**(3,005)**		
Deconsolidation of insurance undertakings in reserves		**(6,387)**		
Surplus non-controlling interest disallowed in CET1		**(1,311)**		(2,299)
Debit valuation adjustment		**(451)**		(372)
Own credit spread on trading liabilities		**75**		
Removal of filters under current regime:				
unrealised losses on available-for-sale debt securities		**(2,595)**		(1,223)
unrealised gains on available-for-sale equities		**1,474**		2,088
reserves arising from revaluation of property		**1,281**		1,202
Deferred tax liabilities on intangibles		**299**		267
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)		**(680)**		(456)
Defined benefit pension fund liabilities		**(1,213)**		(1,596)
Additional valuation adjustment (referred to as PVA)		**(2,006)**		(1,720)
Investments in own shares through the holding of composite products of which HSBC is a component (exchange traded funds, derivatives, and index stock)		**(677)**		(1,322)
Excess of expected losses over impairment allowances deducted 100% from CET1		**(2,874)**		(3,084)
Removal of 50% of tax credit adjustment for expected losses		**(151)**		(111)
Securitisations positions risk-weighted under CRD IV		**1,684**		1,776
Deductions under threshold approach				
Amount exceeding the 10% threshold:				
significant investments in CET1 capital of banks, financial institutions and insurance				(6,097)
Amount in aggregate exceeding the 15% threshold:				
significant investments in CET1 capital of banks, financial institutions and insurance				(2,029)
deferred tax assets				(1,310)
Estimated CET1 capital under CRD IV		**132,514**		**122,503**
Reported total RWAs	**1,092,653**		1,123,943	
Changes to capital requirements introduced by CRD IV				
Amounts in aggregate below 15% threshold and therefore subject to 250% risk weight	**38,713**		45,940	

Credit valuation adjustment	**30,726**		60,360	
Securitisation positions and free deliveries risk-weighted under CRD IV	**42,288**		44,513	
Other movements	**10,559**		17,099	
Estimated total RWAs under CRD IV	**1,214,939**		1,291,855	
Estimated CET1 ratio		**10.9%**		9.5%
Estimated regulatory impact of management actions				
Management actions completed in 2013:				
Dilution of our shareholding in Industrial Bank and the subsequent change in accounting treatment			(38,880)	(2,150)
Completion of the second tranche of the disposal of Ping An			3,522	9,393
Estimated total after management actions completed in 2013			1,256,497	129,746
Estimated CET1 ratio after management actions completed in 2013				10.3%

For footnote, see page 26.

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Footnotes to CRD IV capital tables 8-9

1 *Includes externally verified profits for the year ended 31 December 2013.*
2 *Mainly comprises unrealised gains/losses on available-for-sale debt securities related to SPEs.*
3 *Includes own credit spread on trading liabilities.*
4 *The basis of preparation for the calculation of the CET1 ratio is detailed in the Appendix to Capital on page 324 of the* Annual Report and Accounts 2013. *The CET1 ratio presented for 31 December 2012 has changed from the presentation in the* Annual Report and Accounts 2012 *and is shown post anticipated management actions to mitigate capital deductions for non-significant holdings of financial sector entities, consistent with our* Interim Report 2013. *Selected management actions have since been undertaken.*

The main effect of the CRD IV final rules compared with those at 31 December 2012, when the estimated impact was based on the earlier July 2011 draft text, is detailed below.

To effect the deduction of significant investments in insurance companies from CET1, consistent with the treatment in our *Interim Report 2013*, we have removed from the Group consolidated reserves the contribution of our insurance business and calculated the amount of the insurance holding deduction, subject to threshold calculations, at cost. The regulatory treatment of insurance holdings was clarified in the final PRA rules set out in PS 7/13. The change in treatment had a negative capital impact of US$6.4bn on our reserves and resulted in the value of our significant investments in CET1 capital of banks, financial institutions and insurance falling below the threshold amounts for deduction.

The estimated amount of capital deduction for non-significant (or immaterial) holdings of financial sector entities has changed upon finalisation of the CRD IV text.

At 31 December 2012, we quantified the effect of management actions estimated to be necessary to negate a capital deduction against this item. This followed an interpretation of the draft July 2011 CRD IV text around the restriction in the rules for netting of long and short positions held in the trading book, whereby the maturity of the short position has to match the maturity of the long position, or have a residual maturity of no less than a year.

For our interim results, following confirmation of the legislation, we changed the basis of presentation of the CRD IV estimated capital position, to reflect further regulatory clarification and the anticipated impact of management actions that while contemplated at that time, could not be concluded ahead of final rules. Consequently, the presentation of the capital position at 31 December 2012 was changed to take into account the effect of those management actions on immaterial holdings.

At 31 December 2013, following evolving regulatory discussions, as well as systems enhancements, we have been able to more effectively match our long and short positions under one year maturity. In addition, we have now

executed selected management actions to optimise our maturity profile and make best use of matching opportunities. These measures have brought our net long position below the deduction threshold.

The EBA s publication of their final draft Regulatory Technical Standard (RTS) on Own Funds Part III on 13 December 2013 elaborates on the capital calculation of holdings of capital instruments of financial sector entities. The draft contains significant change from the initial consultation and is still due for consideration and adoption by the European Commission. We are monitoring developments and depending upon the final standard we will consider the effect, together with any further management actions.

Our CET1 capital ratio at 31 December 2013 was reduced by US$3bn to reflect our prospective fourth interim dividend declared, net of projected scrip dividend, which will be paid in 2014. This represents a change in our basis of preparation to reflect CRD IV final rules.

A notable change compared with our 31 December 2012 estimates relates to the credit valuation adjustment (CVA) risk capital charge, which decreased to US$30.7bn, mainly as a result of the introduction of exemptions under the final CRD IV rules.

Other movements in our RWAs include residual credit risk items following the finalisation of the rules and their respective systems implementation. The latter will continue as future regulatory proposals are published in finalised form. For a detailed description of the items above, see the Appendix to Capital, in the *Annual Report and Accounts 2013* on page 324.

Supplementary Basel III disclosures

In October 2012, the PRA wrote to large UK firms describing the disclosures it required them to make for capital resources on a first year transitional basis and for the leverage ratio on an end point basis under CRD IV. At 31 December 2012, our disclosures were based on the July 2011 draft version of the CRD IV text.

In January 2014, the PRA issued a letter requiring major UK firms to continue the disclosure

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of the capital resources on a transitional basis, taking into account the final CRD IV and PRA rules on the definition of capital. A table of the estimated composition of regulatory capital under CRD IV rules on a transitional basis and the basis of preparation for this, including qualifications to be noted when assessing it, are set out in Appendix III.

Leverage ratio

The leverage ratio was introduced into the Basel III framework as a non-risk-based backstop limit, to supplement risk-based capital requirements. It aims to constrain the build-up of excess leverage in the banking sector, introducing additional safeguards against model risk and measurement errors. The ratio is a volume-based measure calculated as Basel III tier 1 capital divided by total on- and off-balance sheet exposures.

Basel III provides for a transitional period for the introduction of this ratio, comprising a supervisory monitoring period that started in 2011 and a parallel run period from January 2013 to January 2017. The parallel run will be used to assess whether the proposed minimum ratio of 3% is appropriate, with a view to migrating to a Pillar 1 requirement from 1 January 2018.

In November 2013, the PRA issued a supervisory statement on leverage and capital ratios which requires major UK banks from 1 January 2014 to meet a 3% CRD IV end point tier 1 leverage ratio but after taking deductions to reflect the FPC s assessment of expected future losses, future costs of conduct redress and adjusting for a more prudent calculation of risk weights, as published previously in June 2013.

In January 2014, the Basel Committee published its finalised leverage ratio framework, along with

the public disclosure requirements applicable from 1 January 2015. Under CRD IV, the final calibration and legislative proposals are expected to be determined following a review of the revised Basel proposals and the basis of the EBA s assessment of the impact and effectiveness of the leverage ratio during a monitoring period from 1 January 2014 until 30 June 2016.

Monitoring leverage has been part of HSBC s regulatory reporting since December 2010. From the 2012 year end, ahead of the Basel III disclosure timeline, UK banks were required by the PRA to disclose an estimated leverage ratio at year-end and mid-year, using a hybrid of Basel III and CRD IV rules.

In January 2014, the PRA issued a letter to major UK banks setting out the approach to be taken for calculating the leverage ratio for year-end 2013 Pillar 3 disclosures. This confirmed that the calculation of the leverage ratio is conceptually unchanged and will continue to be based on a hybrid of Basel III and CRD IV basis. The numerator is now calculated using the final CRD IV end point tier 1 (rather than draft) capital definition. The calculation of the exposure measure will continue to be based on the December 2010 Basel III text.

It should be noted that this PRA-prescribed basis for disclosing the leverage ratio is not aligned with the November 2013 supervisory statement, the CRD IV final rules or the Basel Committee s final proposals on the Basel III leverage ratio. However, the CRD IV basis is expected to be aligned to Basel during 2014.

For a detailed basis of preparation of the leverage ratio, see Appendix III.

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Table 10: Estimated CRD IV end point leverage ratio

	PRA-prescribed basis US$bn
At 31 December 2013	
Total assets per financial balance sheet	**2,671**
Adjustment to reverse netting of loans and deposits allowable under IFRS	**93**
Reversal of the accounting values:	**(482)**
Derivatives	**(282)**
Repurchase agreement and Securities finance	**(200)**
Replaced with regulatory values:	**386**
Derivatives	**239**
Repurchase agreement and Securities finance	**147**
Addition of off balance sheet commitments and guarantees:	**388**
Guarantees and contingent liabilities	**85**
Commitments	**295**
Other	**8**
Exclusion of items already deducted from the capital measure	**(28)**
Exposure measure after regulatory adjustments	**3,028**
Tier 1 capital under CRD IV (end point)	**133**
Estimated leverage ratio (end point)	**4.4%**
Tier 1 capital under CRD IV (including instruments that will be ineligible for inclusion after Basel III transitional period has fully elapsed)	**149**
Estimated leverage ratio (including instruments that will be ineligible for inclusion after Basel III transitional period has fully elapsed)	**4.9%**
At 31 December 2012	
Estimated leverage ratio (end point)	4.2%
Estimated leverage ratio (including instruments that will be ineligible for inclusion after Basel III transitional period has fully elapsed)	4.8%

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Risk management

Overview

All our activities involve to varying degrees the measurement, evaluation, acceptance and management of risks. As risk is not static, our risk profile continually alters as a result of change in the scope and impact of a wide range of factors, from geopolitical to transactional. Our risk management framework is designed for the continuous monitoring of the risk environment and an integrated evaluation of risks and their interactions.

The objective of risk management, shared across the organisation, is to support the Group s strategic priorities to build sustainable, profitable businesses in the long-term interests of our shareholders and other stakeholders. We aim to ensure that risk management is embedded in how we run our business.

Risk management is embedded through:

a historically strong risk culture, with personal accountability for decisions;

a formal governance structure, with a clear, well understood framework of risk ownership, standards and policy;

the alignment of risk and business objectives, with integration of risk appetite into business planning and capital management; and

an independent and expert global risk function (Global Risk).

Risk culture

HSBC has long recognised the importance of a strong risk culture, the fostering of which is a key responsibility of senior executives. Our risk culture may be characterised as conservative, control-based and rooted in experience. It is reinforced by our HSBC Values and our Global Standards, and forms the basis from which the Board, advised by the Group Risk Committee (GRC), establishes the Group s risk appetite and the risk management framework. These are instrumental in aligning the behaviour of individuals with the Group s attitude to assuming and managing risk.

Our global standards set the tone from the top, and are central to our approach to balancing risk and reward. All staff play a role in the management of risk as part of our three lines of defence model and are accountable for identifying, assessing and managing risks within the scope of their assigned responsibilities. We have a system of personal, not collective, authorities for lending decisions. Personal accountability, reinforced by our HSBC

Values, helps sustain a disciplined and constructive culture of risk management and control throughout HSBC. Our risk culture is also reinforced by our approach to remuneration, which is discussed further on page 89 of this report.

Further details on the five main elements underpinning our risk culture may be found on page 39 of the Annual Report and Accounts 2013.

Risk governance and risk appetite

Our risk governance structure and approach to risk appetite are set out in the report of the GRC on pages 353 and 355 of the *Annual Report and Accounts 2013*.

Risk management objectives are integrated into the performance scorecards of the heads of regions, global businesses and key functions from the GMB down, and cascaded through the organisation. The objectives of Global Risk are also aligned through this process with strategic business objectives.

Risk appetite is a key component of our management of risk. Our approach is designed to reinforce the integration of risk considerations into key business goals and planning processes. The risk appetite statement, which is approved annually by the Board under advice from the GRC, and whose implementation is overseen by the GMB, describes the types and levels of risk that we are prepared to take in executing our strategy.

Diversification is an important aspect of our management of risk. Geographical diversification of our lending portfolio across the regions, together with our broad range of global businesses and products, ensures that we are not overly dependent on a limited number of countries or markets to generate income and growth. It also supports our strategies for growth in faster-growing markets and those with international connectivity. Diversification models are developed, in conjunction with the business, within Global Risk s quantitative analytics discipline.

An established framework of risk ownership and documented standards, policy and procedures, supports effective risk management and internal control systems.

Further details on the risk appetite framework may be found on page 354 of the Annual Report and Accounts 2013.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Global Risk

Headed by the Group Chief Risk Officer (GCRO), Global Risk is mandated to provide an expert, integrated and independent assessment of risks Group-wide.

Global Risk:

- forms the the second line of defence, with responsibility for setting policy and for providing oversight and challenge of the activities conducted by the first line.
- supports our global businesses, regions, countries and global functions in the development and achievement of strategic objectives;
- fosters development of a conservative but constructive Group risk culture;
- partners the global businesses, regions, countries and global functions in risk appetite planning and monitoring;
- carries out central approvals, controls, risk systems leadership and the analysis and reporting of management information;
- addresses risk issues in dealings with external stakeholders including regulators and analysts; and
- in addition to business as usual operations, engages with business development activities such as new product approval and post-implementation review, and acquisition due diligence.

Risk measurement and reporting systems

The purpose of our risk measurement and reporting systems is to ensure that, as far as possible, risks are comprehensively captured with all the attributes necessary to support well-founded decisions, that those attributes are accurately assessed and that information is delivered in a timely way for those risks to be successfully managed and mitigated.

Risk measurement and reporting systems are also subject to a governance framework designed to ensure that their build and implementation are fit for purpose and that they are functioning properly. Risk information technology (IT) systems development is a key responsibility of the Global Risk function globally, while the development and operation of risk rating and management systems and processes are ultimately subject to the oversight of the Board.

We continue to invest significant resources in IT systems and processes in order to maintain and improve our risk management capabilities. Group policy promotes the deployment of preferred technology where practicable. Group standards govern the procurement and operation of systems used in our subsidiaries to process risk information within business lines and risk functions.

Risk measurement, monitoring and reporting structures deployed at Group level are replicated in global businesses and major operating subsidiaries through a common operating model for integrated risk management and control. This model sets out the respective responsibilities of Group, global business, region and country level risk functions in respect of such matters as risk governance and oversight, compliance risks, approval authorities and lending guidelines, global and local scorecards, management information and reporting, and relations with third parties including regulators, rating agencies and auditors.

Risk analytics and model governance

Global Risk manages a number of analytics disciplines supporting rating and scoring models for different risk types and business segments, economic capital and stress testing. It formulates technical responses to industry developments and regulatory policy in the field of risk analytics, develops HSBC s global risk models, and oversees local model development and use around the Group in progress toward our implementation targets for the IRB advanced approach.

Model governance is under the general oversight of Group Model Oversight Committee (Group MOC). Group MOC is supported by specific global functional MOCs for Wholesale Credit and Market Risk (WCMR) and RBWM, and has regional and entity-level counterparts with comparable terms of reference. The Group MOC meets bi-monthly and reports to RMM. It is chaired by the Risk function, and its membership is drawn from Risk, Finance and global businesses.

Its primary responsibilities are to bring a strategic approach to model-related issues across the Group and to oversee the governance of our risk rating models, their consistency and approval, within the Basel framework. Through its oversight of the functional WCMR and RBWM MOCs, it identifies emerging risks for all aspects of the risk rating system, ensuring that model risk is managed within our Risk Appetite Statement, and formally advises RMM on any material model-related issues.

The development and use of data and models to meet local requirements are the responsibility of regional and/or local entities under the governance of their own management, subject to overall Group policy and oversight.

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Credit risk

Overview and responsibilities

Credit risk represents our largest regulatory capital requirement.

The principal objectives of our credit risk management function are:

- to maintain across HSBC a strong culture of responsible lending, and a robust credit risk policy and control framework;
- to both partner and challenge our businesses in defining, implementing and continually re-evaluating our credit risk appetite under actual and stress scenario conditions; and
- to ensure there is independent, expert scrutiny of credit risks, their costs and their mitigation.

The credit risk functions within WCMR and RBWM are the constituent parts of Global Risk that support the GCRO in overseeing credit risks at the highest level. For this, their major duties comprise: undertaking independent reviews of large and high-risk credit proposals, large exposure policy and reporting oversight of our wholesale and retail credit risk management disciplines, ownership of our credit policy and credit systems programmes, portfolio management oversight and reporting on risk matters to senior executive management and to regulators.

These credit risk functions work closely with other parts of Global Risk, for example: with Security and Fraud Risk on enhancement of protection against retail product fraud, with Operational Risk on the internal control framework and with Risk Strategy on developing our economic capital model, risk appetite process and stress testing.

The credit responsibilities of Global Risk are described on page 266 of the Annual Report and Accounts 2013.

Group-wide, the credit risk functions comprise a network of credit risk management offices reporting within regional, integrated risk functions. They fulfil an essential role as independent risk control units distinct from business line management in providing an objective scrutiny of risk rating assessments, credit proposals for approval and other risk matters.

We operate through a hierarchy of personal credit limit approval authorities, not committee structures. Risk officers of individual operating companies, acting under authorities delegated by their boards and executive bodies within local and Group standards, are accountable for their recommendations and credit approval decisions. Each operating company is responsible for the

quality and performance of its credit portfolios, and for monitoring and controlling all credit risks in those portfolios in accordance with Group standards.

Above certain risk-based thresholds established in line with authorities delegated by the Board, Head Office concurrence must be provided for locally-approved facilities before they are extended to the customer. Moreover, risk proposals in certain portfolios sovereign obligors, banks, some non-bank financial institutions and intra-Group exposures are approved centrally in Global Risk to facilitate efficient control and the reporting of regulatory large and cross-border exposures.

Credit risk management

Our exposure to credit risk arises from a wide range of customer and product types, and the risk rating systems in place to measure and monitor these risks are correspondingly diverse. Each major subsidiary typically has some exposures across this range, and requirements may differ according to jurisdictions in which it operates.

Credit risk exposures are generally measured and managed in portfolios of either customer types or product categories. Risk rating systems are designed to assess the default propensity of, and loss severity associated with, distinct customers who are typically managed as individual relationships or, in the case of retail business, exposures on a product portfolio basis.

Risk rating systems for retail exposures are generally quantitative in nature, applying techniques such as behavioural analysis across product portfolios comprising large numbers of homogeneous transactions. Rating systems for individually managed relationships typically use customer financial statements and market data analysis, but also qualitative elements and a final subjective overlay to better reflect any idiosyncratic elements of the customer s risk profile, see Application of the IRB Approach on page 41.

Whatever the nature of the exposure, a fundamental principle of our policy and approach is that analytical risk rating systems and scorecards are all valuable tools at the disposal of management, informing judgemental decisions for which individual approvers are ultimately accountable.

In the case of automated decision-making processes, as used in retail credit origination where risk decisions may be taken at the point of sale with no management intervention, that accountability rests with those responsible for the parameters built into those processes/systems and the governance and controls surrounding their use.

The credit process provides for at least an annual review of facility limits granted. Review may be more frequent, as required by circumstances, such as the emergence of adverse risk factors, and any consequent amendments to risk ratings must be promptly implemented.

We constantly seek to improve the quality of our risk management. For central management and reporting purposes, Group IT systems are deployed to process credit risk data efficiently and consistently. A central database is used, which covers substantially all our direct lending exposures and holds the output of risk rating systems Group-wide. This continues to be enhanced in order to deliver, at an increasingly granular level, comprehensive management information in support of business strategy, as well as solutions to evolving regulatory reporting requirements, such as the European common reporting requirements.

Group standards govern the process through which risk rating systems are initially developed, judged fit for purpose, approved and implemented; the conditions under which analytical risk model outcomes can be overridden by decision-takers; and the process of model performance monitoring and reporting. The emphasis is on an effective dialogue between business line and risk management, suitable independence of decision-takers, and a good understanding and robust challenge on the part of senior management.

Like other facets of risk management, analytical risk rating systems are not static and are subject to review and modification in the light of the changing environment, the greater availability and quality of data and any deficiencies identified through internal and external regulatory review. Structured processes and metrics are in place to capture relevant data and feed this into continuous model improvement. See also the comments on Model performance on page 59.

Credit risk models governance

All new or materially changed IRB models require PRA approval, as set out in more detail on page 41 below. Throughout HSBC, such models fall directly under the remit of the global functional MOCs.

The global functional MOCs are responsible for defining the thresholds above which models require their approval, supporting both internal governance and the PRA approval

process, for example if they cover exposures generating credit risk capital requirements exceeding a prescribed threshold or are otherwise deemed material on grounds of risk, portfolio size, or business type.

The RBWM MOC model materiality thresholds are:

- IRB models exceeding, or estimated to exceed, US$2bn in RWAs;
- application models with annual proposed value of new business sourced through the model exceeding US$2bn for secured lending and US$0.5bn for unsecured lending;

behavioural models with managed total exposure exceeding US$2bn for secured lending and US$1bn for unsecured lending; and

provisioning models with impairment change impact exceeding US$0.1bn.

WCMR MOC requires all credit risk models for which it is responsible to be approved by delegated senior managers in WCMR with notification to the MOC which retains the responsibility for oversight. RBWM MOC applies different thresholds depending on model type.

Global Risk utilises HSBC standards for the development, validation, independent review, approval, implementation and performance monitoring of credit risk rating models, and oversight of respective local standards for local models. All models must be reviewed at least annually, or more frequently as the need arises.

Compliance with HSBC standards is subject to examination both by risk oversight and review from within the risk function itself, and by internal audit. While the standards set out minimum general requirements, Global Risk has discretion to approve dispensations exceptionally, and fosters best practice between offices.

The following tables set out credit risk exposure values, RWAs and regulatory capital requirements calculated at 8% of RWAs. Table 12 presents exposure values analysed across geographical regions, tables 13 and 14 respectively RWAs and RWA density by geographical region. Exposure values are allocated to a region based on the country of incorporation of the HSBC subsidiary or associate where the exposure was originated. In table 15, allocation to industry sectors is based on the sectoral classification of the obligor, rather than any guarantor, if applicable. Table 16 shows exposures by period outstanding from the reporting date to the maturity date. The full exposure value is allocated to a residual maturity band based on the contractual end date.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 11: Credit risk summary

	At 31 December 2013				At 31 December 2012			
	Exposure value US$bn	Average exposure value US$bn	RWAs US$bn	Capital required US$bn	Exposure value US$bn	Average exposure value US$bn	RWAs US$bn	Capital required US$bn
Credit risk analysis by exposure class								
IRB advanced approach	**1,468.8**	**1,459.5**	**521.2**	**41.6**	1,470.0	1,551.2	513.6	41.1
Retail:								
secured on real estate property	**310.7**	**310.5**	**105.4**	**8.4**	317.4	310.7	130.8	10.5
qualifying revolving retail	**66.9**	**64.4**	**15.4**	**1.2**	64.0	95.6	16.2	1.3
SMEs[1]	**18.6**	**15.8**	**8.9**	**0.7**	13.1	13.1	6.8	0.5
other retail	**46.8**	**55.1**	**11.0**	**0.9**	60.1	60.3	17.2	1.4
Total retail	**443.0**	**445.8**	**140.7**	**11.2**	454.6	479.7	171.0	13.7
Central governments and central banks	**341.7**	**343.8**	**53.0**	**4.1**	355.8	407.4	36.8	2.9
Institutions	**130.0**	**136.0**	**28.0**	**2.2**	131.1	141.5	27.0	2.2
Corporates	**508.7**	**486.8**	**279.7**	**22.5**	479.1	465.0	251.6	20.1
Equity		**0.2**			0.3	0.4	0.9	0.1
Securitisation positions[2]	**45.4**	**46.9**	**19.8**	**1.6**	49.1	57.2	26.3	2.1
IRB foundation approach	**23.6**	**20.8**	**13.6**	**1.1**	19.4	17.7	10.3	0.8
Corporates	**23.6**	**20.8**	**13.6**	**1.1**	19.4	17.7	10.3	0.8
Standardised approach	**667.7**	**658.7**	**329.5**	**26.4**	681.5	630.2	374.5	30.0
Central governments and central banks	**220.0**	**192.3**	**0.7**	**0.1**	177.4	117.1	0.9	0.1
Institutions	**35.2**	**39.2**	**12.1**	**1.0**	57.5	56.4	19.4	1.6
Corporates	**221.8**	**237.1**	**202.1**	**16.2**	254.5	259.9	237.3	19.0
Retail	**47.7**	**49.7**	**36.1**	**2.9**	52.9	53.9	40.1	3.2
Secured on real estate property	**50.4**	**45.9**	**28.4**	**2.2**	45.3	47.4	24.0	1.9
Past due items	**4.1**	**4.2**	**5.4**	**0.4**	4.4	4.3	6.0	0.5
Regional governments or local authorities	**0.8**	**1.0**	**0.8**	**0.1**	1.2	1.2	1.0	0.1
Equity	**3.3**	**3.2**	**3.5**	**0.3**	2.8	5.7	2.8	0.2
Other items[3]	**84.4**	**86.1**	**40.4**	**3.2**	85.5	84.3	43.0	3.4
	2,160.1	**2,139.0**	**864.3**	**69.1**	2,170.9	2,199.1	898.4	71.9

1 *The PRA allows exposures to SMEs to be treated under the Retail IRB approach, where the total amount owed to the Group by the counterparty is less than 1m and the customer is not managed individually as a corporate counterparty.*
2 *Excludes trading book securitisation positions and positions deducted from regulatory capital (that would be risk-weighted at 1,250%).*
3 *Primarily includes such items as fixed assets, prepayments, accruals and Hong Kong Government certificates of indebtedness.*

Key points

Average exposure secured on real estate property treated under the IRB advanced approach remained stable as growth in the UK and Hong Kong markets has been offset by continued run-off and the sale of loans in the US CML portfolio in North America and the sale of the HFC Bank UK secured loan portfolio in Europe.

Sale of the US CRS portfolio in 2012 has reduced the average exposure value for qualifying revolving retail exposures treated under the IRB advanced approach.

Business restructuring for a portfolio of SME exposures in Europe caused a change from the corporate to the retail SME IRB advanced approach, increasing the average exposure for this exposure class.

Sale of non-real estate exposures in the US CML portfolio in North America has reduced the average exposure for the other retail IRB advanced approach.

Adoption of the standardised approach for EEA central banks following updated policy guidance in Q4 2012 was the key driver of the increase in average exposure for central governments and central banks, with a corresponding decrease under the IRB advanced approach.

The reduction in average exposure for corporates, institutions and retail under the standardised approach is mainly due to the deconsolidation of Industrial Bank.

Refer to Table 7 Key points and Movements in RWAs in 2013 commentary on Page 17 for additional information.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 12: Credit risk exposure by geographical region

	Exposure value							
		Hong	Rest of Asia-		North	Latin		
	Europe US$bn	Kong US$bn	Pacific US$bn	MENA US$bn	America US$bn	America US$bn	Total US$bn	RWAs US$bn
At 31 December 2013								
IRB advanced approach	**513.5**	**342.2**	**263.0**	**26.0**	**297.8**	**26.3**	**1,468.8**	**521.2**
Retail:								
secured on real estate property	**154.8**	**52.1**	**34.4**		**69.4**		**310.7**	**105.4**
qualifying revolving retail	**36.9**	**25.3**			**4.7**		**66.9**	**15.4**
SMEs[1]	**17.2**	**0.8**			**0.6**		**18.6**	**8.9**
other retail	**37.8**	**5.8**			**3.2**		**46.8**	**11.0**
Total retail:	**246.7**	**84.0**	**34.4**		**77.9**		**443.0**	**140.7**
Central governments and central banks	**39.7**	**90.4**	**76.4**	**20.5**	**91.7**	**23.0**	**341.7**	**53.0**
Institutions	**23.7**	**48.6**	**38.3**	**5.3**	**10.8**	**3.3**	**130.0**	**28.0**
Corporates	**163.3**	**118.9**	**113.7**	**0.2**	**112.6**		**508.7**	**279.7**
Equity								
Securitisation positions[2]	**40.1**	**0.3**	**0.2**		**4.8**		**45.4**	**19.8**
IRB foundation approach	**16.7**			**6.9**			**23.6**	**13.6**
Corporates	**16.7**			**6.9**			**23.6**	**13.6**
Standardised approach	**236.1**	**54.5**	**236.5**	**50.5**	**26.0**	**64.1**	**667.7**	**329.5**
Central governments and central banks	**170.6**	**5.3**	**37.9**	**5.6**	**0.6**		**220.0**	**0.7**
Institutions	**3.6**	**0.1**	**30.3**	**1.2**			**35.2**	**12.1**
Corporates	**25.0**	**8.0**	**118.5**	**32.0**	**3.2**	**35.1**	**221.8**	**202.1**
Retail	**7.9**	**1.8**	**15.1**	**5.4**	**2.2**	**15.3**	**47.7**	**36.1**
Secured on real estate property	**7.5**	**2.0**	**24.0**	**3.5**	**8.5**	**4.9**	**50.4**	**28.4**
Past due items	**0.7**	**0.1**	**0.3**	**0.8**	**0.5**	**1.7**	**4.1**	**5.4**
Regional governments or local authorities				**0.1**		**0.7**	**0.8**	**0.8**
Equity	**0.8**	**0.1**		**0.2**	**1.7**	**0.5**	**3.3**	**3.5**
Other items[3]	**20.0**	**37.1**	**10.4**	**1.7**	**9.3**	**5.9**	**84.4**	**40.4**
	766.3	**396.7**	**499.5**	**83.4**	**323.8**	**90.4**	**2,160.1**	**864.3**
At 31 December 2012								
IRB advanced approach	495.0	323.6	263.5	26.1	331.4	30.4	1,470.0	513.6
Retail:								
secured on real estate property	148.6	50.6	35.2		83.0		317.4	130.8
qualifying revolving retail	34.4	23.6			6.0		64.0	16.2
SMEs[1]	11.6	0.8			0.7		13.1	6.8
other retail	39.0	11.1	2.9		7.1		60.1	17.2

Total retail:	233.6	86.1	38.1		96.8		454.6	171.0
Central governments and central banks	44.5	89.6	75.5	19.6	100.6	26.0	355.8	36.8
Institutions	25.9	37.3	38.5	6.4	18.6	4.4	131.1	27.0
Corporates	146.4	110.1	111.1	0.1	111.4		479.1	251.6
Equity	0.3						0.3	0.9
Securitisation positions[2]	44.3	0.5	0.3		4.0		49.1	26.3
IRB foundation approach	13.4			6.0			19.4	10.3
Corporates	13.4			6.0			19.4	10.3
Standardised approach	223.8	42.7	274.0	49.1	19.4	72.5	681.5	374.5
Central governments and central banks	130.1	0.4	44.0	2.7	0.1	0.1	177.4	0.9
Institutions	3.0	0.1	52.0	2.4			57.5	19.4
Corporates	50.3	3.6	127.3	32.7	2.5	38.1	254.5	237.3
Retail	7.6	1.9	16.5	5.2	2.8	18.9	52.9	40.1
Secured on real estate property	9.8	2.4	22.5	2.8	2.2	5.6	45.3	24.0
Past due items	0.6	0.1	0.2	1.2	0.4	1.9	4.4	6.0
Regional governments or local authorities				0.1		1.1	1.2	1.0
Equity	0.4	0.9	0.1		1.4		2.8	2.8
Other items[3]	22.0	33.3	11.4	2.0	10.0	6.8	85.5	43.0
	732.2	366.3	537.5	81.2	350.8	102.9	2,170.9	898.4

For footnotes, see page 33.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Key points

Corporate exposure increases under the IRB advanced approach and corresponding reductions in corporate exposure under the standardised approach in Europe were mainly due to the movement of income producing real estate portfolios from standardised to the IRB slotting approach as required by the PRA.

Secured on real estate exposure increases under the standardised approach in North America are due to the movement of commercial real estate exposure in the US from the IRB advanced approach to the standardised approach.

Corporate exposure increases under the standardised approach in Hong Kong were due to the identification of exposures which did not meet the full modelling requirements and these were moved from the IRB advanced approach.

Central government and central bank exposure growth under the standardised approach in Hong Kong was due to reclassification of indirect EEA sovereign exposures from the IRB advanced approach following updated policy guidance.

Refer to Tables 7 and 11 Key points and Movements in RWAs commentary on Page 17 for additional information.

Table 13: Credit risk exposure RWAs by geographical region

	Europe US$bn	Hong Kong US$bn	Rest of Asia-Pacific US$bn	MENA US$bn	North America US$bn	Latin America US$bn	Total US$bn
At 31 December 2013							
RWAs							
IRB advanced approach	**157.1**	**85.8**	**97.1**	**11.2**	**161.5**	**8.5**	**521.2**
Retail:							
secured on real estate property	**9.4**	**3.8**	**3.3**		**88.9**		**105.4**
qualifying revolving retail	**7.8**	**6.0**			**1.6**		**15.4**
SMEs[1]	**8.5**				**0.4**		**8.9**
other retail	**8.1**	**1.3**			**1.6**		**11.0**
Total retail	**33.8**	**11.1**	**3.3**		**92.5**		**140.7**

Central governments and central banks	**5.5**	**7.3**	**14.5**	**10.0**	**8.8**	**6.9**	**53.0**
Institutions	**8.5**	**7.6**	**7.6**	**1.2**	**1.5**	**1.6**	**28.0**
Corporates	**90.4**	**59.7**	**71.6**		**58.0**		**279.7**
Equity							
Securitisation positions[2]	**18.9**	**0.1**	**0.1**		**0.7**		**19.8**
IRB foundation approach	**9.8**			**3.8**			**13.6**
Corporates	**9.8**			**3.8**			**13.6**
Standardised approach	**44.5**	**17.0**	**148.9**	**40.0**	**22.7**	**56.4**	**329.5**
Central governments and central banks			**0.6**		**0.1**		**0.7**
Institutions	**0.1**	**0.1**	**11.3**	**0.6**			**12.1**
Corporates	**21.0**	**7.3**	**105.4**	**30.9**	**2.9**	**34.6**	**202.1**
Retail	**6.3**	**1.3**	**11.4**	**4.0**	**1.7**	**11.4**	**36.1**
Secured on real estate property	**3.0**	**0.9**	**11.8**	**2.0**	**7.8**	**2.9**	**28.4**
Past due items	**0.9**	**0.1**	**0.3**	**1.0**	**0.6**	**2.5**	**5.4**
Regional governments or local authorities				**0.1**		**0.7**	**0.8**
Equity	**0.9**	**0.1**		**0.2**	**1.8**	**0.5**	**3.5**
Other items[3]	**12.3**	**7.2**	**8.1**	**1.2**	**7.8**	**3.8**	**40.4**
	211.4	**102.8**	**246.0**	**55.0**	**184.2**	**64.9**	**864.3**

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

	Europe US$bn	Hong Kong US$bn	Rest of Asia-Pacific US$bn	MENA US$bn	North America US$bn	Latin America US$bn	Total US$bn
At 31 December 2012							
RWAs							
IRB advanced approach	143.6	70.2	92.1	9.4	187.1	11.2	513.6
Retail:							
secured on real estate property	11.1	3.8	3.8		112.1		130.8
qualifying revolving retail	8.5	5.7			2.0		16.2
SMEs[1]	6.4				0.4		6.8
other retail	8.5	1.2	0.1		7.4		17.2
Total retail	34.5	10.7	3.9		121.9		171.0
Central governments and central banks	3.6	1.8	11.3	7.7	3.3	9.1	36.8
Institutions	7.6	5.9	7.1	1.7	2.6	2.1	27.0
Corporates	71.8	51.7	69.7		58.4		251.6
Equity	0.9						0.9
Securitisation positions[2]	25.2	0.1	0.1		0.9		26.3
IRB foundation approach	7.1			3.2			10.3
Corporates	7.1			3.2			10.3
Standardised approach	72.2	12.7	167.9	41.5	17.1	63.1	374.5
Central governments and central banks			0.7		0.1	0.1	0.9
Institutions	0.2	0.1	18.1	1.0			19.4
Corporates	45.9	3.2	116.4	32.1	2.2	37.5	237.3
Retail	5.9	1.4	12.4	3.9	2.3	14.2	40.1
Secured on real estate property	5.4	1.3	11.0	1.6	1.4	3.3	24.0
Past due items	0.7	0.1	0.3	1.6	0.6	2.7	6.0
Regional governments or local authorities				0.1		0.9	1.0
Equity	0.4	0.9	0.1		1.4		2.8
Other items[3]	13.7	5.7	8.9	1.2	9.1	4.4	43.0
	222.9	82.9	260.0	54.1	204.2	74.3	898.4

For footnotes, see page 33.

Key point

Refer to tables 7, 11 and 12 Key points and Movements in RWA commentary on Page 17 for additional information.

Table 14: Credit risk exposure RWA density by geographical region

	Europe	Hong Kong	Rest of Asia-Pacific	MENA	North America	Latin America	Total
	%	%	%	%	%	%	%
At 31 December 2013							
RWA density							
IRB advanced approach	**31**	**25**	**37**	**43**	**54**	**32**	**35**
Retail:							
secured on real estate property	**6**	**7**	**10**		**128**		**34**
qualifying revolving retail	**21**	**24**			**34**		**23**
SMEs[1]	**49**	**3**			**63**		**48**
other retail	**21**	**23**			**50**		**23**
Total retail	**14**	**13**	**10**		**119**		**32**
Central governments and central banks	**14**	**8**	**19**	**49**	**10**	**30**	**16**
Institutions	**36**	**16**	**20**	**23**	**14**	**48**	**22**
Corporates	**55**	**50**	**63**		**52**		**55**
Equity							
Securitisation positions[2]	**47**	**26**	**71**		**15**		**44**
IRB foundation approach	**59**			**55**			**58**
Corporates	**59**			**55**			**58**
Standardised approach	**19**	**31**	**63**	**79**	**87**	**88**	**49**
Central governments and central banks	**0**	**0**	**2**	**1**	**10**	**0**	**0**
Institutions	**3**	**100**	**37**	**53**			**34**
Corporates	**84**	**91**	**89**	**96**	**89**	**99**	**91**
Retail	**79**	**75**	**75**	**75**	**78**	**74**	**76**
Secured on real estate property	**41**	**43**	**49**	**56**	**92**	**60**	**56**
Past due items	**122**	**127**	**131**	**124**	**124**	**141**	**131**
Regional governments or local authorities				**100**		**92**	**93**
Equity	**124**	**100**		**100**	**100**	**100**	**105**
Other items[3]	**61**	**19**	**78**	**69**	**85**	**64**	**48**
Total	**28**	**26**	**49**	**66**	**57**	**72**	**40**

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

	Europe %	Hong Kong %	Rest of Asia-Pacific %	MENA %	North America %	Latin America %	Total %
At 31 December 2012							
RWA density							
IRB advanced approach	29	22	35	36	56	37	35
Retail:							
secured on real estate property	7	7	11		135		41
qualifying revolving retail	25	24			33		25
SMEs[1]	55				58		52
other retail	22	12	2		103		29
Total retail	15	13	10		126		38
Central governments and central banks	8	2	15	39	3	35	10
Institutions	29	16	18	28	14	47	21
Corporates	49	47	63		52		53
Equity	370						370
Securitisation positions[2]	57	11	48		22		54
IRB foundation approach	53			53			53
Corporates	53			53			53
Standardised approach	32	30	61	84	88	87	55
Central governments and central banks	0	0	2	0	100	100	1
Institutions	5	65	35	44			34
Corporates	91	90	91	98	88	98	93
Retail	77	75	75	75	83	75	76
Secured on real estate property	55	54	49	57	62	59	53
Past due items	126	132	135	130	129	144	136
Regional governments or local authorities				100		84	86
Equity	100	100	100		100		100
Other items[3]	62	17	78	62	91	63	50
Total	30	23	48	67	58	72	41

For footnotes, see page 33.

Key points

In general, standardised RWA densities show a greater consistency across regions and exposure classes than IRB advanced, as the IRB advanced approach reflects the relative risks of the different portfolios to a greater extent.

Central government and central bank RWA densities under the IRB advanced approach have increased across most regions due to the implementation of a floor for loss-given-default of 45% as required by the PRA. Adverse internal sovereign rating changes in Egypt and Hong Kong and favourable changes for the US also contributed to the movement in RWA density.

RWA densities for retail secured on real estate property are higher in North America than other regions due to the challenging conditions in the US mortgage market in recent years. RWA densities are lower in the UK and Hong Kong because of the resilience of the residential property sector in those markets which warrants the application of lower loss metrics for those exposures.

Reductions in RWA density for retail secured on real estate property for the Group were due to high quality exposure growth in the UK and Hong Kong markets continued run-off, the sale of loans, and assets moving into default in the US CML portfolio in North America; and the sale of the HFC Bank UK secured loan portfolio in Europe. The latter portfolios carry higher RWA densities.

Sale of non-real estate exposures in the US CML portfolio has improved the RWA density for the IRB advanced other retail exposure class in North America and for the Group.

A change in treatment for the low RWA density Lombard lending portfolio in Hong Kong and the UK from IRB advanced other retail to standardised corporate was the main driver for the increase in RWA density in the Hong Kong IRB advanced other retail exposure class.

Business restructuring for a portfolio of SME exposures in Europe enabled a change in treatment from Corporate to Retail SME, improving the RWA density for the Retail SME exposure class.

Refer to tables 7 and 11-13 Key points and Movements in RWAs commentary on Page 17 for additional information.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 15: Credit risk exposure by industry sector

	Exposure value								
	Personal US$bn	Manu-facturing US$bn	Inter-national trade and services US$bn	Property and other business activities US$bn	Government and public admin-istration US$bn	Other commercial US$bn	Financial US$bn	Non-customer assets US$bn	Total US$bn
At 31 December 2013									
IRB advanced approach	**426.7**	**118.9**	**113.8**	**151.7**	**107.2**	**73.8**	**476.7**		**1,468.8**
Retail:									
secured on real estate property	310.7								310.7
qualifying revolving retail	66.9								66.9
SMEs[1]		0.9	1.7	14.2	0.4	0.9	0.5		18.6
other retail	46.7				0.1				46.8
Total retail	424.3	0.9	1.7	14.2	0.5	0.9	0.5		443.0
Central governments and central banks					90.4	0.2	251.1		341.7
Institutions					0.2		129.8		130.0
Corporates	2.4	118.0	112.1	137.5	16.1	72.7	49.9		508.7
Equity									
Securitisation positions[2]							45.4		45.4
IRB foundation approach		**8.6**	**5.9**	**1.1**	**0.4**	**4.2**	**3.4**		**23.6**
Corporates		8.6	5.9	1.1	0.4	4.2	3.4		23.6
Standardised approach	**89.4**	**58.9**	**50.7**	**44.0**	**81.0**	**46.2**	**238.8**	**58.7**	**667.7**
Central governments and central banks					56.9		163.1		220.0
Institutions							35.2		35.2
Corporates	3.2	57.5	47.4	35.1	21.1	44.1	13.4		221.8
Retail	42.5	1.0	1.9	1.2	0.2	0.6	0.3		47.7
Secured on real estate property	41.3	0.1	1.1	7.0		0.9			50.4
Past due items	2.4	0.3	0.3	0.4	0.1	0.6			4.1
Regional governments or local authorities					0.8				0.8
Equity							3.3		3.3
Other items[3]				0.3	1.9		23.5	58.7	84.4
	516.1	**186.4**	**170.4**	**196.8**	**188.6**	**124.2**	**718.9**	**58.7**	**2,160.1**

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

	Exposure value								
	Personal US$bn	Manu-facturing US$bn	International trade and services US$bn	Property and other business activities US$bn	Government and public admin-istration US$bn	Other commercial US$bn	Financial US$bn	Non-customer assets US$bn	Total US$bn
At 31 December 2012									
IRB advanced approach	443.6	115.0	103.6	126.9	98.5	70.0	512.4		1,470.0
Retail:									
secured on real estate property	317.4								317.4
qualifying revolving retail	64.0								64.0
SMEs[1]		0.8	2.4	6.8	0.7	1.6	0.8		13.1
other retail	60.1								60.1
Total retail	441.5	0.8	2.4	6.8	0.7	1.6	0.8		454.6
Central governments and central banks					77.3	0.2	278.3		355.8
Institutions		0.1			1.0		130.0		131.1
Corporates	2.1	114.1	101.2	120.1	19.5	68.2	53.9		479.1
Equity							0.3		0.3
Securitisation positions[2]							49.1		49.1
IRB foundation approach		6.4	4.2	1.9	0.6	3.4	2.9		19.4
Corporates		6.4	4.2	1.9	0.6	3.4	2.9		19.4
Standardised approach	90.3	60.3	56.3	58.9	75.5	51.3	208.0	80.9	681.5
Central governments and central banks					46.6		130.8		177.4
Institutions							57.5		57.5
Corporates	2.8	59.0	53.2	52.0	24.7	48.5	14.3		254.5
Retail	45.6	1.1	2.5	1.4	1.2	0.8	0.3		52.9
Secured on real estate property	39.1			4.8		1.3	0.1		45.3
Past due items	2.8	0.2	0.5	0.3	0.1	0.4	0.1		4.4
Regional governments or local authorities					1.0		0.2		1.2
Equity				0.2		0.2	2.4		2.8
Other items[3]			0.1	0.2	1.9	0.1	2.3	80.9	85.5
	533.9	181.7	164.1	187.7	174.6	124.7	723.3	80.9	2,170.9

For footnotes see page 33.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 16: Credit risk exposure by residual maturity

	Exposure value					
	Less than 1 year US$bn	Between 1 and 5 years US$bn	More than 5 years US$bn	Undated US$bn	Total US$bn	RWAs US$bn
At 31 December 2013						
IRB advanced approach	**642.5**	**405.0**	**421.3**		**1,468.8**	**521.2**
Retail:						
secured on real estate property	**2.8**	**5.0**	**302.9**		**310.7**	**105.4**
qualifying revolving retail	**66.9**				**66.9**	**15.4**
SMEs[1]	**3.8**	**8.7**	**6.1**		**18.6**	**8.9**
other retail	**7.0**	**23.1**	**16.7**		**46.8**	**11.0**
Total retail	**80.5**	**36.8**	**325.7**		**443.0**	**140.7**
Central governments and central banks	**206.4**	**106.1**	**29.2**		**341.7**	**53.0**
Institutions	**99.1**	**29.9**	**1.0**		**130.0**	**28.0**
Corporates	**223.1**	**230.6**	**55.0**		**508.7**	**279.7**
Equity						
Securitisation positions[2]	**33.4**	**1.6**	**10.4**		**45.4**	**19.8**
IRB foundation approach	**10.6**	**11.5**	**1.5**		**23.6**	**13.6**
Corporates	**10.6**	**11.5**	**1.5**		**23.6**	**13.6**
Standardised approach	**248.0**	**233.5**	**101.2**	**85.0**	**667.7**	**329.5**
Central governments and central banks	**154.9**	**50.4**	**14.7**		**220.0**	**0.7**
Institutions	**17.9**	**4.3**	**13.0**		**35.2**	**12.1**
Corporates	**53.7**	**146.7**	**21.2**	**0.2**	**221.8**	**202.1**
Retail	**15.7**	**19.6**	**12.4**		**47.7**	**36.1**
Secured on real estate property	**2.7**	**9.2**	**38.5**		**50.4**	**28.4**
Past due items	**2.4**	**1.0**	**0.7**		**4.1**	**5.4**
Regional governments or local authorities	**0.3**	**0.1**	**0.4**		**0.8**	**0.8**
Equity				**3.3**	**3.3**	**3.5**
Other items[3]	**0.4**	**2.2**	**0.3**	**81.5**	**84.4**	**40.4**
	901.1	**650.0**	**524.0**	**85.0**	**2,160.1**	**864.3**
At 31 December 2012						
IRB advanced approach	647.2	385.3	437.1	0.4	1,470.0	513.6
Retail:						
secured on real estate property	3.1	6.1	308.2		317.4	130.8
qualifying revolving retail	64.0				64.0	16.2
SMEs[1]	1.4	7.3	4.4		13.1	6.8
other retail	8.5	39.2	12.4		60.1	17.2

Total retail	77.0	52.6	325.0		454.6	171.0
Central governments and central banks	213.5	100.4	41.9		355.8	36.8
Institutions	103.6	26.5	0.9	0.1	131.1	27.0
Corporates	218.9	203.2	57.0		479.1	251.6
Equity				0.3	0.3	0.9
Securitisation positions[2]	34.2	2.6	12.3		49.1	26.3
IRB foundation approach	10.2	7.8	1.4		19.4	10.3
Corporates	10.2	7.8	1.4		19.4	10.3
Standardised approach	180.4	352.1	62.7	86.3	681.5	374.5
Central governments and central banks	88.5	83.5	5.4		177.4	0.9
Institutions	0.7	56.3	0.5		57.5	19.4
Corporates	64.7	175.2	14.5	0.1	254.5	237.3
Retail	19.8	28.7	4.4		52.9	40.1
Secured on real estate property	3.0	6.6	35.7		45.3	24.0
Past due items	3.0	0.8	0.6		4.4	6.0
Regional governments or local authorities	0.7	0.1	0.4		1.2	1.0
Equity				2.8	2.8	2.8
Other items[3]		0.9	1.2	83.4	85.5	43.0
	837.8	745.2	501.2	86.7	2,170.9	898.4

For footnotes see page 33.

Key points

Movements for each exposure class are mainly attributable to the various drivers of exposure movements explained in the Key points for tables 7, 11 and 12, and are not reflective of any significant restructuring of customer or other third-party obligations.

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Application of the IRB approach

The narrative explanations that follow relate to the IRB approaches: advanced and foundation IRB for distinct customers and advanced IRB for the portfolio-managed retail business. Details of our use of the standardised approach can be found on page 67.

Our Group IRB credit risk rating framework incorporates obligor propensity to default expressed in PD, and loss severity in the event of default expressed in EAD and LGD. These measures are used to calculate regulatory EL and capital requirements. They are also used with other inputs to inform rating assessments for the purpose of credit approval and many other management decisions.

Use of internal estimates

PDs, LGDs, and EAD applied in the calculation of regulatory capital requirements are also extensively used for other purposes, for example:

- credit approval and monitoring: IRB models are used in the assessment of customer and portfolio risk in lending decisions;
- risk appetite: IRB measures are an important element in identifying risk exposure at customer, sector, and portfolio level;
- pricing: IRB parameters are used in wholesale pricing tools for new transactions and reviews; and
- economic capital and portfolio management: IRB parameters are used in the economic capital model that has been implemented across HSBC.

Roll-out of the IRB approach

We have adopted the Basel II advanced approach for the majority of our business. At the end of 2013, portfolios in much of Europe, Hong Kong, Rest of Asia-Pacific and North America were on advanced IRB approaches. Others remain on the standardised or foundation approaches pending the definition of local regulations or model approval, or under exemptions or exclusion from IRB treatment. Under our Basel II IRB roll-out plans, a number of our Group companies and portfolios are in transition to advanced IRB approaches.

Under the advanced IRB approach, banks are allowed to develop their own empirical models to quantify required capital for credit risk. All such models developed by us, and any material changes to those models, must be approved by the PRA, subject to de minimis exceptions. Material changes are those that individually have a high impact, or where a number of small changes in aggregate have a high impact. The PRA sets quantitative and qualitative materiality thresholds for these model changes, and requires us to obtain their approval before implementation.

In October 2012, to increase the effectiveness of this process, the FSA introduced an annual review of IRB usage, focusing on the proportion of total credit risk assets for which IRB approaches are used.

Banks have experienced difficulties in adopting advanced IRB in some cases, for example in portfolios which have very low levels of default, such that the PD, LGD and EAD cannot be assessed to a sufficiently high degree of confidence due to a lack of default or loss data. Difficulties also arise in countries where the rules and requirements of the local regulator s implementation of Basel II are different from those of the PRA, or where the regulators have introduced capital floors and overlays to mitigate perceived model deficiencies. Tables 17 and 20 below detail several material regulatory thresholds and overlays. Whilst recognising the complexity of adopting IRB in some situations, we remain committed to working constructively with our regulators to achieve acceptable roll-out plans.

The wholesale risk rating system

This section describes how we build and operate our credit risk analytical models, and use IRB metrics, in wholesale customer business.

PDs for wholesale customer segments, that is central governments and central banks, financial institutions and corporate customers, and for certain individually assessed personal customers, are estimated using a Customer Risk Rating (CRR) master scale of 23 grades. Of these, 21 are non-default grades representing varying degrees of strength of financial condition, and two are default grades.

The score generated by a credit risk rating model for the obligor is mapped to a corresponding PD and master-scale CRR. The CRR is then reviewed by a credit approver who, taking into account all relevant information, such as most recent events and market data, where available, makes the final decision on the rating. The rating assigned therefore reflects the approver s overall view of the obligor s credit standing and propensity to default.

The finally assigned CRR determines the applicable master-scale PD range from which the reference PD, generally the arithmetical mid-point, is used in the regulatory capital calculation.

Reviewing the initial model score, relationship managers may propose a different CRR from that indicated, where they believe this more appropriate. Such amendments may only be made through an override process and must be approved by the Credit

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function. Overrides for each model are recorded, and override levels are reviewed, as part of the model management process.

The CRR is assigned at obligor level, which means that separate exposures to the same obligor are generally subject to a single, consistent rating. Where unfunded credit risk mitigants such as guarantees apply, these may also influence the final assignment of a CRR to an obligor. The impact of unfunded risk mitigants is considered for IRB approaches on page 66 and for the standardised approach on page 68.

If an obligor is in default on any material credit obligation to the Group, all of the obligor s facilities from the Group are considered to be in default.

Under the IRB approach, obligors are grouped into grades that have similar PD or anticipated default frequency. The anticipated default frequency may be estimated using all relevant information at the relevant date (Point-in-time or PIT rating system), or be free of the effects of the credit cycle (Through-the-cycle or TTC rating system).

We generally utilise a hybrid approach of PIT and TTC. That is, while models are calibrated to long-run default rates, obligor ratings are reviewed annually, or more frequently if necessary to reflect change in their circumstances and/or their economic operating environment.

Thus, over the economic cycle, a cycle will also appear in CRR migration. The influence of longer-term economic cycle factors implied by the model s calibration, combined with the effect of ongoing credit review, will result in long-term PDs generally above the actual default frequency during benign economic periods, but not changing so fast in a downturn. In practice, under a hybrid approach, ratings tend to be more volatile than would be the case in a pure TTC system, but less volatile than in a pure PIT one.

Moreover, our policy requires approvers to downgrade ratings on expectations, but to upgrade them only on performance. Therefore, ratings will typically migrate during a downturn in response to higher perceived risks, but be upgraded more slowly in an upswing. This leads to expected defaults overall typically exceeding actual defaults.

For EAD and LGD estimation, operating entities are permitted, subject to overview by Group Risk, to use their own modelling approaches for those parameters to suit conditions in their jurisdictions. Group Risk provides co-ordination, benchmarks, and the sharing and promotion of best practice on EAD and LGD estimation.

EAD is estimated to a 12-month forward time horizon and represents the current exposure plus an estimate for future increases in exposure taking into account such factors as available but undrawn facilities, and the realisation of contingent exposures post-default.

LGD is based on the effects of facility and collateral structure on outcomes post-default. This includes such factors as the type of client, the facility seniority, the type and value of collateral, past recovery experience and priority under law. It is expressed as a percentage of EAD.

Wholesale models

To determine credit ratings for the different types of wholesale obligor, many different models and scorecards are used for PD, LGD, and EAD; there are over one hundred wholesale IRB models in use or under development within HSBC. These models may be differentiated by region, customer segment and/or customer size. For example, PD models are differentiated for all of our key customer segments, including sovereigns, financial institutions, large, medium and small sized corporates.

Global PD models have been developed for asset classes or clearly identifiable segments of asset classes where the customer relationship is managed globally, for example sovereigns, financial institutions and the largest corporate clients, typically those which operate internationally.

Local PD models, specific to a particular country, region, or sector, are developed for other obligors. This includes corporate clients when they show distinct characteristics in common in a particular geography. The most material local Corporate PD models are the UK mid-market PD model, and the Hong Kong and Rest of Asia-Pacific mid-market models.

The two major drivers of model methodology are the nature of the portfolio and the availability of internal or external data on historical defaults and risk factors. For some historically low-default portfolios, e.g. sovereign and financial institutions, a model will rely more heavily on external data and/or the input of an expert panel. By contrast, where sufficient data is available, models are built on a statistical basis, although the input of expert judgement may still form an important part of the overall model development methodology.

Most LGD and EAD models are developed according to local circumstances taking into account legal and procedural differences in the recovery and workout processes. However, our approach to EAD

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and LGD also encompasses global models for central governments and central banks, and for institutions, as exposures to these customer types are managed centrally by Global Risk. In 2013 the PRA required all firms to apply an LGD floor of 45% for senior unsecured exposure to sovereign entities. This floor was applied to reflect the relative paucity of loss observations across all firms in relation to these obligors. This floor is applied for the purposes of regulatory capital reporting.

In addition, the PRA has published guidance on the appropriateness of LGD models for low default portfolios generally. The PRA has determined that there should be at least 20 defaults per country per collateral type for LGD models to be approved. Where there are insufficient defaults, an LGD floor will be applied. As a result, in 2014, we will be required to apply LGD floors for our banks portfolio and some Asia-Pacific corporate portfolios where there are insufficient loss observations.

In the same guidance, the PRA also indicated that it considered income producing real estate to be an asset class that would be difficult to model. As a result, we have migrated to the supervisory slotting approach for our UK commercial real estate (CRE) portfolio during the year and have migrated our US

Income Producing CRE portfolio on to the standardised approach.

Local models for the corporate exposure class are developed using various data inputs, including collateral information and geography (for LGD) and product type (for EAD). The most material corporate models are the UK, Hong Kong and Rest of Asia-Pacific models, all of which are developed using more than 10 years worth of data. The LGD models are calibrated to a period of credit stress or downturn in economic conditions. The global LGD models for sovereigns and for banks reflect the expected increase in observed losses during an economic downturn period.

None of the EAD models are calibrated for a downturn, as analysis shows that utilisation decreases during a downturn because credit stress is accompanied by more intensive limit monitoring and facility reduction.

Table 17 below sets out the key characteristics of the significant wholesale credit risk models that drive the capital calculation split by Basel wholesale asset class, with their associated RWAs, including the number of models for each component, the model method or approach and the number of years of loss data used.

Table 17: Wholesale IRB credit risk models

Basel asset classes measured	RWAs for associated asset class US$bn	Compo-nent	Number of significant models	Model description and methodology	Number of years loss data
		PD	1	A constrained expert judgement model using a combination of expert judgement and quantitative analysis. The model inputs include macro-economic and political factors.	7

Central governments and central banks	**53.0**	LGD	1	An unsecured model built on assessesment of structural factors that influence country s long term economic performance. Floor of 45%, applied as required by the PRA.	7
		EAD	1	Because of limited internal default experience and sparse historical data on utilisations and limits, the model was developed based on a combination of expert judgement and similar exposure types.	7
Institutions	**28.0**	PD	1	The model is a combination of expert judgement and statistical analysis. The model inputs include balance sheet information, country risk factors and qualitative data.	9
		LGD	1	Regression model that produces a downturn LGD and expected LGD. Inputs include collateral and country risk data.	9
		EAD	1	Regression based model that predicts Credit Conversion Factors taking into account current utilisation, available headroom, product type, and committed/uncommitted indicator.	9

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Table 17: Wholesale IRB credit risk models (continued)

Basel asset classes measured	RWAs for associated asset class US$bn	Compo-nent	Number of significant models	Model description and methodology	Number of years loss data
Corporates[1]	**269.2**				
Global large corporates		PD	1	Even though the portfolio is low-default, the model is statistically built and calibrated on 15 years of data. The inputs include balance sheet information, market data, macroeconomic and country risk indicators and qualitative factors.	>10
Other corporates		PD	5	Corporates that fall below the Global large corporate threshold are rated through local PD models, which reflect regional circumstances. These models use balance sheet data, behavioural data and qualitative information to derive a statistically built PD.	>10
All corporates		LGD	3	Local statistical models covering all corporates including Global large corporates developed using various data inputs, including collateral information, recoveries and geography.	>7
		EAD	3	Local statistical models developed using various data inputs, including product type and geography.	>7

1 *Excludes specialised lending exposures subject to supervisory slotting approach (RWAs: US$24.1bn).*

Table 18 below sets out IRB exposures, Basel metrics, RWA density and RWAs for our most material corporate portfolios broken down by region.

Table 18: Corporate IRB portfolio analysis[1]

	Exposure	Average PD[2]	Average	RWA	RWAs US$bn

	value US$bn	%	LGD[2] %	density[2] %	
At 31 December 2013					
Europe	**157.0**	**4.21**	**32.1**	**52**	**82.1**
Hong Kong	**113.4**	**1.00**	**39.2**	**50**	**56.3**
Rest of Asia-Pacific	**109.5**	**1.71**	**47.4**	**63**	**69.0**
Middle East and North Africa	**7.1**	**5.36**	**44.5**	**54**	**3.8**
North America	**112.6**	**1.41**	**37.6**	**52**	**58.0**
	499.6	**2.32**	**38.5**	**54**	**269.2**

1 *Excludes specialised lending exposures subject to supervisory slotting approach (EAD: US$32.7bn; RWAs: US$24.1bn).*
2 *Average PD, average LGD and RWA density percentages represent an exposure-weighted average.*

Table 19 and the graphs below set out IRB exposures by obligor grade for central governments and central banks, institutions and corporates, all of which are assessed using our 23-grade CRR master scale. We benchmark the master scale against the ratings of external rating agencies. Each CRR band is associated with an external rating grade by reference to long-run default rates for that grade, represented by the average of issuer-weighted historical default rates.

The correspondence between the agency long-run default rates and the PD ranges of our master scale is obtained by matching a smoothed curve

based on those default rates with our master scale reference PDs. This association between internal and external ratings is indicative and may vary over time. In these tables, the ratings of Standard and Poor s (S&P) are cited for illustration purposes, though we also benchmark against other agencies ratings in an equivalent manner.

For further details of the Group s approach to credit quality classification, please see the definition of obligor grade in the glossary, and also page 267 of the Annual Report and Accounts 2013.

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Table 19: Wholesale IRB exposure by obligor grade[1]

(a) Central governments and central banks

	CRR	PD range %	Exposure value[2] US$bn	Average PD[3] %	Average LGD[3] %	RWA density[3] %	RWAs US$bn	Mapped external rating
At 31 December 2013								
Default risk								
Minimal	0.1	**0.000 to 0.010**	**132.4**	**0.01**	**45.1**	**7**	**9.3**	**AAA to AA+**
	1.1	**0.011 to 0.028**	**74.3**	**0.02**	**45.0**	**6**	**4.8**	**AA to AA**
	1.2	**0.029 to 0.053**	**38.7**	**0.04**	**45.0**	**14**	**5.6**	**A+**
Low	2.1	**0.054 to 0.095**	**64.1**	**0.07**	**45.0**	**18**	**11.7**	**A**
	2.2	**0.096 to 0.169**	**11.4**	**0.13**	**45.0**	**29**	**3.3**	**A**
Satisfactory	3.1	**0.170 to 0.285**	**5.3**	**0.22**	**45.0**	**42**	**2.2**	**BBB+**
	3.2	**0.286 to 0.483**	**3.7**	**0.37**	**45.0**	**49**	**1.8**	**BBB to BBB**
	3.3	**0.484 to 0.740**	**2.4**	**0.63**	**45.0**	**67**	**1.6**	**BBB**
Fair	4.1	**0.741 to 1.022**	**1.1**	**0.87**	**45.0**	**82**	**0.9**	**BB+**
	4.2	**1.023 to 1.407**	**0.2**	**1.20**	**45.0**	**100**	**0.2**	**BB**
	4.3	**1.408 to 1.927**	**0.3**	**1.65**	**45.2**			**BB**
Moderate	5.1	**1.928 to 2.620**	**0.9**	**2.25**	**45.0**	**111**	**1.0**	**BB**
	5.2	**2.621 to 3.579**	**1.4**	**3.05**	**45.0**	**121**	**1.7**	**B+**
	5.3	**3.580 to 4.914**	**1.1**	**4.20**	**45.0**	**136**	**1.5**	**B+**
Significant	6.1	**4.915 to 6.718**	**0.3**	**5.75**	**45.4**	**167**	**0.5**	**B**
	6.2	**6.719 to 8.860**	**3.7**	**7.85**	**45.0**	**168**	**6.2**	**B**
High	7.1	**8.861 to 11.402**	**0.4**	**10.00**	**45.0**	**175**	**0.7**	**B**
	7.2	**11.403 to 15.000**						**CCC+**
Special management	8.1	**15.001 to 22.000**						**CCC**
	8.2	**22.001 to 50.000**						**CCC**
	8.3	**50.001 to 99.999**						**CC to C**
Default[4]	9/10	**100.000**						**Default**
			341.7	**0.17**	**45.0**	**16**	**53.0**	
At 31 December 2012								
Default risk								
Minimal	0.1	0.000 to 0.010	110.7	0.01	11.0	1	1.2	AAA to AA+
	1.1	0.011 to 0.028	116.6	0.02	13.2	3	3.6	AA to AA
	1.2	0.029 to 0.053	34.5	0.04	22.6	7	2.3	A+
Low	2.1	0.054 to 0.095	60.6	0.07	33.4	15	9.0	A
	2.2	0.096 to 0.169	9.0	0.13	37.5	28	2.5	A
Satisfactory	3.1	0.170 to 0.285	6.9	0.22	44.3	38	2.6	BBB+
	3.2	0.286 to 0.483	3.3	0.37	41.8	56	1.9	BBB to BBB
	3.3	0.484 to 0.740	4.9	0.63	45.0	64	3.1	BBB

Fair	4.1	0.741 to 1.022	0.8	0.87	35.0	66	0.5	BB+
	4.2	1.023 to 1.407	0.3	1.20	37.8	98	0.3	BB
	4.3	1.408 to 1.927	0.7	1.65	45.0	62	0.4	BB
Moderate	5.1	1.928 to 2.620	1.5	2.25	45.0	110	1.6	BB
	5.2	2.621 to 3.579	3.9	3.05	45.0	124	4.9	B+
	5.3	3.580 to 4.914	1.6	4.20	45.1	134	2.2	B+
Significant	6.1	4.915 to 6.718	0.4	5.75	35.2	118	0.5	B
	6.2	6.719 to 8.860	0.1	7.85	45.0	168	0.2	B
High	7.1	8.861 to 11.402						B
	7.2	11.403 to 15.000						CCC+
Special management	8.1	15.001 to 22.000						CCC
	8.2	22.001 to 50.000						CCC
	8.3	50.001 to 99.999						CC to C
Default[4]	9/10	100.000						Default
			355.8	0.13	19.6	10	36.8	

For footnotes, see page 48.

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Table 19: Wholesale IRB exposure by obligor grade[1] (continued)

(b) Institutions

	CRR	PD range %	Exposure value[2] US$bn	Average PD[3] %	Average LGD[3] %	RWA density[3] %	RWAs US$bn	Mapped external rating
At 31 December 2013								
Default risk								
Minimal	0.1	**0.000 to 0.010**	**4.2**	**0.03**	**27.5**	**7**	**0.3**	**AAA to AA+**
	1.1	**0.011 to 0.028**	**13.9**	**0.03**	**28.1**	**6**	**0.9**	**AA to AA**
	1.2	**0.029 to 0.053**	**15.4**	**0.04**	**28.5**	**8**	**1.2**	**A+**
Low	2.1	**0.054 to 0.095**	**48.1**	**0.07**	**34.2**	**12**	**5.7**	**A**
	2.2	**0.096 to 0.169**	**17.9**	**0.13**	**34.5**	**20**	**3.6**	**A**
Satisfactory	3.1	**0.170 to 0.285**	**10.7**	**0.22**	**35.6**	**28**	**3.0**	**BBB+**
	3.2	**0.286 to 0.483**	**8.6**	**0.37**	**36.3**	**37**	**3.2**	**BBB to BBB**
	3.3	**0.484 to 0.740**	**3.9**	**0.63**	**37.3**	**54**	**2.1**	**BBB**
Fair	4.1	**0.741 to 1.022**	**2.0**	**0.87**	**38.4**	**60**	**1.2**	**BB+**
	4.2	**1.023 to 1.407**	**1.4**	**1.20**	**35.8**	**71**	**1.0**	**BB**
	4.3	**1.408 to 1.927**	**0.7**	**1.65**	**44.1**	**100**	**0.7**	**BB**
Moderate	5.1	**1.928 to 2.620**	**0.4**	**2.25**	**45.4**	**100**	**0.4**	**BB**
	5.2	**2.621 to 3.579**	**0.7**	**3.05**	**34.5**	**100**	**0.7**	**B+**
	5.3	**3.580 to 4.914**	**0.3**	**4.20**	**59.7**	**167**	**0.5**	**B+**
Significant	6.1	**4.915 to 6.718**	**0.3**	**5.75**	**69.7**	**200**	**0.6**	**B**
	6.2	**6.719 to 8.860**	**0.2**	**7.85**	**72.7**	**250**	**0.5**	**B**
High	7.1	**8.861 to 11.402**	**0.9**	**10.00**	**49.7**	**211**	**1.9**	**B**
	7.2	**11.403 to 15.000**	**0.2**	**13.00**	**52.5**	**200**	**0.4**	**CCC+**
Special management	8.1	**15.001 to 22.000**						**CCC**
	8.2	**22.001 to 50.000**						**CCC**
	8.3	**50.001 to 99.999**						**CC to C**
Default[4]	9/10	**100.000**	**0.2**	**100.00**	**47.0**	**50**	**0.1**	**Default**
			130.0	**0.46**	**33.6**	**22**	**28.0**	
At 31 December 2012								
Default risk								
Minimal	0.1	0.000 to 0.010	5.5	0.03	17.3	5	0.3	AAA to AA+
	1.1	0.011 to 0.028	12.2	0.03	27.0	6	0.7	AA to AA
	1.2	0.029 to 0.053	17.0	0.04	25.7	8	1.3	A+
Low	2.1	0.054 to 0.095	45.0	0.07	34.2	12	5.4	A
	2.2	0.096 to 0.169	26.3	0.13	33.1	19	5.1	A
Satisfactory	3.1	0.170 to 0.285	8.3	0.22	35.0	28	2.3	BBB+
	3.2	0.286 to 0.483	6.6	0.37	35.2	37	2.4	BBB to BBB
	3.3	0.484 to 0.740	2.2	0.63	34.5	53	1.2	BBB

Fair	4.1	0.741 to 1.022	2.5	0.87	36.3	62	1.6	BB+
	4.2	1.023 to 1.407	2.0	1.20	37.5	72	1.4	BB
	4.3	1.408 to 1.927	0.5	1.65	43.0	93	0.5	BB
Moderate	5.1	1.928 to 2.620	0.2	2.25	45.0	105	0.2	BB
	5.2	2.621 to 3.579	0.7	3.05	49.8	131	0.9	B+
	5.3	3.580 to 4.914	0.4	4.20	55.2	156	0.6	B+
Significant	6.1	4.915 to 6.718	0.5	5.75	67.8	221	1.1	B
	6.2	6.719 to 8.860	0.2	7.85	56.7	216	0.5	B
High	7.1	8.861 to 11.402	0.5	10.00	38.2	156	0.8	B
	7.2	11.403 to 15.000	0.3	13.00	48.8	211	0.6	CCC+
Special management	8.1	15.001 to 22.000						CCC
	8.2	22.001 to 50.000						CCC
	8.3	50.001 to 99.999	0.1	75.00	50.7	134	0.1	CC to C
Default[4]	9/10	100.000	0.1	100.00	60.8			Default
			131.1	0.39	32.1	21	27.0	

For footnotes, see page 48.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 19: Wholesale IRB exposure by obligor grade[1] (continued)

(c) Corporates[5]

	CRR	PD range %	Exposure value[2] US$bn	Average PD[3] %	Average LGD[3] %	RWA density[3] %	RWAs US$bn	Mapped external rating
At 31 December 2013								
Default risk								
Minimal	0.16	**0.000 to 0.010**						
	1.1	**0.011 to 0.028**	**12.5**	**0.03**	**42.7**	**15**	**1.9**	**AAA to AA**
	1.2	**0.029 to 0.053**	**30.1**	**0.04**	**37.5**	**14**	**4.2**	**A+**
Low	2.1	**0.054 to 0.095**	**55.7**	**0.07**	**39.0**	**21**	**11.7**	**A**
	2.2	**0.096 to 0.169**	**64.5**	**0.13**	**41.5**	**31**	**20.3**	**A**
Satisfactory	3.1	**0.170 to 0.285**	**71.3**	**0.22**	**39.9**	**40**	**28.7**	**BBB+**
	3.2	**0.286 to 0.483**	**64.2**	**0.37**	**38.8**	**52**	**33.1**	**BBB to BBB**
	3.3	**0.484 to 0.740**	**49.1**	**0.63**	**37.9**	**64**	**31.6**	**BBB**
Fair	4.1	**0.741 to 1.022**	**32.8**	**0.87**	**36.9**	**73**	**23.8**	**BB+**
	4.2	**1.023 to 1.407**	**28.1**	**1.20**	**37.1**	**81**	**22.8**	**BB**
	4.3	**1.408 to 1.927**	**29.3**	**1.65**	**36.3**	**89**	**26.0**	**BB**
Moderate	5.1	**1.928 to 2.620**	**20.2**	**2.25**	**33.9**	**93**	**18.8**	**BB**
	5.2	**2.621 to 3.579**	**12.9**	**3.05**	**38.5**	**112**	**14.6**	**B+**
	5.3	**3.580 to 4.914**	**9.8**	**4.20**	**35.5**	**115**	**11.3**	**B+**
Significant	6.1	**4.915 to 6.718**	**4.4**	**5.75**	**33.7**	**125**	**5.5**	**B**
	6.2	**6.719 to 8.860**	**3.1**	**7.85**	**38.0**	**158**	**4.9**	**B**
High	7.1	**8.861 to 11.402**	**2.1**	**10.00**	**32.6**	**148**	**3.1**	**B**
	7.2	**11.403 to 15.000**	**0.7**	**13.00**	**28.9**	**171**	**1.2**	**CCC+**
Special management	8.1	**15.001 to 22.000**	**1.0**	**19.00**	**35.5**	**190**	**1.9**	**CCC**
	8.2	**22.001 to 50.000**	**0.4**	**36.00**	**26.8**	**150**	**0.6**	**CCC**
	8.3	**50.001 to 99.999**	**0.3**	**75.00**	**34.5**	**100**	**0.3**	**CC to C**
Default[4]	9/10	**100.000**	**7.1**	**100.00**	**36.2**	**41**	**2.9**	**Default**
			499.6	**2.32**	**38.5**	**54**	**269.2**	
At 31 December 2012								
Default risk								
Minimal	0.16	0.000 to 0.010						
	1.1	0.011 to 0.028	11.9	0.03	38.3	14	1.6	AAA to AA
	1.2	0.029 to 0.053	30.9	0.04	40.7	14	4.5	A+
Low	2.1	0.054 to 0.095	55.2	0.07	40.6	20	11.1	A
	2.2	0.096 to 0.169	65.5	0.13	41.7	31	20.2	A
Satisfactory	3.1	0.170 to 0.285	62.9	0.22	37.5	39	24.5	BBB+
	3.2	0.286 to 0.483	55.4	0.37	37.8	49	27.2	BBB to BBB
	3.3	0.484 to 0.740	47.1	0.63	35.2	61	28.5	BBB
Fair	4.1	0.741 to 1.022	36.5	0.87	36.9	71	25.9	BB+
	4.2	1.023 to 1.407	27.7	1.20	35.7	78	21.5	BB
	4.3	1.408 to 1.927	26.3	1.65	36.0	85	22.4	BB

Moderate	5.1	1.928 to 2.620	23.3	2.25	32.6	89	20.8	BB
	5.2	2.621 to 3.579	13.1	3.05	36.7	107	14.1	B+
	5.3	3.580 to 4.914	8.1	4.20	34.0	112	9.1	B+
Significant	6.1	4.915 to 6.718	4.2	5.75	30.9	113	4.8	B
	6.2	6.719 to 8.860	2.5	7.85	36.7	151	3.8	B
High	7.1	8.861 to 11.402	3.3	10.00	32.9	150	5.0	B
	7.2	11.403 to 15.000	0.8	13.00	32.4	161	1.3	CCC+
Special management	8.1	15.001 to 22.000	1.0	19.00	36.6	196	1.9	CCC
	8.2	22.001 to 50.000	0.4	36.00	33.1	187	0.8	CCC
	8.3	50.001 to 99.999	0.3	75.00	32.2	102	0.4	CC to C
Default[4]	9/10	100.000	6.0	100.00	38.2	35	2.0	Default
			482.4	2.19	37.8	52	251.4	

For footnotes, see page 48.

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

1 *See glossary for definition of obligor grade.*
2 *Central governments and central banks exposure value includes US$1.8bn (2012: US$1.5bn) in undrawn commitments, institutions exposure value includes US$12.7bn (2012: US$14.3bn) and corporates exposure value includes US$313.1bn (2012: US$277.6bn).*
3 *Average PD, average LGD and RWA density percentages represent an exposure weighted average.*
4 *There is a requirement to hold additional capital for unexpected losses on defaulted exposures where LGD exceeds best estimate of EL. As a result, in some cases, RWAs arise for exposures in default.*
5 *Excludes specialised lending exposures subject to the supervisory slotting approach (EAD: US$32.7bn; RWA: US$24.1bn).*
6 *The top band of the wholesale CRR master scale is not available to entities in the corporates exposure class, but restricted to the strongest central governments, central banks and institutions.*

Key points

Central governments and central banks

Central government and central bank average LGD, RWA density and RWA movements reflect the implementation of a floor on the loss-given-default metric of 45% as required by the PRA.

Movements in the CRR 0.1 and CRR 1.1 bands reflect favourable migration for the US sovereign internal rating; and adverse internal rating migration for the Hong Kong sovereign.

Movements in the CRR 5.2 and CRR 6.2 bands are due to the adverse change in the sovereign internal rating for Egypt.

Institutions

Institutions exposures and risk distribution has remained stable overall for the Group during the period, as growth in Hong Kong from higher volumes of inter-bank and money-market lending was offset by reductions in North America and other regions. The average loss given default rate was marginally higher, reflecting the changes in product and geographical distribution.

Corporates

Term lending, revolving credit and trade finance business growth in Rest of Asia-Pacific, Hong Kong and North America have increased exposure in the Satisfactory and Fair bands with an adverse impact on the average PD of the portfolio.

Reductions in the Moderate and High bands were partly due to a reduction in exposures to customers with weaker credit standing in North America.

Adverse credit migration in Hong Kong and Rest of Asia-Pacific has also contributed to the reduction in exposures in the Low band and increases in Satisfactory and Fair bands.

Adverse movements in average LGD were partly a result of an overlay applied in Europe in response to increased observed loss rates and in advance of model recalibration contributing to higher RWAs and RWA density in the Satisfactory default band.

Changes in approach from Standardised to IRB (e.g. UK IPRE portfolio) or vice-versa (e.g. US CRE portfolio) or corporate IRB to retail IRB, have also contributed to movements in exposure, average risk metrics and RWAs.

Wholesale exposures by CRR Band

Wholesale 2013

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Wholesale 2012

Central governments and central banks

Institutions

Corporates

Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Retail risk rating systems

Owing to the different country-level portfolio performance characteristics and loss history, there are no global models for our retail portfolios. Our retail models are developed at a local level, based on portfolio behaviour and observed defaults. In the Group overall, we maintain over 800 retail behavioural or risk predictive scorecards and models. Of these, just under 300 are used with the PRA s approval under our IRB permission, the remainder being application or behavioural scorecards.

We classify approximately 30% by number of the retail IRB model population as constituting globally or regionally material risk rating systems, based on the criteria set out on page 32 and taking account of strategic importance to the Group. These material risk rating systems represented approximately 84% of our total retail IRB RWAs of US$144bn as presented in the last overall model validation review conducted in September 2013.

The ten most material risk rating systems by the above criteria, for which we disclose details of modelling methodology at table 20 below and performance data at table 26, represented RWAs of approximately US$104bn or 72% of those total retail IRB RWAs, the greater part being attributable to the five risk rating systems for residential mortgages, our most material retail exposure class.

All newly adopted IRB models for retail portfolios, irrespective of size, require PRA approval. For changes to existing IRB models, a PRA approval process applies to all but a list of *de minimis* exemptions representing an immaterial percentage of total Group credit risk RWAs. This approval process sets various quantitative and qualitative thresholds to ensure that all significant model changes go forward for approval.

When developing retail models, segmentation based on risk characteristics is often adopted to enhance the models discrimination and accuracy. The majority of our retail models are designed for a particular product or group of products in a specific country. We have developed and issued global internal model governance, development, validation and monitoring standards to ensure that locally developed models adhere, as far as possible, to consistent global standards. These permit specific variances in model approach, depending on local regulatory, legal or data requirements, which are used to determine and predict the risks in these portfolios.

Our models incorporate conservatism where required under regulatory rules. Additional levels of conservatism, varying from region to region, may arise from a methodological choice of ours or from a specific regulatory intervention, depending on the local assessment of the risk factors by us and the regulatory authorities. Regulators may additionally impose floor values for various metrics where data is scarce.

Our PD models are developed using statistical estimation based on a minimum of five years of historical data. The modelling approach is typically inherently TTC or, where a PIT approach is predominantly used, as in the UK, this becomes effectively TTC through the application of a regulatory uplift or buffer.

Our retail EAD models are also developed using at least five years of historical observations and typically adopt one of two approaches:

- for closed-end products without the facility for additional drawdowns, EAD is estimated as the outstanding balance of accounts at the time of observation; or
- EAD for products with the facility for additional drawdowns is estimated as the outstanding balance of accounts at the time of observation plus a CCF applied to the undrawn portion of the facility.

Our approach to LGD estimates has more variation, particularly in respect of the downturn period calculation that they generally include. For instance, UK mortgage models use a regulatory-defined downturn based on a minimum 40% decline in house prices from peak to trough.

In Hong Kong, the downturn LGD for the mortgage model is defined to be the period in 2003-2004 when Hong Kong experienced the Severe Acute Respiratory Syndrome and historical default rates and property price declines were at their most severe.

The most material US mortgage models derive LGD based on defaults that occurred in the period 2003-2008, which includes the relatively benign years prior to 2007. Pending PRA approval to use the new set of models we have developed, referred to as the Generation 2 (Gen2) models, we continued in 2013 to recalibrate and include agreed model adjustments and overlays to the existing Generation 1 (Gen1) model outputs.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 20: Material Retail IRB risk rating systems

Portfolio	Basel asset class	RWA US$bn[1]	Component model	Number of material component models	Model description and methodology	Number of years loss data[2]	Applicable Pillar 1 regulatory thresholds and overlays
UK HSBC residential mortgages	Secured on residential mortgages	**6.9**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	7-10	PD floor of 0.03%
			LGD	1	Statistical estimates of loss and probability of possession in combination with the workout process and using the 1990 s recession in benchmarking the downturn LGD.	> 10	LGD floor of 10% at portfolio level
			EAD	1	Statistical model based on historical data and uses balance at observation and expected number of months to default.	7-10	EAD must at least be equal to current balance
UK HSBC credit cards	Retail QRRE	**2.6**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	7-10	PD floor of 0.03%
			LGD	1	Statistical model based on forecasting the amount of expected future recoveries.	7-10	
			EAD	1	Statistical model which derives a credit conversion factor to determine the proportion of undrawn limit to be added to the balance at observation.	7-10	EAD must at least be equal to current balance
UK HSBC personal loans	Other retail	**2.9**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	7-10	PD floor of 0.03%
			LGD	1	Statistical model based on forecasting the amount of expected future recoveries.	7-10	
			EAD	1	Rule-based calculation based on current balance which continues to be a conservative estimate for EAD.	7-10	EAD must at least be equal to current balance
UK business banking	Retail SME	**4.7**	PD	1	Statistical model built on internal behavioural data and bureau information, and	7-10	PD floor of 0.03%

					calibrated to a long-run default rate.		
			LGD	2	Two sets of models one for secured and another for unsecured exposures. The secured model uses the value to loan as a key component for estimation while the unsecured model estimates the amount of future recoveries and undrawn portion.	7-10	
			EAD	1	Statistical model using segmentation according to limit and utilisation and estimation of the undrawn exposure.	7-10	EAD must at least be equal to current balance
Hong Kong HSBC personal residential mortgages	Secured on residential mortgages	**2.5**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	> 10	PD floor of 0.03%
			LGD	1	Statistical model based on estimate of loss incurred over a recovery period derived from historical data with downturn LGD based on the worst observed default rate.	> 10	LGD floor of 10% at portfolio level
			EAD	1	Rule-based calculation based on current balance which continues to be a conservative estimate for EAD.	> 10	EAD must at least be equal to current balance
Hong Kong HSBC credit cards	Retail QRRE	**2.5**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	> 10	PD floor of 0.03%
			LGD	1	Statistical model based on forecasting the amount of expected future recoveries.	> 10	
			EAD	1	Statistical model which derives a credit conversion factor to determine the proportion of undrawn limit to be added to the balance at observation.	> 10	EAD must at least be equal to current balance

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Portfolio	Basel asset class	RWA US$bn[1]	Component model	Number of material component models	Model description and methodology	Number of years loss data[2]	Applicable Pillar 1 regulatory thresholds and overlays
Hong Kong HSBC personal instalment loans	Other retail	**1.1**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	> 10	PD floor of 0.03%
			LGD	1	Statistical model based on forecasting the amount of expected future recoveries.	> 10	
			EAD	1	Rule-based calculation based on current balance which continues to be a conservative estimate for EAD.	> 10	EAD must at least be equal to current balance
US Consumer Lending first lien[3]	Secured on residential mortgages	**46.3**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	> 10	PD floor of 0.03%
			LGD	1	Statistical model based on identifying the main risk drivers of loss and recovery and grouping them into homogeneous pools. Downturn LGD is derived based on the peak default rate observed while additional assumptions and estimations are done on incomplete workouts.	> 10	LGD floor of 10% at portfolio level
			EAD	1	Rule-based calculation based on current balance which continues to be a conservative estimate for EAD.	> 10	EAD must at least be equal to current balance
US Mortgage Services first lien[3]	Secured on residential mortgages	**22.7**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	> 10	PD floor of 0.03%
			LGD	1	Statistical model based on identifying the main risk drivers of loss and recovery and grouping them into homogeneous pools. Downturn LGD is derived based on the peak default rate observed while additional assumptions and estimations are done on incomplete workouts.	> 10	LGD floor of 10% at portfolio level
			EAD	1	Rule-based calculation based on current balance which continues to be a conservative estimate for EAD.	> 10	EAD must at least be equal to current balance
HSBC Mortgage Corporation first lien[3]	Secured on residential mortgages	**11.9**	PD	1	Statistical model built on internal behavioural data and bureau information, and calibrated to a long-run default rate.	> 10	PD floor of 0.03%
			LGD	1	Statistical model based on identifying the main risk drivers of loss and recovery and grouping them into homogeneous pools. Downturn LGD is derived based on the peak default rate observed while additional assumptions and estimations are done on incomplete	> 10	LGD floor of 10% at portfolio level

		workouts.		
EAD	1	Rule-based calculation based on current balance which continues to be a conservative estimate for EAD.	> 10	EAD must at least be equal to current balance

1 *RWAs are based on estimates in September 2013, the date when the last general model validation monitoring review was conducted and reported to the PRA. The RWAs cannot therefore be compared with the 2013 year-end RWAs in tables 11 and 21.*
2 *Defined as the number of years from the data period used for model development up to the present.*
3 *In US mortgage business, first lien is a primary claim on a property which takes precedence over all subsequent claims and will be paid first from the proceeds in case of the property s foreclosure sale.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

In December 2013, the PRA approved our use of the Gen2 models for the CML portfolios, subject to certain conditions with regard to LGD floors and regular assessment of the capital difference in applying the US instead of the PRA rules. The CML Gen2 models were not implemented for 2013 year-end reporting, but will be in 2014. In the interim, the RWAs to be reported, for the US Consumer Lending first lien and US Mortgage Services first lien portfolios above, must be the higher of:

a) the output of the existing Gen1 models plus 120% of the difference between the Gen1 and Gen2 model outputs, and

b) the output of the Gen2 models with a 10% LGD scalar.

For the HSBC Mortgage Corporation first lien portfolio, the same condition applies, except that the percentage difference within a) is not 120%, but 100%.

Table 21 below sets out exposures, Basel metrics, RWA density and RWAs for our most material retail risk rating systems. Tables 22 and 23 show IRB exposures by exposure sub-class and portfolio quality bands: first at Group level by internal PD band, then by geographic region using a composite EL measure.

In table 22, band seven has lower RWAs because, as assets approach and go into default, our capital requirements are increasingly reflected in an EL deduction from capital, rather than a direct RWA impact.

Table 21: Retail IRB exposures secured on real estate property

	Exposure value US$bn	Average PD[1] %	Average LGD[1] %	RWA density[1] %	RWAs US$bn
At 31 December 2013					
Total retail IRB: secured on real estate property	**310.7**	**4.02**	**20.1**	**34**	**105.4**
Of which:					
US first lien residential mortgages[2]	**42.8**	**18.13**	**59.6**	**176**	**75.3**
UK HSBC residential mortgages[3]	**104.4**	**1.11**	**16.4**	**7**	**7.3**
Hong Kong residential mortgages[4]	**52.1**	**0.74**	**10.1**	**7**	**3.8**
At 31 December 2012					
Total retail IRB: secured on real estate property	317.4	4.75	23.5	41	130.8
Of which:					
US CML first lien residential mortgages[2]	35.1	26.99	64.7	215	75.4
UK HSBC residential mortgages[3]	101.1	1.69	12.7	8	7.7
Hong Kong residential mortgages[4]	50.6	0.77	10.1	8	3.8

1 *The PD, LGD and RWA density percentages all represent exposure-weighted averages except for UK HSBC residential mortgages at 31 December 2012, which represent simple averages. If the average PD and LGD for UK HSBC residential mortgages had been calculated at 2013 year-end using the same simple averaging method as in 2012, their values would have been 1.57% and 12.4% respectively.*

2 *Comprises in 2013 the US Consumer Lending first lien, US Mortgage Services first lien and HSBC Mortgage Corporation first lien portfolios, compared with only the first two of these portfolios in 2012. In both years, the PD and LGD are presented before the model adjustments and overlays referred to on page 50.*

3 *UK excludes the First Direct division of HSBC Bank plc.*

4 *Hong Kong comprises the Hong Kong Area Management Office and Hang Seng Bank. Hong Kong average LGD includes a 10% floor at portfolio level.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 22: Retail IRB exposure by internal PD band

	PD range %	Exposure value US$bn	Average PD[1] %	Average LGD[1] %	RWA density[1] %	RWAs US$bn
At 31 December 2013						
Secured on real estate property						
Band 1	0.000 to 0.483	215.1	0.12	14.2	4	9.3
Band 2	0.484 to 1.022	42.2	0.65	23.4	29	12.2
Band 3	1.023 to 4.914	30.0	2.30	34.9	106	31.9
Band 4	4.915 to 8.860	5.1	5.91	54.3	308	15.7
Band 5	8.861 to 15.000	3.6	12.25	44.6	300	10.8
Band 6	15.001 to 50.000	4.9	24.16	50.2	445	21.8
Band 7	50.001 to 100.000	9.8	96.17	49.6	38	3.7
		310.7	4.02	20.1	34	105.4
Qualifying revolving retail exposures						
Band 1	0.000 to 0.483	47.9	0.12	90.7	6	2.9
Band 2	0.484 to 1.022	6.3	0.70	91.3	29	1.8
Band 3	1.023 to 4.914	9.5	2.18	88.7	62	5.9
Band 4	4.915 to 8.860	1.6	6.59	85.8	131	2.1
Band 5	8.861 to 15.000	0.7	10.90	84.9	157	1.1
Band 6	15.001 to 50.000	0.5	27.63	86.9	240	1.2
Band 7	50.001 to 100.000	0.4	88.27	78.4	100	0.4
		66.9	1.40	90.2	23	15.4
SMEs						
Band 1	0.000 to 0.483	2.6	0.25	38.3	19	0.5
Band 2	0.484 to 1.022	2.8	0.76	30.4	29	0.8
Band 3	1.023 to 4.914	8.1	2.64	40.5	57	4.6
Band 4	4.915 to 8.860	2.3	6.71	37.8	61	1.4
Band 5	8.861 to 15.000	0.8	11.08	46.3	88	0.7
Band 6	15.001 to 50.000	0.7	25.47	48.4	114	0.8
Band 7	50.001 to 100.000	1.3	99.27	34.9	8	0.1
		18.6	10.63	38.5	48	8.9
Other retail						
Band 1	0.000 to 0.483	24.6	0.20	17.7	9	2.1
Band 2	0.484 to 1.022	8.1	0.70	30.6	27	2.2
Band 3	1.023 to 4.914	11.4	1.98	28.6	39	4.5
Band 4	4.915 to 8.860	1.0	7.07	41.4	70	0.7
Band 5	8.861 to 15.000	0.5	11.76	55.7	100	0.5
Band 6	15.001 to 50.000	0.6	27.91	35.5	100	0.6
Band 7	50.001 to 100.000	0.6	93.52	56.1	67	0.4
		46.8	2.64	24.3	24	11.0
Total retail						
Band 1	0.000 to 0.483	290.2	0.12	27.3	5	14.8
Band 2	0.484 to 1.022	59.4	0.67	32.0	29	17.0
Band 3	1.023 to 4.914	59.0	2.26	43.1	79	46.9
Band 4	4.915 to 8.860	10.0	6.32	54.2	199	19.9

Band 5	**8.861 to 15.000**	**5.6**	**11.88**	**50.6**	**234**	**13.1**
Band 6	**15.001 to 50.000**	**6.7**	**24.88**	**51.3**	**364**	**24.4**
Band 7	**50.001 to 100.000**	**12.1**	**96.13**	**49.2**	**38**	**4.6**
		443.0	**3.76**	**31.9**	**32**	**140.7**

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

	PD range %	Exposure value US$bn	Average PD[1] %	Average LGD[1] %	RWA density[1] %	RWAs US$bn
At 31 December 2012						
Secured on real estate property						
Band 1	0.000 to 0.483	211.1	0.12	15.0	5	10.3
Band 2	0.484 to 1.022	41.7	0.66	23.5	26	10.9
Band 3	1.023 to 4.914	34.6	2.32	43.4	112	38.7
Band 4	4.915 to 8.860	6.5	5.88	64.7	297	19.3
Band 5	8.861 to 15.000	5.1	12.30	54.0	314	16.0
Band 6	15.001 to 50.000	7.1	26.07	62.8	441	31.2
Band 7	50.001 to 100.000	11.3	96.07	58.5	39	4.4
		317.4	4.75	23.5	41	130.8
Qualifying revolving retail exposures						
Band 1	0.000 to 0.483	44.3	0.12	92.0	6	2.8
Band 2	0.484 to 1.022	6.3	0.70	91.7	28	1.8
Band 3	1.023 to 4.914	10.0	2.19	89.4	63	6.3
Band 4	4.915 to 8.860	1.9	6.69	87.5	135	2.5
Band 5	8.861 to 15.000	0.5	11.10	85.7	178	1.0
Band 6	15.001 to 50.000	0.5	26.81	87.6	257	1.3
Band 7	50.001 to 100.000	0.5	87.67	79.8	108	0.5
		64.0	1.62	91.2	25	16.2
SMEs						
Band 1	0.000 to 0.483	1.6	0.20	45.1	22	0.3
Band 2	0.484 to 1.022	1.6	0.82	37.4	36	0.6
Band 3	1.023 to 4.914	6.2	2.62	41.0	58	3.5
Band 4	4.915 to 8.860	1.7	6.81	37.4	62	1.1
Band 5	8.861 to 15.000	0.5	11.15	49.0	93	0.5
Band 6	15.001 to 50.000	0.5	25.39	48.1	124	0.7
Band 7	50.001 to 100.000	1.0	99.42	33.9	8	0.1
		13.1	11.53	40.7	52	6.8
Other retail						
Band 1	0.000 to 0.483	30.6	0.17	14.6	7	2.1
Band 2	0.484 to 1.022	8.7	0.70	28.6	25	2.2
Band 3	1.023 to 4.914	16.2	2.00	32.8	45	7.2
Band 4	4.915 to 8.860	1.5	6.95	58.8	97	1.4
Band 5	8.861 to 15.000	1.1	11.71	69.9	134	1.5
Band 6	15.001 to 50.000	1.0	27.70	64.7	168	1.7
Band 7	50.001 to 100.000	1.0	91.02	61.8	103	1.1
		60.1	3.12	25.3	29	17.2
Total retail						
Band 1	0.000 to 0.483	287.6	0.13	27.0	5	15.5
Band 2	0.484 to 1.022	58.3	0.67	32.0	27	15.5
Band 3	1.023 to 4.914	67.0	2.25	47.5	83	55.7
Band 4	4.915 to 8.860	11.6	6.29	63.6	211	24.3
Band 5	8.861 to 15.000	7.2	12.03	58.4	260	19.0
Band 6	15.001 to 50.000	9.1	26.25	63.5	382	34.9
Band 7	50.001 to 100.000	13.8	95.67	57.6	44	6.1
		454.6	4.29	33.8	38	171.0

1 *Average PD, average LGD and RWA density percentages represent exposure-weighted averages.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Retail exposures by internal PD band

2013

2012

Key points

Secured on real estate property

- Reduction in exposures for the Group was mainly driven by the continued run-off and sale of personal homeowner loans and defaulted mortgages in the US CML portfolio.

- The risk metrics for the US CML portfolio reflect the historically challenging conditions in the US mortgage market and any reductions in balances has a disproportionate benefit to the average PD and LGD and expected loss distribution of the Group s portfolio.

- High quality exposure growth in the UK and Hong Kong markets has been a key driver of improvements in the Group s average PD and LGD metrics and the expected loss distribution, although the effect has been accentuated by the appreciation of the GBP against the USD.

Qualifying revolving retail exposures

- Risk and exposure model realignment for qualifying revolving retail portfolios in the UK contributed to marginally improved risk metrics for the portfolio.

SMEs

- Business restructuring for a portfolio of SME exposures in Europe enabled a change in treatment from Corporate to Retail SME, improving the average risk metrics and the expected loss distribution.

Other retail

Sale of non-real estate exposures in the US CML portfolio has improved the portfolio average risk metrics and expected loss distribution.

Portfolio restructuring in the Global Private Banking business resulted in the Lombard lending portfolio in Hong Kong and the UK moving from IRB other retail to standardised corporate treatment.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

The possible variation between jurisdictions definitions underlying retail PD and LGD diminishes the usefulness of these measures as comparators for the purposes of global retail portfolio management. To address this, we also maintain an EL scale for retail business, combining obligor and facility/product

risk factors in a composite measure of PD and LGD. This scale, summarised in the table below, enables the diverse risk profiles of retail portfolios across the Group to be assessed using a common denominator instead of their disparate PD and LGD measures.

Table 23: Retail IRB exposure by geographical region[1]

	Exposure value				
	Europe US$bn	Hong Kong US$bn	Rest of Asia-Pacific US$bn	North America US$bn	Total exposure US$bn
At 31 December 2013					
Secured on real estate property					
Expected loss band					
less than 1%	152.1	51.6	33.5	40.4	277.6
greater than or equal to 1% and less than 5%	1.2	0.5	0.6	13.2	15.5
greater than or equal to 5% and less than 10%	0.3			3.5	3.8
greater than or equal to 10% and less than 20%	0.1			2.6	2.7
greater than or equal to 20% and less than 40%				1.7	1.7
greater than or equal to 40% or exposures in default	1.1		0.3	8.0	9.4
	154.8	52.1	34.4	69.4	310.7
Qualifying revolving retail exposures					
Expected loss band					
less than 1%	30.2	21.2		3.5	54.9
greater than or equal to 1% and less than 5%	5.2	3.3		0.8	9.3
greater than or equal to 5% and less than 10%	1.0	0.5		0.2	1.7
greater than or equal to 10% and less than 20%	0.2	0.2			0.4
greater than or equal to 20% and less than 40%		0.1		0.1	0.2
greater than or equal to 40% or exposures in default	0.3			0.1	0.4
	36.9	25.3		4.7	66.9
SMEs					
Expected loss band					
less than 1%	9.0	0.8		0.3	10.1
greater than or equal to 1% and less than 5%	5.8			0.3	6.1
greater than or equal to 5% and less than 10%	0.7				0.7
greater than or equal to 10% and less than 20%	0.3				0.3
greater than or equal to 20% and less than 40%	0.1				0.1
greater than or equal to 40% or exposures in default	1.3				1.3

	17.2	0.8		0.6	18.6
Other retail					
Expected loss band					
less than 1%	33.9	5.1		2.6	41.6
greater than or equal to 1% and less than 5%	2.9	0.6		0.3	3.8
greater than or equal to 5% and less than 10%	0.3	0.1		0.1	0.5
greater than or equal to 10% and less than 20%	0.1			0.1	0.2
greater than or equal to 20% and less than 40%	0.1			0.1	0.2
greater than or equal to 40% or exposures in default	0.5				0.5
	37.8	5.8		3.2	46.8
Total retail					
Expected loss band					
less than 1%	225.2	78.7	33.5	46.8	384.2
greater than or equal to 1% and less than 5%	15.1	4.4	0.6	14.6	34.7
greater than or equal to 5% and less than 10%	2.3	0.6		3.8	6.7
greater than or equal to 10% and less than 20%	0.7	0.2		2.7	3.6
greater than or equal to 20% and less than 40%	0.2	0.1		1.9	2.2
greater than or equal to 40% or exposures in default	3.2		0.3	8.1	11.6
	246.7	84.0	34.4	77.9	443.0

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

	Exposure value				
	Europe US$bn	Hong Kong US$bn	Rest of Asia-Pacific US$bn	North America US$bn	Total exposure US$bn
At 31 December 2012					
Secured on real estate property					
Expected loss band					
less than 1%	145.0	50.6	34.6	42.6	272.8
greater than or equal to 1% and less than 5%	1.8		0.3	19.5	21.6
greater than or equal to 5% and less than 10%	0.4			3.9	4.3
greater than or equal to 10% and less than 20%	0.5			4.4	4.9
greater than or equal to 20% and less than 40%	0.6			2.7	3.3
greater than or equal to 40% or exposures in default	0.3		0.3	9.9	10.5
	148.6	50.6	35.2	83.0	317.4
Qualifying revolving retail exposures					
Expected loss band					
less than 1%	27.2	19.5		4.3	51.0
greater than or equal to 1% and less than 5%	5.5	3.3		1.3	10.1
greater than or equal to 5% and less than 10%	1.1	0.5		0.2	1.8
greater than or equal to 10% and less than 20%	0.2	0.2			0.4
greater than or equal to 20% and less than 40%	0.1	0.1		0.1	0.3
greater than or equal to 40% or exposures in default	0.3			0.1	0.4
	34.4	23.6		6.0	64.0
SMEs					
Expected loss band					
less than 1%	5.2	0.8		0.5	6.5
greater than or equal to 1% and less than 5%	4.5			0.2	4.7
greater than or equal to 5% and less than 10%	0.6				0.6
greater than or equal to 10% and less than 20%	0.2				0.2
greater than or equal to 20% and less than 40%	0.1				0.1
greater than or equal to 40% or exposures in default	1.0				1.0
	11.6	0.8		0.7	13.1
Other retail					
Expected loss band					
less than 1%	34.5	10.5	2.9	3.1	51.0
greater than or equal to 1% and less than 5%	3.3	0.5		2.2	6.0
greater than or equal to 5% and less than 10%	0.4	0.1		0.5	1.0
greater than or equal to 10% and less than 20%	0.1			0.6	0.7
greater than or equal to 20% and less than 40%	0.1			0.4	0.5
greater than or equal to 40% or exposures in default	0.6			0.3	0.9
	39.0	11.1	2.9	7.1	60.1
Total retail					
Expected loss band					
less than 1%	211.9	81.4	37.5	50.5	381.3
greater than or equal to 1% and less than 5%	15.1	3.8	0.3	23.2	42.4
greater than or equal to 5% and less than 10%	2.5	0.6		4.6	7.7
greater than or equal to 10% and less than 20%	1.0	0.2		5.0	6.2

greater than or equal to 20% and less than 40%	0.9	0.1		3.2	4.2
greater than or equal to 40% or exposures in default	2.2		0.3	10.3	12.8
	233.6	86.1	38.1	96.8	454.6

1 *The MENA and Latin America regions are not included in this table as retail exposures in these regions are calculated under the standardised approach.*

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Model performance

Model validation within HSBC is subject to global internal standards. All material models whose outputs are used in calculations of IRB capital requirements fall under this governance framework. These arrangements are designed to support a comprehensive quantitative and qualitative process within a cycle of model monitoring and validation that includes:

- investigation of model stability;
- model performance measured through testing the model s outputs against actual outcomes, and
- model use within the business, e.g. user input data quality, override activity, and the assessment of results from key controls around the usage of the rating system as a whole within the overall credit process.

The purpose of periodic monitoring and validation is therefore:

- to determine that the model continues to produce accurate outputs, suitable for the intended purposes;
- to confirm that the model remains conceptually sound, that the model design is still appropriate and the assumptions made at development remain valid;
- to ensure that the model is used for its intended purpose and for appropriate exposures only (use test); and
- to prompt corrective actions when the model outputs move away from the expected levels.

Models are validated against a series of metrics and triggers approved by the governance committee. The metrics and quantitative checks for periodic validation include a review of the data inputs and overall population stability, and an assessment of the model s discriminatory power or rank order capability, its calibration accuracy, and its performance against available benchmarks. The qualitative checks include and reconfirm all elements assessed at design phase, including the model s conceptual soundness.

The results of periodic in-depth validation must be presented to a model governing committee at least annually. A subset of the key performance metrics is produced and reviewed as part of the ongoing monitoring process.

A large number of models are used within the Group, and data at individual model level is, in most

cases, immaterial in the context of the Group overall. We therefore disclose data covering most wholesale models including corporate models on an aggregated basis, and on our individually most material retail models as set out in table 20 above. The tables below show estimated values at the beginning of the relevant observation periods, and subsequent actual experienced values, for key Basel II metrics. Values for wholesale models are shown in tables 24 and 25, and for retail models in table 26. The basis of preparation of each table is set out below and in footnotes.

Wholesale credit models

For wholesale portfolios, we disclose performance for models covering sovereign obligors, banks and corporates. As explained on page 42, we operate global models for the first two of these customer groups. In the case of corporates, we have aggregated data on models covering a customer population ranging from large multinational companies to medium-sized and smaller corporates. The PD analysis for this group includes mainly advanced IRB exposures but also a small element of foundation IRB.

In table 24 below, the data for sovereigns and banks are based on such a small number of defaults that the comparison of estimated with actual results, even where these are available, is not fully reflective of a model s performance. To mitigate this characteristic of low-default portfolios, additional analysis is carried out on these models at annual validation. This analysis shows that they discriminate risk well and are conservatively calibrated. The latter reflects both a prudent modelling approach and the conservatism required by regulations. As noted on page 43 the sovereign exposures are subject to an explicit regulatory floor applied for the calculation of regulatory capital.

The basis of preparation of this table has been further enhanced, compared with the prior year, primarily through the alignment of the data collection period across all local models and improved data collection in the Banks model. Within table 24, for back-testing purposes, a customer s CRR/PD is observed at a point in time and then their default or non-default status in the following one-year period is recorded against that PD grade. The PD presentation here is expressed for all exposure classes on an obligor count basis, as model performance is judged on this basis in validation. The LGD and EAD refer to observations for the defaulted population, being the appropriate focus of an assessment of these models performance.

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Capital and Risk Management Pillar 3 Disclosures at 31 December 2013 (continued)

Table 24: IRB models estimated and actual values (wholesale)

	PD[1]		LGD[2]		EAD[3]	
	Estimated %	Actuals %	Estimated %	Actuals %	Estimated %	Actuals %
2013						
Sovereigns model[4]	**4.14**					
Banks model[5]	**3.18**	**0.20**	**40.01**		**0.06**	**0.04**
Corporates models[6]	**2.63**	**1.20**	**33.09**	**18.69**	**0.54**	**0.48**
2012						
Sovereigns model[4]	3.56	0.69				
Banks model[5]	3.60	0.37	55.00		0.01	0.01
Corporates models[6]	2.79	1.41	40.46	37.30	2.45	2.27

1 *Estimated PD for all models is average PD calculated on the number of obligors covered by the model(s).*
2 *Average LGD values are EAD-weighted.*
3 *Expressed as a percentage of total EAD which includes all defaulted and non-defaulted exposures for the relevant population.*
4 *No defaults have been observed in the Sovereign portfolio since 31 December 2012.*
5 *Banks figures are calculated based on two observed defaults. There are no resolved cases since 31 December 2011, hence actual LGD is not yet crystallised.*
6 *In 2012, covered the combined populations of the global large corporates model and all regional IRB models for large, medium and small corporates, extended in 2013 to include non-bank financial institutions.*

Table 25 below expands upon the estimated and actual corporate PD in table 24, as sufficient defaults in this population make analysis at this level meaningful. This analysis is conducted as part of regular validation to ensure that, throughout the entire population, there is a satisfactory degree

of conservative performance at all grades. Table 25 is not comparable with table 19 (c) on page 47, mainly because table 25 is a distribution of facility limits, rather than exposure value, and for a back-testing population that does not exactly match the exposure class population of table 19 (c).

Table 25: IRB models corporate PD models performance by CRR grade

	Corporates[1]				
	Facility[2] %	Defaulted[3] %	Estimated PD[4] %	Actual PD[5] %	Diff. in PD %
2013					
CRR 0.1[6]	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**
CRR 1.1	**4.83**	**0.00**	**0.02**	**0.00**	**0.02**

CRR 1.2	**7.47**	**0.00**	**0.04**	**0.00**	**0.04**
CRR 2.1	**20.85**	**0.00**	**0.07**	**0.00**	**0.07**
CRR 2.2	**10.38**	**0.01**	**0.13**	**0.03**	**0.10**
CRR 3.1	**10.79**	**0.07**	**0.22**	**0.16**	**0.06**
CRR 3.2	**9.49**	**0.13**	**0.37**	**0.22**	**0.15**
CRR 3.3	**8.33**	**0.15**	**0.63**	**0.27**	**0.36**
CRR 4.1	**6.40**	**0.35**	**0.87**		