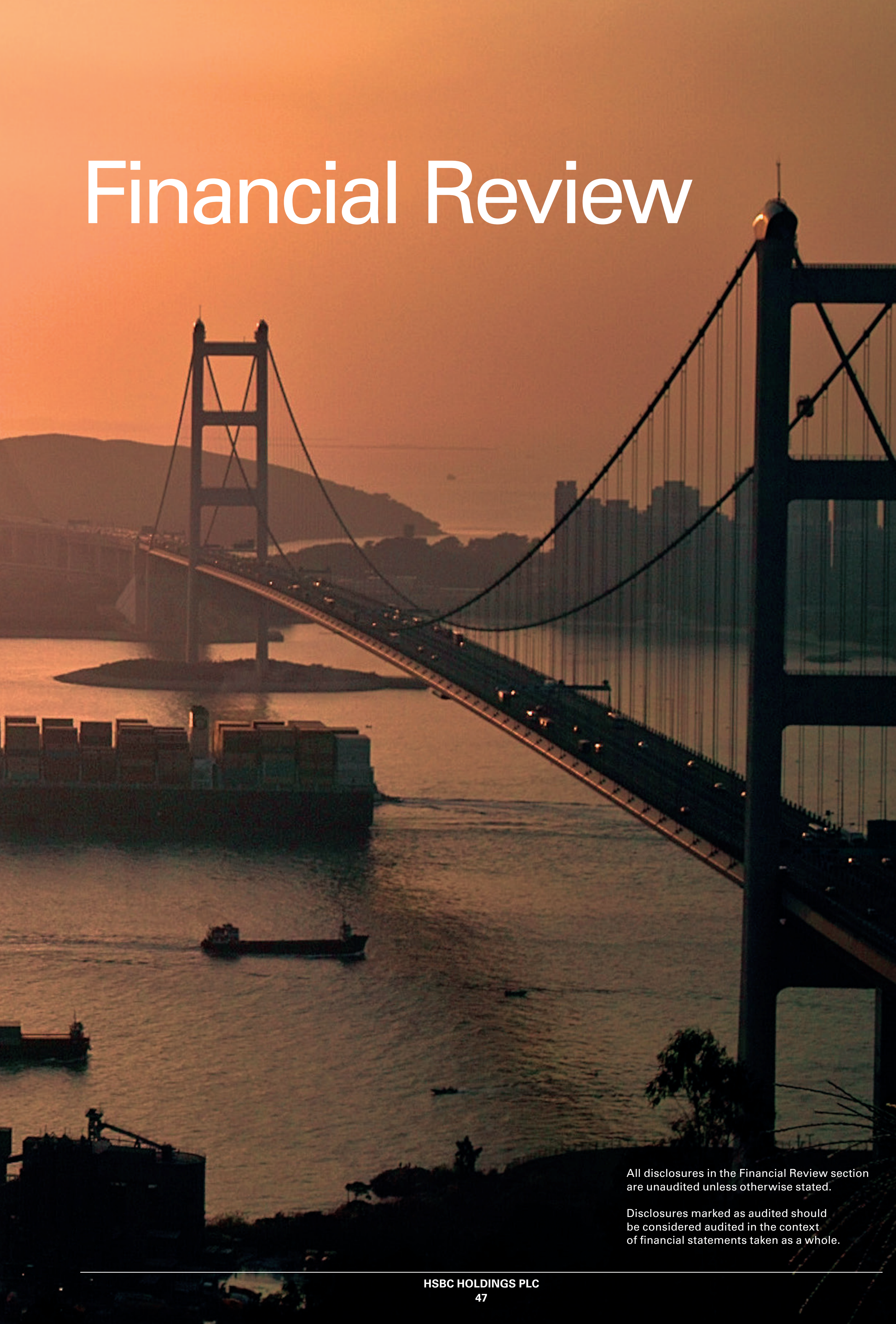
Financial Review



All disclosures in the Financial Review section are unaudited unless otherwise stated.

Disclosures marked as audited should be considered audited in the context of financial statements taken as a whole.

Financial summary

The management commentary included in the Strategic Report, the Report of the Directors: 'Financial Review', together with the 'Employees' and 'Corporate sustainability' sections of 'Corporate Governance' and the 'Directors' Remuneration Report' is presented in compliance with the IFRSs Practice Statement 'Management Commentary' *issued by the IASB.*

Use of non-GAAP financial measures

Our reported results are prepared in accordance with IFRSs as detailed in the Financial Statements starting on page 336. In measuring our performance, the financial measures that we use include those which have been derived from our reported results in order to eliminate factors which distort year-on-year comparisons. These are considered non-GAAP financial measures.

The primary non-GAAP financial measure we use is 'adjusted performance'. Other non-GAAP financial measures are described and reconciled to the most relevant reported financial measure when used.

Adjusted performance

Adjusted performance is computed by adjusting reported results for the year-on-year effects of foreign currency translation differences and significant items that distort year-on-year comparisons. 'Significant items' are excluded from adjusted performance because management and investors would ordinarily identify and consider them separately in order to better understand the underlying trends in a business.

These items, which are detailed in the tables starting on pages 66 and 77, include:

- gains or losses on the disposal or reclassification of subsidiaries, associates and joint ventures;
- fines, penalties, customer redress and associated provisions, together with settlements and provisions relating to legal matters when their size or historical nature mean they warrant separate consideration;
- costs incurred to achieve the productivity and cost reduction targets outlined in the Investor Update of June 2015; and
- credit spread movements on our long-term debt designated at fair value.

We consider adjusted performance provides useful information for investors by aligning internal and external reporting, identifying and quantifying items management believe to be significant and providing insight into how management assesses year-on-year performance.

Foreign currency translation differences

Foreign currency translation differences reflect the movements of the US dollar against most major currencies during 2015. We exclude the translation differences when deriving constant currency data because using this data allows us to assess balance sheet and income statement performance on a like-for-like basis to better understand the underlying trends in the business.

Foreign currency translation differences

Foreign currency translation differences for 2015 are computed by retranslating into US dollars for non-US dollar branches, subsidiaries, joint ventures and associates:

- the income statements for 2014 at the average rates of exchange for 2015; and
- the balance sheet at 31 December 2014 at the prevailing rates of exchange on 31 December 2015.

No adjustment has been made to the exchange rates used to translate foreign currency denominated assets and liabilities into the functional currencies of any HSBC branches, subsidiaries, joint ventures or associates. When reference is made to foreign currency translation differences in tables or commentaries, comparative data reported in the functional currencies of HSBC's operations have been translated at the appropriate exchange rates applied in the current year on the basis described above.

Significant items

The tables starting on pages 66 and 77, detail the effect of significant items on each of our geographical segments and global businesses in 2015 and 2014.

The following table reconciles selected reported items for 2015 and 2014 to adjusted items at a Group level.

Reconciliation of reported and adjusted items

	2015 $m	2014 $m	Change %
Revenue[1]			
Reported	**59,800**	61,248	(2)
Currency translation		(4,775)	
Own credit spread[2]	**(1,002)**	(417)	
Acquisitions, disposals and dilutions	**–**	(9)	
Other significant items	**(1,033)**	1,180	
Adjusted	**57,765**	57,227	1
Loan impairment charges and other credit risk provisions			
Reported	**(3,721)**	(3,851)	3
Currency translation		683	
Acquisitions, disposals and dilutions	**–**	–	
Other significant items	**–**	–	
Adjusted	**(3,721)**	(3,168)	(17)
Total operating expenses			
Reported	**(39,768)**	(41,249)	4
Currency translation		3,278	
Acquisitions, disposals and dilutions	**–**	40	
Other significant items	**3,586**	3,355	
Adjusted	**(36,182)**	(34,576)	(5)
Adjusted cost efficiency ratio	**62.6%**	60.4%	
Share of profit in associates and joint ventures			
Reported	**2,556**	2,532	1
Currency translation		(39)	
Acquisitions, disposals and dilutions	**–**	–	
Other significant items	**–**	–	
Adjusted	**2,556**	2,493	3
Profit before tax			
Reported	**18,867**	18,680	1
Currency translation		(853)	
Own credit spread[2]	**(1,002)**	(417)	
Acquisitions, disposals and dilutions	**–**	31	
Other significant items	**2,553**	4,535	
Adjusted	**20,418**	21,976	(7)

For footnotes, see page 99.

Consolidated income statement

Five-year summary consolidated income statement

	2015 $m	2014 $m	2013 $m	2012 $m	2011 $m
Net interest income	**32,531**	34,705	35,539	37,672	40,662
Net fee income	**14,705**	15,957	16,434	16,430	17,160
Net trading income	**8,723**	6,760	8,690	7,091	6,506
Net income/(expense) from financial instruments designated at fair value	**1,532**	2,473	768	(2,226)	3,439
Gains less losses from financial investments	**2,068**	1,335	2,012	1,189	907
Dividend income	**123**	311	322	221	149
Net insurance premium income	**10,355**	11,921	11,940	13,044	12,872
Gains on disposal of US branch network, US cards business and Ping An Insurance (Group) Company of China, Ltd	**–**	–	–	7,024	–
Other operating income	**1,055**	1,131	2,632	2,100	1,766
Total operating income	**71,092**	74,593	78,337	82,545	83,461
Net insurance claims and benefits paid and movement in liabilities to policyholders	**(11,292)**	(13,345)	(13,692)	(14,215)	(11,181)
Net operating income before loan impairment charges and other credit risk provisions	**59,800**	61,248	64,645	68,330	72,280
Loan impairment charges and other credit risk provisions	**(3,721)**	(3,851)	(5,849)	(8,311)	(12,127)
Net operating income	**56,079**	57,397	58,796	60,019	60,153
Total operating expenses	**(39,768)**	(41,249)	(38,556)	(42,927)	(41,545)
Operating profit	**16,311**	16,148	20,240	17,092	18,608
Share of profit in associates and joint ventures	**2,556**	2,532	2,325	3,557	3,264
Profit before tax	**18,867**	18,680	22,565	20,649	21,872
Tax expense	**(3,771)**	(3,975)	(4,765)	(5,315)	(3,928)
Profit for the year	**15,096**	14,705	17,800	15,334	17,944
Profit attributable to shareholders of the parent company	**13,522**	13,688	16,204	14,027	16,797
Profit attributable to non-controlling interests	**1,574**	1,017	1,596	1,307	1,147

Five-year financial information

	2015 $	2014 $	2013 $	2012 $	2011 $
Basic earnings per share	**0.65**	0.69	0.84	0.74	0.92
Diluted earnings per share	**0.64**	0.69	0.84	0.74	0.91
Dividends per ordinary share[3]	**0.50**	0.49	0.48	0.41	0.39
	%	%	%	%	%
Dividend payout ratio[4]	**76.5**	71.0	57.1	55.4	42.4
Post-tax return on average total assets	**0.6**	0.5	0.7	0.6	0.6
Return on average ordinary shareholders' equity	**7.2**	7.3	9.2	8.4	10.9
Average foreign exchange translation rates to $:					
$1: £	**0.654**	0.607	0.639	0.631	0.624
$1: €	**0.902**	0.754	0.753	0.778	0.719

For footnotes, see page 99.

Unless stated otherwise, all tables in the Annual Report and Accounts 2015 *are presented on a reported basis.*

For a summary of our financial performance in 2015, see page 22.

Group performance by income and expense item

Net interest income

	2015 $m	2014 $m	2013 $m
Interest income	**47,189**	50,955	51,192
Interest expense	**(14,658)**	(16,250)	(15,653)
Net interest income[5]	**32,531**	34,705	35,539
Average interest-earning assets	**1,726,949**	1,786,536	1,669,368
Gross interest yield[6]	**2.73%**	2.85%	3.07%
Less: cost of funds	**(1.00%)**	(1.05%)	(1.10%)
Net interest spread[7]	**1.73%**	1.80%	1.97%
Net interest margin[8]	**1.88%**	1.94%	2.13%

For footnotes, see page 99.

Summary of interest income by type of asset

	2015			2014			2013		
	Average balance $m	**Interest income $m**	**Yield %**	Average balance $m	Interest income $m	Yield %	Average balance $m	Interest income $m	Yield %
Short-term funds and loans and advances to banks	**221,924**	**2,277**	**1.03**	237,148	3,068	1.29	236,377	2,851	1.21
Loans and advances to customers	**909,707**	**33,104**	**3.64**	931,311	37,429	4.02	897,322	38,529	4.29
Reverse repurchase agreements – non-trading	**162,308**	**1,301**	**0.80**	198,273	1,800	0.91	114,324	995	0.87
Financial investments	**396,113**	**7,508**	**1.90**	399,816	8,323	2.08	393,309	8,002	2.03
Other interest-earning assets	**36,897**	**2,999**	**8.13**	19,988	335	1.68	28,036	815	2.91
Total interest-earning assets	**1,726,949**	**47,189**	**2.73**	1,786,536	50,955	2.85	1,669,368	51,192	3.07
Trading assets and financial assets designated at fair value[9,10]	**195,285**	**4,626**	**2.37**	238,958	5,596	2.34	354,817	5,763	1.62
Impairment allowances	**(10,606)**			(14,015)			(15,954)		
Non-interest-earning assets	**682,143**			668,564			683,785		
Year ended 31 December	**2,593,771**	**51,815**	**2.00**	2,680,043	56,551	2.11	2,692,016	56,955	2.12

For footnotes, see page 99.

Summary of interest expense by type of liability and equity

	2015			2014			2013		
	Average balance $m	**Interest expense $m**	**Cost %**	Average balance $m	Interest expense $m	Cost %	Average balance $m	Interest expense $m	Cost %
Deposits by banks[11]	**55,863**	**378**	**0.68**	61,217	481	0.79	61,616	555	0.90
Financial liabilities designated at fair value – own debt issued[12]	**58,489**	**717**	**1.23**	66,374	837	1.26	72,333	967	1.34
Customer accounts[13]	**1,075,901**	**7,401**	**0.69**	1,088,493	9,131	0.84	1,035,500	8,794	0.85
Repurchase agreements – non-trading	**117,947**	**355**	**0.30**	190,705	652	0.34	94,410	405	0.43
Debt securities in issue	**129,039**	**3,521**	**2.73**	129,724	4,554	3.51	150,976	4,182	2.77
Other interest-bearing liabilities	**28,396**	**2,286**	**8.05**	10,120	595	5.88	11,345	750	6.61
Total interest-bearing liabilities	**1,465,635**	**14,658**	**1.00**	1,546,633	16,250	1.05	1,426,180	15,653	1.10
Trading liabilities and financial liabilities designated at fair value (excluding own debt issued)	**151,294**	**2,071**	**1.37**	178,518	2,856	1.60	301,353	3,027	1.00
Non-interest bearing current accounts	**190,914**			185,990			184,370		
Total equity and other non-interest bearing liabilities	**785,928**			768,902			780,113		
Year ended 31 December	**2,593,771**	**16,729**	**0.64**	2,680,043	19,106	0.71	2,692,016	18,680	0.69

For footnotes, see page 99.

Reported net interest income of $32.5bn decreased by $2.2bn or 6% compared with 2014. This included the significant items and currency translation summarised in the table below.

Significant items and currency translation

	2015 $m	2014 $m
Significant items		
Provisions arising from the ongoing review of compliance with the Consumer Credit Act in the UK	**(10)**	(632)
Acquisitions, disposals and dilutions	**–**	38
	(10)	(594)
Currency translation		2,890
Year ended 31 December	**(10)**	2,296

Excluding the significant items and currency translation tabulated above, net interest income was broadly unchanged compared with 2014, as increases in Asia and Latin America were offset by a reduction in North America.

On a reported basis, net interest spread and margin both fell, mainly due to adverse foreign exchange movements in Latin America and Europe, partly offset by a reduction in significant items, namely lower provisions arising from the ongoing review of compliance with the Consumer Credit Act ('CCA') in the UK. Excluding these factors, net interest spread and margin were marginally lower due to reduced yields on customer lending in Europe and North America. However, during the year, we changed the mix of our overall portfolio towards higher yielding customer lending balances. This was through a managed reduction in the average balances of lower yielding short-term funds, reverse repos and financial investments, notably in Europe, reflecting our continued focus on the efficient use of our balance sheet.

Interest income by type of asset and interest expense by type of liability, and the associated average balances as set out in the summary tables above, were affected by the reclassification in June 2015, of our operations in Brazil to 'Assets held for sale' in 'Other interest-earning assets' and liabilities of disposal groups held for sale in 'Other interest-bearing liabilities', respectively.

Interest income

Reported interest income decreased by $3.8bn compared with 2014 driven by currency translation, notably in Latin America and Europe, although this was partly offset in Europe as 2014 included higher provisions arising from the on-going review of compliance with the CCA.

Excluding these factors, interest income was broadly unchanged compared with 2014.

Interest income on loans and advances to customers was broadly unchanged as lower interest income in Europe and North America was offset by increases in Asia and Latin America.

In Europe, the reduction in interest income was driven by lower yields on mortgages in the UK in line with competitive pricing, and the effect of downward movements in market interest rates in the eurozone. Interest income also fell in North America as the CML portfolio continued to decrease from run-off and sales. In addition, new lending to customers in RBWM and CMB was at reduced yields in the current low interest rate environment, although the effect of this was partly offset by an increase in average term lending balances.

By contrast, in Asia, the rise in interest income was driven by growth in average term lending balances, primarily in Hong Kong and mainland China. This was partly offset by compressed yields on customer lending, notably in mainland China and Australia due to central bank rate reductions, although yields in Hong Kong marginally increased. In Latin America, the increase was primarily in Argentina, driven by growth in average balances.

Interest income on short-term funds and financial investments in Balance Sheet Management marginally decreased. This was driven by lower interest income in Europe, due to a managed reduction in average balances, and in Asia, reflecting movement in central bank interest rates in mainland China and India. These factors were partly offset in North America by a change in product mix towards higher yielding mortgage backed securities in order to maximise the effectiveness of the portfolio.

Interest income from other interest-earning assets rose due to the reclassification of our operations in Brazil to 'Assets held for sale' in June 2015. In Brazil, excluding the impact of currency translation, interest income rose due to growth in average term lending balances and financial investments, together with higher yields reflecting successive increases in central bank interest rates in 2014 and 2015.

Interest expense

Reported interest expense decreased by $1.6bn compared with 2014 driven by currency translation, primarily in Latin America and Europe.

Excluding this, interest expense fell driven by a lower cost of customer accounts, debt issued and repos.

Interest expense on customer accounts fell marginally despite growth in average balances. This reflected central bank rate reductions in a number of markets, notably Mexico, mainland China, Australia and India. Europe was affected by downward movements in market rates in the eurozone. This was partly offset by rising costs in North America, in line with promotional deposit offerings.

Interest expense on debt issued also fell, primarily in Europe as new debt was issued at lower prevailing rates and average outstanding balances fell as a result of net redemptions. Interest expense also fell on repos, notably in Europe, reflecting the managed reduction in average balances.

Interest expense on other interest-bearing liabilities increased due to the reclassification of our operations in Brazil. In Brazil, excluding currency translation, interest expense rose, primarily on debt securities in issue and also on customer accounts driven by successive increases in central bank rates. Other interest expense also increased in North America, as 2014 benefited from the release of accrued interest associated with uncertain tax positions.

Net fee income

	2015 $m	2014 $m	2013 $m
Account services	**2,745**	3,407	3,581
Funds under management	**2,570**	2,658	2,673
Cards	**2,281**	2,460	2,455
Credit facilities	**1,919**	1,890	1,907
Broking income	**1,441**	1,371	1,388
Unit trusts	**1,007**	1,005	891
Imports/exports	**971**	1,115	1,157
Remittances	**772**	833	849
Underwriting	**762**	872	866
Global custody	**721**	726	698
Insurance agency commission	**519**	516	551
Other	**2,308**	2,692	2,957
Fee income	**18,016**	19,545	19,973
Less: fee expense	**(3,311)**	(3,588)	(3,539)
Year ended 31 December	**14,705**	15,957	16,434

Reported net fee income fell by $1.3bn compared with 2014, primarily reflecting the adverse effects of currency translation between the years of $1.2bn, notably in Europe and Latin America, as tabulated below.

Significant items and currency translation

	2015 $m	2014 $m
Significant items		
Acquisitions, disposals and dilutions	**–**	10
Currency translation		1,204
Year ended 31 December	**–**	1,214

On an adjusted basis, net fee income decreased by $38m. This reflected a reduction in Europe, primarily within RBWM and GB&M, largely offset by increases in Asia in RBWM and North America in GB&M.

Account services fee income fell significantly by $348m, mainly in the UK in RBWM where lower overdraft fees reflected re-pricing and fewer overdrawn balances following the introduction in November 2014 of a text-alert service for customers. Account services fees also fell in Switzerland due to the continuing repositioning of our GPB business.

Import and export fees fell too (by $79m), mainly in Asia reflecting a reduction in trade activity. In addition, our underwriting fee income fell by $65m, mainly in Hong Kong in GB&M, where there was reduced activity in equity capital markets, although this was partly offset by higher debt issuances in the US.

By contrast, our credit facilities fee income grew strongly (by $190m) in North America and, to a lesser extent, in Asia, reflecting continued growth in average lending balances, although balances were broadly unchanged in Asia in the second half of the year.

Our fee income from broking and unit trusts also grew (up by $182m), mainly in Hong Kong, driven by higher sales of equities and mutual funds in RBWM. This was from increased stock market turnover, in part facilitated by the Shanghai-Hong Kong Stock Connect platform and greater investor appetite following improvements in Asian equity markets in the first half of the year, however there was weaker investor sentiment in the second half of the year.

Fees from funds under management increased by $157m. In our Global Asset Management business, this was notably in France and the US due to volume growth from fixed income products. In addition, fee income from funds under management also increased in Germany from growth in Securities Services in GB&M, and in Hong Kong from increased funds under management in GPB.

Fee expenses were marginally higher by $101m due to a rise in brokerage fees, notably in Germany.

Net trading income

	2015 $m	2014 $m	2013 $m
Trading activities	7,285	5,419	6,921
Ping An contingent forward sale contract	–	–	(682)
Net interest income on trading activities	1,775	1,907	2,047
Gain/(loss) on termination of hedges	(11)	1	(194)
Other trading income – hedge ineffectiveness:			
– on cash flow hedges	15	34	22
– on fair value hedges	(11)	19	65
Fair value movement on non-qualifying hedges[14]	(330)	(620)	511
Year ended 31 December	**8,723**	6,760	8,690

For footnote, see page 99.

Reported net trading income of $8.7bn was $2.0bn higher than in 2014, predominantly in Europe. The movement in net trading income in part reflected the favourable significant items and currency translation summarised in the table below.

Significant items and currency translation

	2015 $m	2014 $m
Significant items		
Included within trading activities:	230	(332)
– favourable/(adverse) debit valuation adjustment on derivative contracts	230	(332)
Included in other net trading income:	(327)	(539)
– fair value movement on non-qualifying hedges	(327)	(541)
– acquisitions, disposals and dilutions	–	2
	(97)	(871)
Currency translation		520
Year ended 31 December	**(97)**	(351)

On an adjusted basis, net trading income from trading activities increased by $1.7bn compared with 2014, driven by our client-facing GB&M businesses, notably Equities, Foreign Exchange and Credit. This was primarily in the UK following an increase in volatility and client activity.

Net trading income from trading activities also rose due to a number of other valuation movements. In 2014, we revised our estimation methodology for valuing uncollateralised derivative portfolios by introducing the funding fair value adjustment ('FFVA') which resulted in a charge of $263m. In addition, the Equities and Rates businesses benefited from favourable movements on own credit spreads compared with minimal movements in 2014.

These movements contributed to an increase in net trading income from trading activities in Rates, although client activity remained subdued.

Net income from financial instruments designated at fair value

	2015 $m	2014 $m	2013 $m
Net income/(expense) arising from:			
– financial assets held to meet liabilities under insurance and investment contracts	531	2,300	3,170
– liabilities to customers under investment contracts	34	(435)	(1,237)
– HSBC's long-term debt issued and related derivatives	863	508	(1,228)
– change in own credit spread on long-term debt (significant item)	1,002	417	(1,246)
– other changes in fair value	(139)	91	18
– other instruments designated at fair value and related derivatives	104	100	63
Year ended 31 December	**1,532**	2,473	768

Assets and liabilities from which net income from financial instruments designated at fair value arose

	2015 $m	2014 $m	2013 $m
Financial assets designated at fair value at 31 December	23,852	29,037	38,430
Financial liabilities designated at fair value at 31 December	66,408	76,153	89,084
Including:			
Financial assets held to meet liabilities under:			
– insurance and investment contracts with DPF	11,119	10,650	10,717
– unit-linked insurance and other insurance and investment contracts	11,153	16,333	25,423
Long-term debt issues designated at fair value	60,188	69,681	75,278

The majority of the financial liabilities designated at fair value are fixed-rate long-term debt issuances and are managed in conjunction with interest rate swaps as part of our interest rate management strategy.

Reported net income from financial instruments designated at fair value was $1.5bn in 2015, compared with $2.5bn in 2014. The former included favourable movements in the fair value of our own long-term debt of $1.0bn due to changes in credit spread, compared with favourable movements of $417m in 2014.

Significant items and currency translation

	2015 $m	2014 $m
Significant items		
Own credit spread	**1,002**	417
Currency translation		303
Year ended 31 December	**1,002**	720

On an adjusted basis, which excludes changes in our own credit spread and the net adverse effect of currency translation shown above, net income from financial instruments at fair value decreased by $1.2bn.

Net income from financial assets held to meet liabilities under insurance and investment contracts of $531m was $1.8bn lower than in 2014. This was primarily driven by weaker equity markets in Hong Kong and the UK, notably in the second half of the year. The fair value movement in 2015 included gains in Brazil and France, partly offset by losses in Hong Kong. These gains and losses are broadly offset by 'Net insurance claims and benefits paid and movements in liabilities to policyholders' and 'Liabilities to customers under investment contracts'.

Other changes in fair value reflected a net adverse movement due to interest and exchange rate hedging ineffectiveness.

Gains less losses from financial investments

	2015 $m	2014 $m	2013 $m
Net gains/(losses) from disposal of:			
– debt securities	**345**	665	491
– equity securities	**1,829**	1,037	1,697
– other financial investments	**5**	6	(1)
	2,179	1,708	2,187
Impairment of available-for-sale equity securities	**(111)**	(373)	(175)
Year ended 31 December	**2,068**	1,335	2,012

In 2015, gains less losses from financial investments increased by $733m on a reported basis compared with 2014. This was driven by the significant items and currency translation tabulated below, notably the gain on the partial sale of our shareholding in Industrial Bank Co. Ltd ('Industrial Bank') of $1.4bn.

Significant items and currency translation

	2015 $m	2014 $m
Significant items		
Gain on sale of shareholding in Bank of Shanghai	**–**	428
Gain on the partial sale of shareholding in Industrial Bank	**1,372**	–
Impairment of our investment in Industrial Bank	**–**	(271)
	1,372	157
Currency translation		95
Year ended 31 December	**1,372**	252

On an adjusted basis, excluding all significant items and currency translation tabulated above, gains less losses from financial investments decreased by $387m. This was primarily in our GB&M business, driven by lower gains on disposals of available-for-sale debt securities, notably in the UK and US and lower gains on equity securities in Principal Investments in the UK.

In addition, we recorded minor losses on disposals from our legacy credit portfolio compared with gains in 2014. The disposal of these assets reflects our continued efforts to manage down low-returning assets to maximise returns.

Net insurance premium income

	2015 $m	2014 $m	2013 $m
Gross insurance premium income	11,012	12,370	12,398
Reinsurance premiums	(657)	(449)	(458)
Year ended 31 December	**10,355**	11,921	11,940

Reported net insurance premium income was $1.6bn lower, largely from the adverse effects of currency translation of $930m.

Significant items and currency translation

	2015 $m	2014 $m
Significant items	–	–
Currency translation		930
Year ended 31 December	–	930

On an adjusted basis, excluding the effect of currency translation, net insurance premium income fell by $636m or 6%, driven by Asia, primarily in Hong Kong where it declined because of lower unit-linked contract premiums and new reinsurance agreements.

In Europe, premium income fell mainly in the UK, reflecting a decision to exit the commercial pensions market in 2014.

Other operating income

	2015 $m	2014 $m	2013 $m
Rent received	171	162	155
Gains/(losses) recognised on assets held for sale	(244)	220	(729)
Gains on investment properties	61	120	113
Gain on disposal of property, plant and equipment, intangible assets and non-financial investments	53	32	178
Gains/(losses) arising from dilution of interest in Industrial Bank and other associates and joint ventures	–	(32)	1,051
Gain on disposal of HSBC Bank (Panama) S.A.	–	–	1,107
Change in present value of in-force long-term insurance business	799	261	525
Other	215	368	232
Year ended 31 December	**1,055**	1,131	2,632

Change in present value of in-force long-term insurance business

	2015 $m	2014 $m	2013 $m
Value of new business	809	870	924
Expected return	(552)	(545)	(505)
Assumption changes and experience variances	504	(116)	88
Other adjustments	38	52	18
Year ended 31 December	**799**	261	525

Reported other operating income decreased by $76m from 2014. This was partly due to the significant items recorded in the table below.

Significant items and currency translation

	2015 $m	2014 $m
Significant items		
Included within gains/(losses) recognised on assets held for sale:	(232)	168
– disposal costs of our Brazilian operation	(18)	–
– gain/(loss) on sale of several tranches of real estate secured accounts in the US	(214)	168
Included within the remaining line items:	–	(41)
– acquisitions, disposals and dilutions	–	(41)
Currency translation		(64)
Year ended 31 December	(232)	63

Excluding the significant items and currency translation tabulated above, other operating income increased by $219m compared with 2014. This was primarily from higher favourable movements in present value of in-force ('PVIF') long-term insurance business, partly offset by lower disposal and revaluation gains on investment properties, mainly in Asia.

The higher favourable movement in the PVIF balance was driven by changes in interest rates and investment return assumptions, notably in France and Hong Kong.

Net insurance claims and benefits paid and movement in liabilities to policyholders

	2015 $m	2014 $m	2013 $m
Net insurance claims and benefits paid and movement in liabilities to policyholders:			
– gross	**11,872**	13,723	13,948
– less reinsurers' share	**(580)**	(378)	(256)
Year ended 31 December[15]	**11,292**	13,345	13,692

For footnote, see page 99.

Reported net insurance claims and benefits paid and movement in liabilities to policyholders were $2.1bn lower than in 2014, in part reflecting the effect of currency translation of $1.1bn.

Significant items and currency translation

	2015 $m	2014 $m
Significant items	**–**	–
Currency translation		1,109
Year ended 31 December	**–**	1,109

Excluding the effects of currency translation, net insurance claims and benefits paid and movements in liabilities to policyholders were $0.9bn lower.

This was primarily driven by a decrease in returns on financial assets supporting liabilities to policyholders, where the policyholder shares in the investment risk. This decrease in returns reflected a weaker equity market performance in Hong Kong in the second half of the year.

The gains or losses recognised on the financial assets designated at fair value that are held to support these insurance contract liabilities are reported in 'Net income from financial instruments designated at fair value'.

In addition, movements in liabilities to policyholders were lower due to a decrease in premiums written in Asia, as explained in 'Net earned insurance premiums'.

Loan impairment charges and other credit risk provisions

	2015 $m	2014 $m	2013 $m
Loan impairment charges:			
– new allowances net of allowance releases	**4,400**	5,010	7,344
– recoveries of amounts previously written off	**(808)**	(955)	(1,296)
	3,592	4,055	6,048
Individually assessed allowances	**1,505**	1,780	2,320
Collectively assessed allowances	**2,087**	2,275	3,728
Releases of impairment on available-for-sale debt securities	**(17)**	(319)	(211)
Other credit risk provisions	**146**	115	12
Year ended 31 December	**3,721**	3,851	5,849
Impairment charges on loans and advances to customers as a percentage of average gross loans and advances to customers	**0.39%**	0.43%	0.67%

Reported loan impairment charges and other credit risk provisions ('LICs') of $3.7bn were $0.1bn lower than in 2014, primarily due to favourable currency translation of $683m.

Excluding the effects of currency translation, LICs were $0.6bn higher than in 2014.

Significant items and currency translation

	2015 $m	2014 $m
Significant items	**–**	–
Currency translation		683
Year ended 31 December	**–**	683

In the fourth quarter of 2015, our LICs increased compared with the third quarter following a rise in individually assessed LICs in a small number of countries. This was reflective of specific circumstances associated with those countries with no common underlying theme. In addition, we increased our collectively assessed LICs on exposures related to the oil and gas industry by $0.2bn, notably in North America, Middle East and North Africa, and Asia. For more information on our exposure to the oil and gas sector, see page 117.

The following paragraphs set out in more detail the factors that have contributed to movements in our collectively and individually assessed LICs compared with 2014.

On an adjusted basis, **collectively assessed LICs** rose by $221m, mainly in Middle East and North Africa, North America and Asia, partly offset in Europe. It arose from the following:

- in Middle East and North Africa (up by $167m), this was mainly in the UAE in RBWM, where we increased the impairment allowances on our mortgage book following a review of the quality and value of collateral. In addition, LICs grew in our CMB business, notably relating to the oil and foodstuffs industries;
- in North America (up by $132m) and Asia (up by $108m), this reflected an increase in allowances against our oil and gas exposures. In our US CML portfolio, LICs were higher than in 2014 reflecting lower favourable market value adjustments of underlying properties as improvements in the housing market conditions were less pronounced in 2015. This was partly offset by a fall in LICs from lower levels of newly impaired loans and reduced lending balances from continued run-off and sales. Additionally, collectively assessed LICs rose in Indonesia following credit deterioration; and
- in Europe, collectively assessed LICs were $192m lower, most notably in our GB&M business in the UK, as 2014 included additional impairment charges from revisions to certain estimates used in our corporate collective loan impairment calculation.

Individually assessed LICs were broadly unchanged from 2014 on an adjusted basis. This reflected decreases in Latin America, Europe and Asia which were offset by increases in Middle East and North Africa and in North America. This included the following:

- in Latin America (down by $95m), Europe (down by $44m) and Asia (down by $44m), we saw reductions in individually assessed LICs in our GB&M business as 2014 included significant impairment charges related to corporate clients in our respective regions. In Asia, the reduction was partly offset by an increase in LICs against a small number of CMB customers in Indonesia; and
- in Middle East and North Africa (up by $134m) and North America (up by $47m), individually assessed LICs increased in our CMB business. In the former, this primarily related to higher LICs on food wholesalers, while in North America LICs rose in the oil and gas sector.

In 2015, there were lower net releases of credit risk provisions than in 2014, down by $0.3bn, mainly on available-for-sale asset-backed securities ('ABS's) in our UK GB&M business.

Operating expenses

In addition to detailing operating expense items by category, as set out in the table below, we also categorise adjusted expenses as follows:

- 'run-the-bank' costs comprise business-as-usual running costs that keep operations functioning at the required quality and standard year-on-year, maintain IT infrastructure and support revenue growth. Run-the-bank costs are split between front office and back office, reflecting the way the Group is organised into four global businesses ('front office') supported by global functions ('back office');
- 'change-the-bank' costs comprise expenses relating to the implementation of mandatory regulatory changes and other investment costs incurred relating to projects to change business-as-usual activity to enhance future operating capabilities;
- 'costs-to-achieve' comprise those specific costs relating to the achievement of the strategic actions set out in the Investor Update in June 2015. They comprise costs incurred between 1 July 2015 and 31 December 2017 and do not include ongoing initiatives such as Global Standards. Any costs arising within this category have been incurred as part of a significant transformation programme. Costs-to-achieve are included within significant items and incorporate restructuring costs which were identified as a separate significant item prior to 1 July 2015; and
- the UK bank levy is reported as a separate category.

Operating expenses

	2015 $m	2014 $m	2013 $m
By expense category			
Employee compensation and benefits	**19,900**	20,366	19,196
Premises and equipment (excluding depreciation and impairment)	**3,830**	4,204	4,183
General and administrative expenses	**13,832**	14,361	12,882
Administrative expenses	**37,562**	38,931	36,261
Depreciation and impairment of property, plant and equipment	**1,269**	1,382	1,364
Amortisation and impairment of intangible assets	**937**	936	931
Year ended 31 December	**39,768**	41,249	38,556

By expense group	2015 $m	2014 $m
Run-the-bank – front office	**15,482**	14,879
Run-the-bank – back office	**15,784**	15,631
Change-the-bank	**3,494**	3,002
Bank levy	**1,421**	1,063
Significant items	**3,586**	3,396
Currency translation	**–**	3,278
Year ended 31 December	**39,768**	41,249

Reported operating expenses for 2015 of $39.8bn were $1.5bn or 4% lower than in 2014. The reduction in reported expenses was driven by the favourable effects of currency translation between the years. Significant items increased by $0.2bn, with a reduction in fines, penalties, redress and associated provisions of $0.7bn, more than offset by transformation costs (costs-to-achieve) of $0.9bn.

Costs-to-achieve, which relate to specific programmes aimed at achieving the cost reduction and productivity outcomes outlined in the Investor Update, comprise:

- severance costs of $0.4bn across a number of areas including CMB ($147m), RBWM ($49m), Risk ($44m) and GB&M ($45m);
- staff costs for the transformation programme in progress of $0.1bn in the second half of 2015; and
- other costs of $0.4bn, including software write-offs, US portfolio run-off costs and consultancy costs.

Significant items and currency translation

	2015 $m	2014 $m
Significant items		
Disposal costs of our Brazilian operations	**110**	–
Charge in relation to settlement agreement with Federal Housing Finance Authority	**–**	550
Costs-to-achieve	**908**	–
Cost to establish UK ring-fenced bank	**89**	–
Regulatory provisions in GPB	**172**	65
Restructuring and other related costs	**117**	278
Settlements and provisions in connection with legal matters	**1,649**	1,187
UK customer redress programmes	**541**	1,275
Acquisitions, disposals and dilutions	**–**	40
	3,586	3,395
Currency translation		3,278
Year ended 31 December	**3,586**	6,673

On an adjusted basis, operating expenses of $36.2bn were $1.6bn or 5% higher than in 2014, reflecting increases in both run-the-bank and change-the-bank costs.

Run-the-bank costs totalled $31.3bn for 2015, an increase of $0.8bn or 2% on 2014. This was primarily driven by targeted investment in Latin America, Asia and Europe. We recruited new staff to support growth in targeted areas as follows:

- in GB&M we invested in Payments and Cash Management ('PCM') mainly in Europe;
- in CMB, we invested in PCM revenue-generating full time equivalent staff ('FTEs') in North America and Asia; and
- in RBWM, we invested in additional FTEs in Asia in our branch network to support revenue growth.

Our total expenditure on regulatory programmes and compliance in 2015, including both run-the-bank and change-the-bank elements, was $2.9bn, up by $0.7bn or 33% from 2014.

Run-the-bank costs associated with regulatory programmes and compliance increased by $0.2bn reflecting the continued implementation of our Global Standards programme to enhance our financial crime risk controls and capabilities, and to meet our external commitments.

Change-the-bank costs totalled $3.5bn in 2015, an increase of $0.5bn or 16% on 2014, primarily driven by regulatory programmes and compliance costs. This reflected investment in strategic IT infrastructure including systems enhancements for customer due diligence, transaction monitoring and sanctions screening as part of the Global Standards programme. These actions were in line with our strategic target to complete the implementation of Global Standards in 2017. There was also further investment in stress testing and other programmes to meet legal and regulatory requirements.

The bank levy totalled $1.4bn, up by $0.4bn or 34% from 2014. Excluding the bank levy, operating expenses in the second half of 2015 were broadly in line with the first half of the year. Investment in regulatory programmes and compliance and inflationary pressures were offset by cost saving initiatives mainly driven by reduced staff costs. This reflected a reduction in FTEs of 4,585 from 30 June 2015 to 31 December 2015. In addition we reduced travel and entertainment costs through a strong focus on cost management.

Excluding investment in regulatory programmes and compliance, and the bank levy, adjusted operating expenses grew by 2% compared with 2014.

Staff numbers (full-time equivalents)

	2015	2014	2013
Geographical regions			
Europe	**67,509**	69,363	68,334
Asia	**120,144**	118,322	113,701
Middle East and North Africa	**8,066**	8,305	8,618
North America	**19,656**	20,412	20,871
Latin America	**39,828**	41,201	42,542
At 31 December	**255,203**	257,603	254,066

The number of employees, expressed in FTEs, at 31 December 2015 was 255,203, a decrease of 4,585 from 30 June 2015 reflecting the initial impact of cost saving initiatives. Compared with 31 December 2014, FTEs decreased by 2,400. This was driven by reductions in global businesses and global functions, offset by an increase in compliance of 2,419 FTEs.

The average number of FTEs adjusted for business disposals increased by 1.2% compared with 2014 due to additional FTE requirements for regulatory programmes and compliance, and investment in growth areas.

Reported cost efficiency ratios[16]

	2015 %	2014 %	2013 %
HSBC	**66.5**	67.3	59.6
Geographical regions			
Europe	**93.7**	93.7	84.0
Asia	**43.0**	44.0	40.7
Middle East and North Africa	**48.1**	47.7	51.5
North America	**84.9**	78.9	72.9
Latin America	**72.6**	71.7	56.1
Global businesses			
Retail Banking and Wealth Management	**72.4**	71.7	64.7
Commercial Banking	**45.4**	44.3	41.7
Global Banking and Markets	**59.4**	67.7	51.9
Global Private Banking	**84.3**	74.8	91.4

For footnote, see page 99.

Share of profit in associates and joint ventures

	2015 $m	2014 $m	2013 $m
Associates			
Bank of Communications Co., Limited	**2,011**	1,974	1,878
The Saudi British Bank	**462**	455	403
Other	**45**	64	5
Share of profit in associates	**2,518**	2,493	2,286
Share of profit in joint ventures	**38**	39	39
Year ended 31 December	**2,556**	2,532	2,325

Our reported share of profit in associates and joint ventures was $2.6bn, an increase of $24m or 1%, driven by higher contributions from Bank of Communications Co., Limited ('BoCom') and The Saudi British Bank.

Our share of profit from BoCom rose as a result of balance sheet growth, partly offset by higher operating expenses.

Profits from The Saudi British Bank also rose, by $7m, reflecting strong balance sheet growth.

Tax expense

	2015 $m	2014 $m	2013 $m
Profit before tax	**18,867**	18,680	22,565
Tax expense	**(3,771)**	(3,975)	(4,765)
Profit after tax for the year ended 31 December	**15,096**	14,705	17,800
Effective tax rate	**20.0%**	21.3%	21.1%

The effective tax rate for the year was 20.0% (2014: 21.3%) and was in line with expectations.

We expect the effective rate of tax to increase due to the introduction of the 8% surcharge on UK banking profits in 2016.

Consolidated balance sheet

Five-year summary consolidated balance sheet

	2015 $m	2014 $m	2013 $m	2012 $m	2011 $m
ASSETS					
Cash and balances at central banks	**98,934**	129,957	166,599	141,532	129,902
Trading assets	**224,837**	304,193	303,192	408,811	330,451
Financial assets designated at fair value	**23,852**	29,037	38,430	33,582	30,856
Derivatives	**288,476**	345,008	282,265	357,450	346,379
Loans and advances to banks	**90,401**	112,149	120,046	117,085	139,078
Loans and advances to customers[17]	**924,454**	974,660	992,089	962,972	899,010
Reverse repurchase agreements – non-trading	**146,255**	161,713	179,690	70,112	83,328
Financial investments	**428,955**	415,467	425,925	421,101	400,044
Assets held for sale	**43,900**	7,647	4,050	19,269	39,558
Other assets	**139,592**	154,308	159,032	160,624	156,973
Total assets at 31 December	**2,409,656**	2,634,139	2,671,318	2,692,538	2,555,579
LIABILITIES AND EQUITY					
Liabilities					
Deposits by banks	**54,371**	77,426	86,507	95,480	95,205
Customer accounts	**1,289,586**	1,350,642	1,361,297	1,311,396	1,223,140
Repurchase agreements – non-trading	**80,400**	107,432	164,220	40,567	48,402
Trading liabilities	**141,614**	190,572	207,025	304,563	265,192
Financial liabilities designated at fair value	**66,408**	76,153	89,084	87,720	85,724
Derivatives	**281,071**	340,669	274,284	358,886	345,380
Debt securities in issue	**88,949**	95,947	104,080	119,461	131,013
Liabilities under insurance contracts	**69,938**	73,861	74,181	68,195	61,259
Liabilities of disposal groups held for sale	**36,840**	6,934	2,804	5,018	22,200
Other liabilities	**102,961**	114,525	117,377	118,123	111,971
Total liabilities at 31 December	**2,212,138**	2,434,161	2,480,859	2,509,409	2,389,486
Equity					
Total shareholders' equity	**188,460**	190,447	181,871	175,242	158,725
Non-controlling interests	**9,058**	9,531	8,588	7,887	7,368
Total equity at 31 December	**197,518**	199,978	190,459	183,129	166,093
Total liabilities and equity at 31 December	**2,409,656**	2,634,139	2,671,318	2,692,538	2,555,579

Five-year selected financial information

	2015 $m	2014 $m	2013 $m	2012 $m	2011 $m
Called up share capital	**9,842**	9,609	9,415	9,238	8,934
Capital resources[18,19]	**189,833**	190,730	194,009	180,806	170,334
Undated subordinated loan capital	**2,368**	2,773	2,777	2,778	2,779
Preferred securities and dated subordinated loan capital[20]	**42,844**	47,208	48,114	48,260	49,438
Risk-weighted assets[18]	**1,102,995**	1,219,765	1,092,653	1,123,943	1,209,514
Financial statistics					
Loans and advances to customers as a percentage of customer accounts	**71.7**	72.2	72.9	73.4	73.5
Average total shareholders' equity to average total assets	**7.31**	7.01	6.55	6.16	5.64
Net asset value per ordinary share at year-end[21] ($)	**8.73**	9.28	9.27	9.09	8.48
Number of $0.50 ordinary shares in issue (millions)	**19,685**	19,218	18,830	18,476	17,868
Closing foreign exchange translation rates to $:					
$1: £	**0.675**	0.642	0.605	0.619	0.646
$1: €	**0.919**	0.823	0.726	0.758	0.773

For footnotes, see page 99.

A more detailed consolidated balance sheet is contained in the Financial Statements on page 339.

Combined view of customer lending and customer deposits

	2015 $m	2014 $m
Combined customer lending		
Loans and advances to customers	**924,454**	974,660
Loans and advances to customers reported in 'Assets held for sale'	**19,021**	577
– Brazil[22]	**17,001**	–
– other	**2,020**	577
At 31 December	**943,475**	975,237
Combined customer deposits		
Customer accounts	**1,289,586**	1,350,642
Customer accounts reported in 'Liabilities of disposal groups held for sale'	**16,682**	145
– Brazil[22]	**15,094**	–
– other	**1,588**	145
At 31 December	**1,306,268**	1,350,787

For footnote, see page 99.

Movement in 2015

Total reported assets of $2.4 trillion were 9% lower than at 31 December 2014 on a reported basis and 4% lower on a constant currency basis. One of the main drivers for this reduction was a fall in trading assets which reflects our ongoing focus on the efficient use of the balance sheet in the context of new prudential regulations.

Our ratio of customer advances to customer accounts was 71.7%. Both customer loans and customer accounts fell on a reported basis with these movements including:

- adverse currency translation movements of $52bn and $65bn, respectively;
- the transfer to 'Assets held for sale' and 'Liabilities of disposal groups held for sale' of balances relating to the planned disposal of our operations in Brazil of $17bn and $15bn, respectively; and
- a $13bn reduction in corporate overdraft and current account balances relating to a small number of clients in our PCM business in the UK who settled their overdraft and deposit balances on a net basis, with customers increasing the frequency with which they settled their positions.

Excluding these movements, customer lending grew by $32bn (or 4%) driven by Europe, and customer accounts grew by $32bn (or 3%), notably in Asia.

Assets

Cash and balances at central banks fell by $31bn, primarily in North America as we managed the balance of our liquid asset portfolio to maximise investment returns.

Trading assets decreased by $79bn, of which $16bn was driven by adverse currency translation, as we continued our reduction in trading inventory in the context of the prudential regulation. This resulted in reductions in holdings of debt securities by the Rates business, notably in Europe and North America. In addition, lower settlement balances also reflected our actions to improve efficiency of balance sheet usage.

Derivative assets decreased by $57bn or 16%, driven by valuation movements in interest rate contracts, reflecting shifts in major yield curves, notably in France and the UK.

Loans and advances to customers decreased by $50bn on a reported basis, driven by Latin America and Europe. This included the following items:

- adverse currency translation movements of $52bn;
- reclassification of $17bn to 'Assets held for sale' relating to our operations in Brazil; and
- a $13bn reduction in corporate overdraft balances in Europe, with a corresponding fall in corporate customer accounts.

Excluding these factors, customer lending balances grew by $32bn, largely from growth in Europe of $20bn, North America of $5bn and Asia of $4bn.

In Europe, the growth was from increased term lending to CMB customers, notably in the UK and Germany and higher balances in GB&M. In North America, the growth in balances was driven by increased term lending to corporate and commercial customers in CMB and GB&M, partly offset by a decline in RBWM from the continued reduction in the US run-off portfolio and the transfer to 'Assets held for sale' of US first lien mortgage balances. In Asia, balances rose largely from residential mortgage lending in Hong Kong and mainland China. CMB lending balances also rose, although GB&M lending fell. Both of these businesses were affected by weakening demand for trade lending, while GB&M's reduction also reflected our active management of overall client returns.

Liabilities

Repurchase agreements decreased by $27bn or 25%, driven by falls in Europe, notably in the UK, and in North America. We continued to closely manage these balances, as we reassessed the overall returns on these activities in light of the evolving regulatory landscape and overall client returns.

Customer accounts decreased by $61bn and included the following items:

- adverse currency translation movements of $65bn;
- reclassification of over $15bn to 'Liabilities of disposal groups held for sale' relating to our operations in Brazil; and
- a $13bn reduction in corporate current account balances, in line with the fall in corporate overdraft positions.

Excluding these factors, customer accounts grew by $32bn, notably in Asia in the first half of the year, reflecting growth in RBWM from increased savings balances by new and existing Premier customers, together with a rise in our PCM business in CMB.

Balances in Europe were broadly unchanged. Growth in our PCM business in CMB and a rise in RBWM balances reflecting customers' continued preference for holding balances in current and savings accounts were broadly offset by a fall in GB&M.

Trading liabilities fell by $49bn, mainly in North America and Europe reflecting the reduction in trading assets and our focus on optimising the funding of trading assets.

The decrease in *derivative liabilities* was in line with that of derivative assets as the underlying risk was broadly matched.

Equity

Total shareholders' equity fell by $2.0bn or 1%. The effects of profits generated in the year and the issue of new contingent convertible securities were more than offset by the combined effect of dividends paid and an increase in accumulated foreign exchange losses, which reflected the marked appreciation in the US dollar against a number of currencies, notably sterling and the euro. We recorded fair value gains in our available-for-sale reserve relating to our equity interest in Visa Europe of $432m. These were more than offset by fair value gains transferred to the income statement and fair value losses on debt securities during the year. The gains on Visa Europe were assessed against the expected consideration to be received from the proposed sale to Visa Inc. This transaction is expected to complete in 2016, at which point we will transfer the fair value gains to the income statement.

Risk-weighted assets

Risk-weighted assets ('RWA's) totalled $1,103bn at 31 December 2015, a decrease of $117bn during 2015. After foreign currency translation differences, RWAs reduced by $65bn in 2015, driven by targeted RWA initiatives of $124bn, partly offset by business growth of $35bn, and from growth in our associates of $14bn. The RWA initiatives included:

- the accelerated sell-down of our consumer mortgage portfolio in the US and the GB&M legacy book, together contributing $30bn to the reduction; and
- exposure reductions, process improvements and refined calculations, which reduced RWAs by $93bn, 61% of which were in GB&M.

The business growth of $35bn was from higher term lending to corporate customers in CMB and from higher general lending to corporates in GB&M. There was an increase of $14bn in our associates, BoCom and The Saudi British Bank.

Customer accounts by country

	2015 $m	2014 $m
Europe	**497,876**	545,959
– UK	**404,084**	439,313
– France[23]	**35,635**	40,750
– Germany	**13,873**	15,757
– Switzerland	**10,448**	11,058
– other	**33,836**	39,081
Asia	**598,620**	577,491
– Hong Kong	**421,538**	389,094
– Australia	**17,703**	19,312
– India	**11,795**	11,678
– Indonesia	**5,366**	5,788
– Mainland China	**46,177**	46,588
– Malaysia	**14,114**	16,292
– Singapore	**41,307**	43,731
– Taiwan	**11,812**	14,901
– other	**28,808**	30,107
Middle East and North Africa (excluding Saudi Arabia)	**36,468**	39,720
– Egypt	**6,602**	7,663
– United Arab Emirates	**18,281**	19,771
– other	**11,585**	12,286
North America	**135,152**	138,884
– US	**86,322**	84,894
– Canada	**39,727**	43,871
– other	**9,103**	10,119
Latin America	**21,470**	48,588
– Mexico	**15,798**	18,360
– other	**5,672**	30,228
included in other: Brazil[22]	**–**	23,204
At 31 December	**1,289,586**	1,350,642

For footnotes, see page 99.

Reconciliation of RoRWA measures

Performance Management

During 2015, we targeted a return on average ordinary shareholders' equity of 10%. For internal management purposes we monitor global businesses and geographical regions by pre-tax return on average risk-weighted assets. This metric is calibrated against return on equity ('RoE') and capital requirements to ensure that we are best placed to achieve capital strength and business profitability combined with regulatory capital efficiency objectives. We targeted a return on average RWAs of 2.3% in 2015.

In addition to the return on average risk-weighted assets ('RoRWA') we measure our performance internally using the non-GAAP measure of adjusted RoRWA, which is adjusted profit before tax as a percentage of average risk-weighted assets adjusted for the effects of foreign currency translation differences and significant items. Excluded from adjusted RoRWA are certain items which distort year-on-year performance as explained on page 48.

We also present the non-GAAP measure of adjusted RoRWA excluding run-off portfolios.

Reconciliation of adjusted RoRWA (excluding run-off portfolios)

	2015			2014		
	Pre-tax return $m	Average RWAs[25] $bn	RoRWA[24] %	Pre-tax return $m	Average RWAs[25] $bn	RoRWA[24] %
Reported	18,867	1,174	1.6	18,680	1,209	1.5
Adjusted	20,418	1,171	1.7	21,976	1,150	1.9
Run-off portfolios	447	84	0.5	847	115	0.7
Legacy credit in GB&M	(5)	35	–	149	48	0.3
US CML and other[26]	452	49	0.9	698	67	1.0
Adjusted (excluding run-off portfolios)	19,971	1,087	1.8	21,129	1,035	2.0

Reconciliation of reported and adjusted average risk-weighted assets

	Year ended 31 December		
	2015 $bn	2014 $bn	Change %
Average reported RWAs[25]	1,174	1,209	(2.9)
Currency translation adjustment[27]	–	(50)	
Significant items	(3)	(9)	
Average adjusted RWAs[25]	1,171	1,150	1.8

For footnotes, see page 99.

Critical accounting estimates and judgements

The results of HSBC reflect the choice of accounting policies, assumptions and estimates that underlie the preparation of HSBC's consolidated financial statements. The significant accounting policies, including the policies which include critical accounting estimates and judgements, are described in Note 1 and in the individual Notes on the Financial Statements. The accounting policies listed below are highlighted as they involve a high degree of judgement and estimation uncertainty and have a material impact on the financial statements:

- Impairment of loans and advances: Note 1(j) on page 354;
- Deferred tax assets: Note 8 on page 370;
- Valuation of financial instruments: Note 13 on page 378;
- Impairment of interests in associates: Note 19 on page 402;
- Goodwill impairment: Note 20 on page 406; and
- Provisions: Note 29 on page 421.

In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of the items above, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based, resulting in the recognition and measurement of materially different amounts from those estimated by management in the 2015 Financial Statements.

Global businesses

Summary

HSBC reviews operating activity on a number of bases, including by geographical region and by global business.

The tables and charts below present global businesses followed by geographical regions (page 76). Performance is analysed in this order because certain strategic themes, business initiatives and trends affect more than one geographical region. All tables are on a reported basis unless stated otherwise.

Basis of preparation

The results of global businesses are presented in accordance with the accounting policies used in the preparation of HSBC's consolidated financial statements. Our operations are closely integrated and, accordingly, the presentation of global business data includes internal allocations of certain items of income and expense. These allocations include the costs of certain support services and global functions to the extent that they can be meaningfully attributed to operational business lines. While such allocations have been made on a systematic and consistent basis, they necessarily involve a degree of subjectivity. Those costs which are not allocated to global businesses are included in 'Other'.

Where relevant, income and expense amounts presented include the results of inter-segment funding along with inter-company and inter-business line transactions. All such transactions are undertaken on arm's length terms.

The expense of the UK bank levy is included in the Europe geographical region as HSBC regards the levy as a cost of being headquartered in the UK. For the purposes of the presentation by global business, the cost of the levy is included in 'Other'.

Profit/(loss) before tax

	2015		2014		2013	
	$m	%	$m	%	$m	%
Retail Banking and Wealth Management[28]	**4,967**	**26.3**	5,581	29.9	6,553	29.1
Commercial Banking[28]	**7,973**	**42.3**	8,814	47.2	8,537	37.8
Global Banking and Markets	**7,910**	**41.9**	5,889	31.5	9,441	41.8
Global Private Banking	**344**	**1.8**	626	3.4	193	0.9
Other[29]	**(2,327)**	**(12.3)**	(2,230)	(12.0)	(2,159)	(9.6)
Year ended 31 December	**18,867**	**100.0**	18,680	100.0	22,565	100.0

Total assets[30]

	2015		2014	
	$m	%	$m	%
Retail Banking and Wealth Management	**473,284**	**19.6**	500,864	19.0
Commercial Banking	**365,290**	**15.2**	370,958	14.1
Global Banking and Markets	**1,616,704**	**67.1**	1,839,644	69.8
Global Private Banking	**81,448**	**3.4**	88,342	3.4
Other	**147,417**	**6.1**	164,537	6.2
Intra-HSBC items	**(274,487)**	**(11.4)**	(330,206)	(12.5)
At 31 December	**2,409,656**	**100.0**	2,634,139	100.0

Risk-weighted assets

	2015		2014	
	$bn	%	$bn	%
Retail Banking and Wealth Management	**189.5**	**17.2**	207.2	17.0
Commercial Banking	**421.0**	**38.2**	430.3	35.3
Global Banking and Markets	**440.6**	**39.9**	516.1	42.3
Global Private Banking	**19.3**	**1.7**	20.8	1.7
Other	**32.6**	**3.0**	45.4	3.7
At 31 December	**1,103.0**	**100.0**	1,219.8	100.0

For footnotes, see page 99.

Reconciliation of reported and adjusted items – global businesses

2015 compared with 2014

	2015					
	RBWM $m	CMB $m	GB&M $m	GPB $m	Other $m	Total $m
Revenue[1]						
Reported[31]	23,516	14,870	18,233	2,172	7,604	59,800
Significant items	326	17	(199)	(31)	(2,148)	(2,035)
– disposal costs of Brazilian operations	–	–	–	–	18	18
– DVA on derivative contracts	–	–	(230)	–	–	(230)
– fair value movements on non-qualifying hedges[32]	90	(1)	31	(1)	208	327
– gain on the partial sale of shareholding in Industrial Bank	–	–	–	–	(1,372)	(1,372)
– loss on sale of several tranches of real estate secured accounts in the US	214	–	–	–	–	214
– own credit spread[2]	–	–	–	–	(1,002)	(1,002)
– provisions/(releases) arising from the ongoing review of compliance with the Consumer Credit Act in the UK	22	18	–	(30)	–	10
Adjusted[31]	23,842	14,887	18,034	2,141	5,456	57,765
LICs						
Reported	(1,939)	(1,770)	–	(12)	–	(3,721)
Adjusted	(1,939)	(1,770)	–	(12)	–	(3,721)
Operating expenses						
Reported[31]	(17,020)	(6,744)	(10,834)	(1,832)	(9,933)	(39,768)
Significant items	1,537	202	1,035	206	606	3,586
– disposal costs of Brazilian operations	66	16	14	1	13	110
– costs-to-achieve	198	163	69	16	462	908
– costs to establish UK ring-fenced bank	–	–	–	–	89	89
– regulatory provisions in GPB	–	–	–	171	1	172
– restructuring and other related costs	32	5	22	18	40	117
– settlements and provisions in connection with legal matters	700	–	949	–	–	1,649
– UK customer redress programmes	541	18	(19)	–	1	541
Adjusted[31]	(15,483)	(6,542)	(9,799)	(1,626)	(9,327)	(36,182)
Share of profit in associates and joint ventures						
Reported	410	1,617	511	16	2	2,556
Adjusted	410	1,617	511	16	2	2,556
Profit/(loss) before tax						
Reported	4,967	7,973	7,910	344	(2,327)	18,867
Significant items	1,863	219	836	175	(1,542)	1,551
– revenue	326	17	(199)	(31)	(2,148)	(2,035)
– operating expenses	1,537	202	1,035	206	606	3,586
Adjusted	6,830	8,192	8,746	519	(3,869)	20,418

	2014					
	RBWM $m	CMB $m	GB&M $m	GPB $m	Other $m	Total $m
Revenue[1]						
Reported[31]	25,149	15,748	17,778	2,377	6,365	61,248
Currency translation[31]	(2,209)	(1,242)	(1,296)	(138)	(158)	(4,775)
Significant items	877	9	328	41	(501)	754
– DVA on derivative contracts	–	–	332	–	–	332
– fair value movements on non-qualifying hedges[32]	493	(1)	8	1	40	541
– gain on sale of several tranches of real estate secured accounts in the US	(168)	–	–	–	–	(168)
– gain on sale of shareholding in Bank of Shanghai	–	–	–	–	(428)	(428)
– impairment of our investment in Industrial Bank	–	–	–	–	271	271
– own credit spread[2]	–	–	–	–	(417)	(417)
– provisions arising from the ongoing review of compliance with the Consumer Credit Act in the UK	568	24	–	40	–	632
– (gain)/loss and trading results from disposals and changes in ownership levels	(16)	(14)	(12)	–	33	(9)
Adjusted[31]	23,817	14,515	16,810	2,280	5,706	57,227
LICs						
Reported	(1,936)	(1,558)	(365)	8	–	(3,851)
Currency translation	340	256	86	3	(2)	683
Significant items	2	(2)	–	–	–	–
– trading results from disposals and changes in ownership levels	2	(2)	–	–	–	–
Adjusted	(1,594)	(1,304)	(279)	11	(2)	(3,168)
Operating expenses						
Reported[31]	(18,030)	(6,981)	(12,028)	(1,778)	(8,601)	(41,249)
Currency translation[31]	1,851	627	782	100	186	3,278
Significant items	1,118	189	1,896	71	121	3,395
– charge in relation to the settlement agreement with the Federal Housing Finance Authority	17	–	533	–	–	550
– regulatory provisions in GPB	–	–	–	65	–	65
– restructuring and other related costs	88	37	27	6	120	278
– settlements and provisions in connection with legal matters	–	–	1,187	–	–	1,187
– UK customer redress programmes	992	138	145	–	–	1,275
– trading results from disposals and changes in ownership levels	21	14	4	–	1	40
Adjusted[31]	(15,061)	(6,165)	(9,350)	(1,607)	(8,294)	(34,576)
Share of profit in associates and joint ventures						
Reported	398	1,605	504	19	6	2,532
Currency translation	(5)	(28)	(7)	–	1	(39)
Adjusted	393	1,577	497	19	7	2,493
Profit/(loss) before tax						
Reported	5,581	8,814	5,889	626	(2,230)	18,680
Currency translation	(23)	(387)	(435)	(35)	27	(853)
Significant items	1,997	196	2,224	112	(380)	4,149
– revenue	877	9	328	41	(501)	754
– LICs	2	(2)	–	–	–	–
– operating expenses	1,118	189	1,896	71	121	3,395
Adjusted	7,555	8,623	7,678	703	(2,583)	21,976

For footnotes, see page 99.

Retail Banking and Wealth Management

RBWM provides banking and wealth management services for our personal customers to help them secure their future prosperity and realise their ambitions.

	Total RBWM[28] $m	US run-off portfolio $m	Principal RBWM $m	Principal RBWM consists of: Banking operations $m	Insurance manufacturing $m	Asset management $m
2015						
Net interest income	**15,926**	**1,033**	**14,893**	**13,127**	**1,757**	**9**
Net fee income/(expense)	**6,218**	**(4)**	**6,222**	**5,726**	**(560)**	**1,056**
Other income/(expense)[33]	**1,372**	**(203)**	**1,575**	**876**	**680**	**19**
Net operating income[1]	**23,516**	**826**	**22,690**	**19,729**	**1,877**	**1,084**
LICs[34]	**(1,939)**	**(62)**	**(1,877)**	**(1,877)**	**–**	**–**
Net operating income	**21,577**	**764**	**20,813**	**17,852**	**1,877**	**1,084**
Total operating expenses	**(17,020)**	**(1,384)**	**(15,636)**	**(14,459)**	**(432)**	**(745)**
Operating profit/(loss)	**4,557**	**(620)**	**5,177**	**3,393**	**1,445**	**339**
Income from associates[35]	**410**	**–**	**410**	**357**	**24**	**29**
Profit/(loss) before tax	**4,967**	**(620)**	**5,587**	**3,750**	**1,469**	**368**
RoRWA[24]	**2.5%**	**(1.3%)**	**3.7%**			
2014						
Net interest income	17,130	1,390	15,740	13,983	1,746	11
Net fee income/(expense)	6,836	(4)	6,840	6,264	(534)	1,110
Other income/(expense)[33]	1,183	(49)	1,232	602	608	22
Net operating income[1]	25,149	1,337	23,812	20,849	1,820	1,143
LICs[34]	(1,936)	(30)	(1,906)	(1,906)	–	–
Net operating income	23,213	1,307	21,906	18,943	1,820	1,143
Total operating expenses	(18,030)	(738)	(17,292)	(16,060)	(453)	(779)
Operating profit	5,183	569	4,614	2,883	1,367	364
Income from associates[35]	398	–	398	323	40	35
Profit before tax	5,581	569	5,012	3,206	1,407	399
RoRWA[24]	2.5%	0.8%	3.2%			
2013						
Net interest income	18,808	2,061	16,747	15,003	1,725	19
Net fee income/(expense)	7,211	11	7,200	6,786	(625)	1,039
Other income/(expense)[33]	1,434	(400)	1,834	1,014	779	41
Net operating income[1]	27,453	1,672	25,781	22,803	1,879	1,099
LICs[34]	(3,510)	(705)	(2,805)	(2,806)	–	1
Net operating income	23,943	967	22,976	19,997	1,879	1,100
Total operating expenses	(17,774)	(1,166)	(16,608)	(15,307)	(554)	(747)
Operating profit/(loss)	6,169	(199)	6,368	4,690	1,325	353
Income/(expense) from associates[35]	384	(1)	385	299	62	24
Profit/(loss) before tax	6,553	(200)	6,753	4,989	1,387	377
RoRWA[24]	2.6%	(0.2%)	4.2%			

For footnotes, see page 99.

RBWM comprises the Principal RBWM business and the US run-off portfolio. We believe that highlighting Principal RBWM (and its constituent business streams, Banking Operations, Insurance Manufacturing and Asset Management) allows management to identify more readily the causes of material changes from year-to-year in the ongoing business and assess the factors and trends that are expected to have a material effect on the business in future years.

Insurance manufacturing for RBWM excluded other global businesses which contributed net operating income of $286m (2014: $358m, 2013: $397m) and profit before tax of $201m (2014: $263m, 2013: $266m) to overall insurance manufacturing. In 2015 insurance manufacturing net operating income for RBWM included $1,686m within Wealth Management (2014: $1,529m) and $191m within other products (2014: $350m).

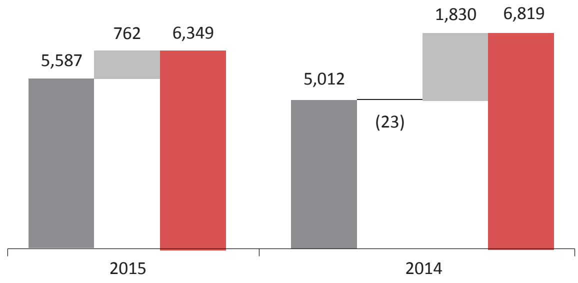
Principal RBWM performance

Principal RBWM: management view of adjusted revenue

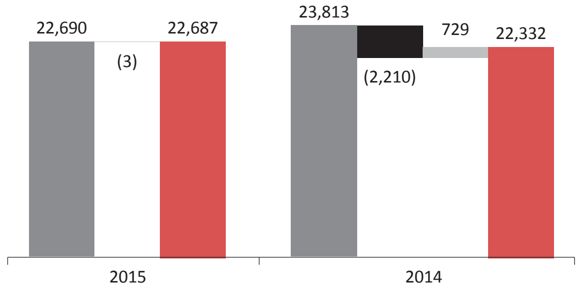
	2015 $m	2014 $m
Net operating income[1]		
Current accounts, savings and deposits	5,602	5,530
Wealth management products	6,282	5,825
– investment distribution[36]	3,512	3,271
– life insurance manufacturing	1,686	1,529
– asset management	1,084	1,025
Personal lending	9,962	10,218
– mortgages	2,873	2,956
– credit cards	3,868	3,961
– other personal lending[37]	3,221	3,301
Other[38]	841	759
Year ended 31 December	22,687	22,332

For footnotes, see page 99.

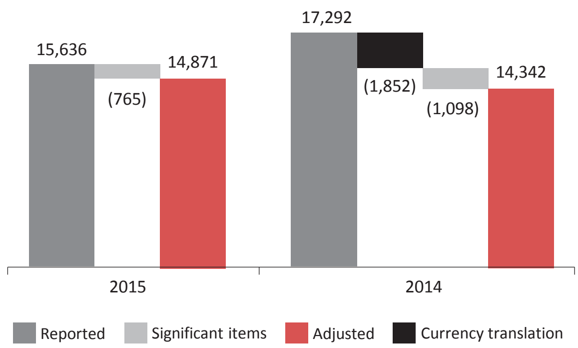
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 66.

Strategic Report
Financial Review
Corporate Governance
Financial Statements
Shareholder Information

Commercial Banking

CMB serves more than two million customers in 55 countries and territories. Our customers range from small enterprises focused primarily on their domestic markets through to corporates operating globally.

	2015 $m	2014 $m	2013 $m
Net interest income	**9,859**	10,158	9,731
Net fee income	**4,190**	4,570	4,527
Other income[33]	**821**	1,020	1,394
Net operating income[1]	**14,870**	15,748	15,652
LICs[34]	**(1,770)**	(1,558)	(2,101)
Net operating income	**13,100**	14,190	13,551
Total operating expenses	**(6,744)**	(6,981)	(6,523)
Operating profit	**6,356**	7,209	7,028
Income from associates[35]	**1,617**	1,605	1,509
Profit before tax	**7,973**	8,814	8,537
RoRWA[24]	**1.9%**	2.1%	2.2%

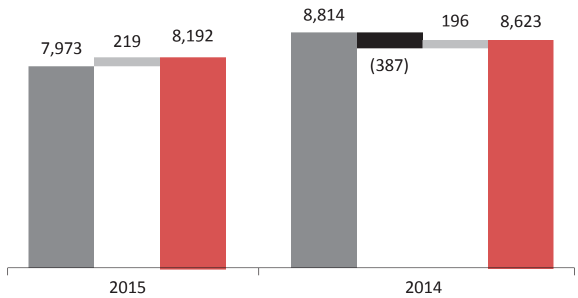
For footnotes, see page 99.

Management view of adjusted revenue

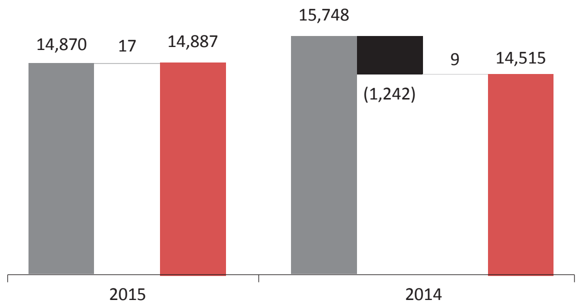
	2015 $m	2014 $m
Net operating income[1]		
Global Trade and Receivables Finance	**2,403**	2,447
Credit and Lending	**6,002**	5,609
Payments and Cash Management, current accounts and savings deposits	**4,568**	4,423
Markets products, Insurance and Investments and Other[39]	**1,914**	2,036
Year ended 31 December	**14,887**	14,515

For footnotes, see page 99.

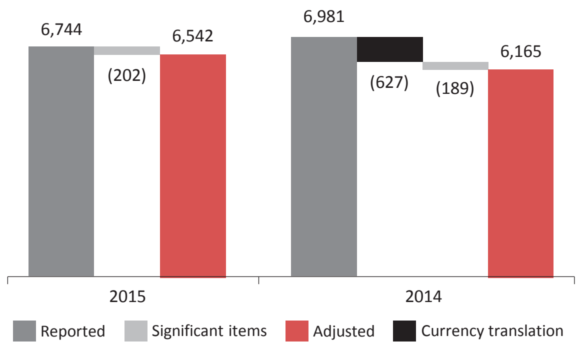
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 66.

Global Banking and Markets

GB&M supports major government, corporate and institutional clients worldwide in achieving their long-term strategic goals through tailored and innovative solutions.

	Total GB&M $m	Legacy $m	GB&M client-facing and BSM $m
2015			
Net interest income	**6,931**	**127**	**6,804**
Net fee income/(expense)	**3,375**	**(11)**	**3,386**
Net trading income[40]	**7,169**	**9**	**7,160**
Other income/(expense)[33]	**758**	**(64)**	**822**
Net operating income[1]	**18,233**	**61**	**18,172**
LICs[34]	**–**	**37**	**(37)**
Net operating income	**18,233**	**98**	**18,135**
Total operating expenses	**(10,834)**	**(103)**	**(10,731)**
Operating profit/(loss)	**7,399**	**(5)**	**7,404**
Income from associates[35]	**511**		
Profit/(loss) before tax	**7,910**		
RoRWA[24]	**1.6%**	**–**	**1.8%**
2014			
Net interest income/(expense)	7,022	(172)	7,194
Net fee income/(expense)	3,560	(7)	3,567
Net trading income/(expense)[40]	5,861	(55)	5,916
Other income[33]	1,335	232	1,103
Net operating income/ (expense)[1]	17,778	(2)	17,780
LICs[34]	(365)	349	(714)
Net operating income	17,413	347	17,066
Total operating expenses	(12,028)	(708)	(11,320)
Operating profit/(loss)	5,385	(361)	5,746
Income from associates[35]	504		
Profit/(loss) before tax	5,889		
RoRWA[24]	1.2%	(0.8%)	1.3%
2013			
Net interest income	6,766	38	6,728
Net fee income/(expense)	3,482	(7)	3,489
Net trading income[40]	6,780	198	6,582
Other income/(expense)[33]	2,148	(80)	2,228
Net operating income[1]	19,176	149	19,027
LICs[34]	(207)	206	(413)
Net operating income	18,969	355	18,614
Total operating expenses	(9,960)	(170)	(9,790)
Operating profit	9,009	185	8,824
Income from associates[35]	432		
Profit before tax	9,441		
RoRWA[24]	2.3%	0.6%	2.5%

For footnotes, see page 99.

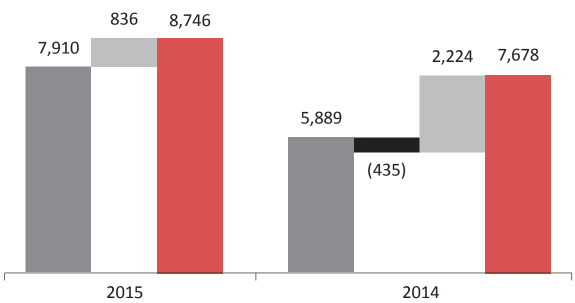
The GB&M client-facing and Balance Sheet Management ('BSM') businesses measure excludes the effects of the legacy credit portfolio and income from associates. This allows GB&M management to identify more readily the cause of material changes from year to year in the ongoing businesses and assess the factors and trends that are expected to have a material effect on the businesses in future years.

Management view of adjusted revenue

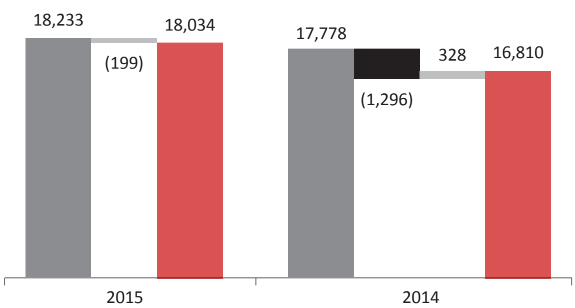
	2015 $m	2014 $m
Total operating income[1]		
Markets[41]	**6,882**	5,775
– Legacy credit	**61**	(16)
– Credit	**659**	532
– Rates	**1,638**	1,419
– Foreign Exchange	**2,918**	2,722
– Equities	**1,606**	1,118
Capital Financing	**3,789**	3,777
Payments and Cash Management	**1,801**	1,680
Securities Services	**1,698**	1,589
Global Trade and Receivables Finance	**718**	701
Balance Sheet Management	**2,943**	2,845
Principal Investments	**243**	498
Other[42]	**(40)**	(55)
Year ended 31 December	**18,034**	16,810

For footnotes, see page 99.

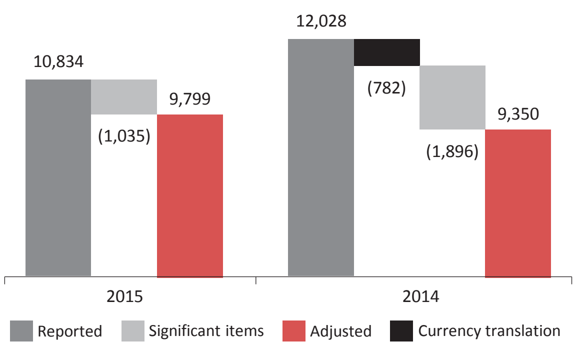
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 66.

Global Private Banking

GPB serves high net worth individuals and families with complex and international needs within the Group's priority markets.

	2015 $m	2014 $m	2013 $m
Net interest income	**870**	994	1,146
Net fee income	**959**	1,056	1,150
Other income[33]	**343**	327	143
Net operating income[1]	**2,172**	2,377	2,439
LICs[34]	**(12)**	8	(31)
Net operating income	**2,160**	2,385	2,408
Total operating expenses	**(1,832)**	(1,778)	(2,229)
Operating profit	**328**	607	179
Income from associates[35]	**16**	19	14
Profit before tax	**344**	626	193
RoRWA[24]	**1.7%**	2.9%	0.9%

Reported client assets[43]

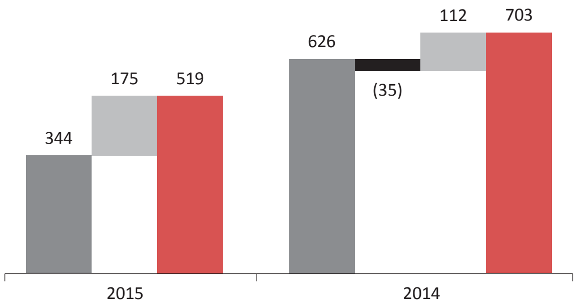
	2015 $bn	2014 $bn
At 1 January	**365**	382
Net new money	**1**	(3)
Of which: areas targeted for growth	**14**	14
Value change	**1**	8
Disposals	**–**	(11)
Exchange and other	**(18)**	(11)
At 31 December	**349**	365

Reported client assets by geography

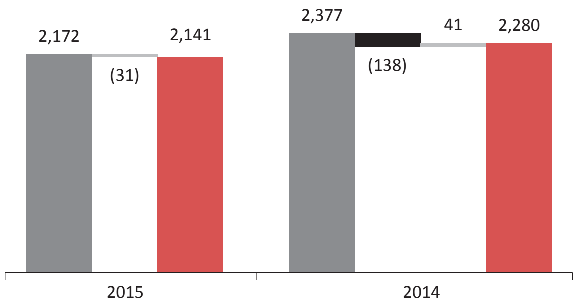
	2015 $bn	2014 $bn
Europe	**168**	179
Asia	**112**	112
North America	**61**	63
Latin America	**8**	11
At 31 December	**349**	365

For footnotes, see page 99.

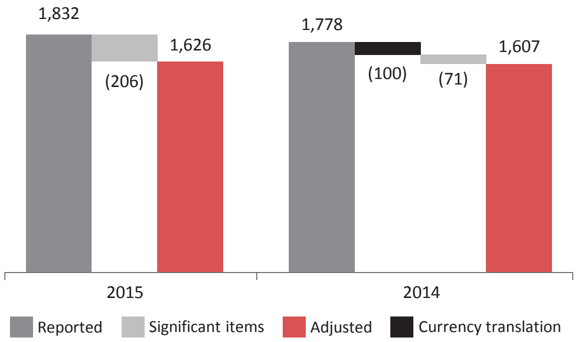
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 66.

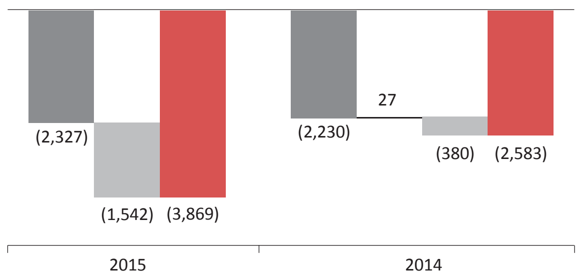
Other[29]

'Other' contains the results of HSBC's holding company and financing operations, central support and functional costs with associated recoveries, unallocated investment activities, centrally held investment companies, certain property transactions and movements in fair value of own debt.

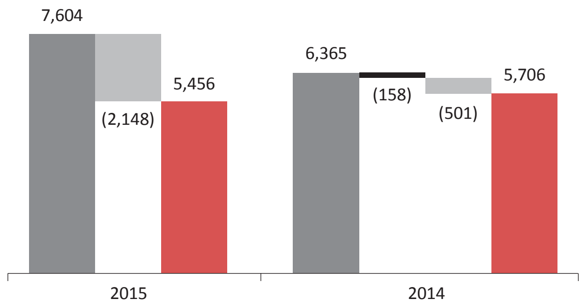
	2015 $m	2014 $m	2013 $m
Net interest expense	**(710)**	(501)	(737)
Net fee income/(expense)	**(37)**	(65)	64
Net trading income/(expense)	**(192)**	(92)	6
Changes in fair value of long-term debt issued and related derivatives	**863**	508	(1,228)
Changes in other financial instruments designated at fair value	**61**	(9)	(576)
Net income/(expense) from financial instruments designated at fair value	**924**	499	(1,804)
Other income	**7,619**	6,524	8,122
Net operating income[1]	**7,604**	6,365	5,651
LICs[34]	**–**	–	–
Net operating income	**7,604**	6,365	5,651
Total operating expenses	**(9,933)**	(8,601)	(7,796)
Operating loss	**(2,329)**	(2,236)	(2,145)
Income/(expense) from associates[35]	**2**	6	(14)
Loss before tax	**(2,327)**	(2,230)	(2,159)

For footnotes, see page 99.

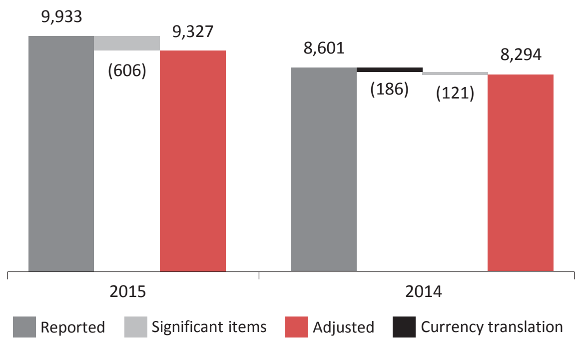
Loss before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 66.

Analysis by global business

HSBC profit/(loss) before tax and balance sheet data

	2015						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other[29] $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income/(expense)	15,926	9,859	6,931	870	(710)	(345)	32,531
Net fee income/(expense)	6,218	4,190	3,375	959	(37)	–	14,705
Trading income/(expense) excluding net interest income	540	571	5,714	327	(204)	–	6,948
Net interest income/(expense) on trading activities	(19)	(16)	1,455	(2)	12	345	1,775
Net trading income/(expense)[40]	521	555	7,169	325	(192)	345	8,723
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	863	–	863
Net income/(expense) from other financial instruments designated at fair value	556	110	(58)	–	61	–	669
Net income/(expense) from financial instruments designated at fair value	556	110	(58)	–	924	–	1,532
Gains less losses from financial investments	68	37	598	23	1,342	–	2,068
Dividend income	23	16	40	11	33	–	123
Net insurance premium income	9,204	1,106	5	42	(2)	–	10,355
Other operating income	972	252	177	3	6,246	(6,595)	1,055
Total operating income	33,488	16,125	18,237	2,233	7,604	(6,595)	71,092
Net insurance claims[45]	(9,972)	(1,255)	(4)	(61)	–	–	(11,292)
Net operating income[1]	23,516	14,870	18,233	2,172	7,604	(6,595)	59,800
Loan impairment charges and other credit risk provisions	(1,939)	(1,770)	–	(12)	–	–	(3,721)
Net operating income	21,577	13,100	18,233	2,160	7,604	(6,595)	56,079
Employee expenses[46]	(4,966)	(2,443)	(3,735)	(654)	(8,102)	–	(19,900)
Other operating expenses	(12,054)	(4,301)	(7,099)	(1,178)	(1,831)	6,595	(19,868)
Total operating expenses	(17,020)	(6,744)	(10,834)	(1,832)	(9,933)	6,595	(39,768)
Operating profit/(loss)	4,557	6,356	7,399	328	(2,329)	–	16,311
Share of profit in associates and joint ventures	410	1,617	511	16	2	–	2,556
Profit/(loss) before tax	4,967	7,973	7,910	344	(2,327)	–	18,867
	%	%	%	%	%		%
Share of HSBC's profit before tax	26.3	42.3	41.9	1.8	(12.3)		100.0
Cost efficiency ratio	72.4	45.4	59.4	84.3	130.6		66.5
Balance sheet data[22,30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	340,009	302,240	236,932	42,942	2,331		924,454
– reported in held for sale	5,258	8,010	3,689	85	1,979		19,021
Total assets	473,284	365,290	1,616,704	81,448	147,417	(274,487)	2,409,656
Customer accounts	584,872	361,701	261,728	80,404	881		1,289,586
– reported in held for sale	7,758	3,363	2,551	3,010	–		16,682

	2014						
	Retail Banking and Wealth Management[28] $m	Commercial Banking[28] $m	Global Banking and Markets $m	Global Private Banking $m	Other[29] $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income/(expense)	17,130	10,158	7,022	994	(501)	(98)	34,705
Net fee income/(expense)	6,836	4,570	3,560	1,056	(65)	–	15,957
Trading income/(expense) excluding net interest income	(26)	618	4,063	298	(100)	–	4,853
Net interest income/(expense) on trading activities	9	(2)	1,798	(4)	8	98	1,907
Net trading income/(expense)[40]	(17)	616	5,861	294	(92)	98	6,760
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	508	–	508
Net income/(expense) from other financial instruments designated at fair value	1,684	279	12	(1)	(9)	–	1,965
Net income/(expense) from financial instruments designated at fair value	1,684	279	12	(1)	499	–	2,473
Gains less losses from financial investments	14	31	1,117	9	164	–	1,335
Dividend income	24	18	80	5	184	–	311
Net insurance premium income	10,609	1,257	5	50	–	–	11,921
Other operating income	726	241	124	33	6,176	(6,169)	1,131
Total operating income	37,006	17,170	17,781	2,440	6,365	(6,169)	74,593
Net insurance claims[45]	(11,857)	(1,422)	(3)	(63)	–	–	(13,345)
Net operating income[1]	25,149	15,748	17,778	2,377	6,365	(6,169)	61,248
Loan impairment (charges)/recoveries and other credit risk provisions	(1,936)	(1,558)	(365)	8	–	–	(3,851)
Net operating income	23,213	14,190	17,413	2,385	6,365	(6,169)	57,397
Employee expenses[46]	(5,126)	(2,351)	(3,655)	(732)	(8,502)	–	(20,366)
Other operating expenses	(12,904)	(4,630)	(8,373)	(1,046)	(99)	6,169	(20,883)
Total operating expenses	(18,030)	(6,981)	(12,028)	(1,778)	(8,601)	6,169	(41,249)
Operating profit/(loss)	5,183	7,209	5,385	607	(2,236)	–	16,148
Share of profit in associates and joint ventures	398	1,605	504	19	6	–	2,532
Profit/(loss) before tax	5,581	8,814	5,889	626	(2,230)	–	18,680
	%	%	%	%	%		%
Share of HSBC's profit before tax	29.9	47.2	31.5	3.4	(12.0)		100.0
Cost efficiency ratio	71.7	44.3	67.7	74.8	135.1		67.3
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	360,704	313,039	254,463	44,102	2,352		974,660
– reported in held for sale	198	–	288	91	–		577
Total assets	500,864	370,958	1,839,644	88,342	164,537	(330,206)	2,634,139
Customer accounts	583,757	361,318	319,121	85,465	981		1,350,642
– reported in held for sale	–	–	–	145	–		145

For footnotes, see page 99.

Geographical regions

Summary

Additional information on results in 2015 may be found in the Financial Summary on pages 48 to 64.

In the analysis of profit and loss by geographical regions that follows, operating income and operating expenses include intra-HSBC items of $3,375m (2014: $2,972m; 2013: $2,628m).

All tables are on a reported basis unless otherwise stated.

Basis of preparation

The results of the geographical regions are presented in accordance with the accounting policies used in the preparation of HSBC's consolidated financial statements. Our operations are closely integrated, and accordingly, the presentation of the geographical data includes internal allocation of certain items of income and expense. These allocations include the costs of certain support services and global functions to the extent that they can be meaningfully attributed to geographical regions. While such allocations have been done on a systematic and consistent basis, they necessarily involve a degree of subjectivity.

Where relevant, income and expense amounts presented include the results of inter-segment funding along with inter-company transactions. All such transactions are undertaken on an arm's length basis.

The expense of the UK bank levy is included in the Europe geographical region as HSBC regards the levy as a cost of being headquartered in the UK.

Profit/(loss) before tax

	2015		2014		2013	
	$m	%	$m	%	$m	%
Europe	**643**	**3.4**	596	3.2	1,825	8.1
Asia	**15,763**	**83.5**	14,625	78.3	15,853	70.3
Middle East and North Africa	**1,537**	**8.1**	1,826	9.8	1,694	7.5
North America	**614**	**3.3**	1,417	7.6	1,221	5.4
Latin America	**310**	**1.7**	216	1.1	1,972	8.7
Year ended 31 December	**18,867**	**100.0**	18,680	100.0	22,565	100.0

Total assets[30]

	2015		2014	
	$m	%	$m	%
Europe	**1,129,365**	**46.9**	1,290,926	49.0
Asia	**889,747**	**36.9**	878,723	33.4
Middle East and North Africa	**59,236**	**2.5**	62,417	2.4
North America	**393,960**	**16.3**	436,859	16.6
Latin America	**86,262**	**3.6**	115,354	4.4
Intra-HSBC items	**(148,914)**	**(6.2)**	(150,140)	(5.8)
At 31 December	**2,409,656**	**100.0**	2,634,139	100.0

Risk-weighted assets[47]

	2015		2014	
	$bn	%	$bn	%
At 31 December	**1,103.0**	**100.0**	1,219.8	100.0
Europe	**337.4**	**30.6**	375.4	30.1
Asia	**459.7**	**41.7**	499.8	40.0
Middle East and North Africa	**60.4**	**5.5**	63.0	5.0
North America	**191.6**	**17.4**	221.4	17.8
Latin America	**73.4**	**6.7**	88.8	7.1

For footnotes, see page 99.

Reconciliation of reported and adjusted items – geographical regions

2015 compared with 2014

	2015							
	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m	UK $m	Hong Kong $m
Revenue[1]								
Reported[31]	21,058	25,303	2,565	7,657	6,592	59,800	15,493	15,616
Significant items	(656)	(1,431)	(10)	98	(36)	(2,035)	(595)	(1,383)
– disposal costs of Brazilian operations	–	–	–	–	18	18	–	–
– debit valuation adjustment ('DVA') on derivative contracts	(95)	(58)	(1)	(21)	(55)	(230)	(78)	(13)
– fair value movements on non-qualifying hedges[32]	200	2	–	124	1	327	204	6
– gain on the partial sale of shareholding in Industrial Bank	–	(1,372)	–	–	–	(1,372)	–	(1,372)
– loss on sale of several tranches of real estate secured accounts in the US	–	–	–	214	–	214	–	–
– own credit spread[2]	(771)	(3)	(9)	(219)	–	(1,002)	(731)	(4)
– provisions arising from the ongoing review of compliance with the Consumer Credit Act in the UK	10	–	–	–	–	10	10	–
Adjusted[31]	20,402	23,872	2,555	7,755	6,556	57,765	14,898	14,233
Loan impairment charges and other credit risk provisions ('LIC's)								
Reported	(690)	(693)	(299)	(544)	(1,495)	(3,721)	(248)	(155)
Adjusted	(690)	(693)	(299)	(544)	(1,495)	(3,721)	(248)	(155)
Operating expenses								
Reported[31]	(19,733)	(10,889)	(1,234)	(6,501)	(4,786)	(39,768)	(15,555)	(5,686)
Significant items	2,405	130	15	851	185	3,586	2,151	49
– disposal costs of Brazilian operations	–	–	–	–	110	110	–	–
– costs-to-achieve	600	122	14	103	69	908	536	43
– costs to establish UK ring-fenced bank	89	–	–	–	–	89	89	–
– regulatory provisions in GPB	172	–	–	–	–	172	–	–
– restructuring and other related costs	68	8	1	34	6	117	50	6
– settlements and provisions in connection with legal matters	935	–	–	714	–	1,649	935	–
– UK customer redress programmes	541	–	–	–	–	541	541	–
Adjusted[31]	(17,328)	(10,759)	(1,219)	(5,650)	(4,601)	(36,182)	(13,404)	(5,637)
Share of profit in associates and joint ventures								
Reported	8	2,042	505	2	(1)	2,556	10	31
Adjusted	8	2,042	505	2	(1)	2,556	10	31
Profit/(loss) before tax								
Reported	643	15,763	1,537	614	310	18,867	(300)	9,806
Significant items	1,749	(1,301)	5	949	149	1,551	1,556	(1,334)
– revenue	(656)	(1,431)	(10)	98	(36)	(2,035)	(595)	(1,383)
– operating expenses	2,405	130	15	851	185	3,586	2,151	49
Adjusted	2,392	14,462	1,542	1,563	459	20,418	1,256	8,472

Reconciliation of reported and adjusted items (continued)

	2014							
	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m	UK $m	Hong Kong $m
Revenue[1]								
Reported[31]	21,571	23,677	2,548	8,152	8,272	61,248	15,727	13,844
Currency translation[31]	(2,013)	(680)	(50)	(252)	(1,871)	(4,775)	(1,058)	4
Significant items	708	(48)	(3)	116	(19)	754	353	(119)
– DVA on derivative contracts	234	69	5	16	8	332	203	26
– fair value movements on non-qualifying hedges[32]	235	4	–	302	–	541	(8)	11
– gain on sale of several tranches of real estate secured accounts in the US	–	–	–	(168)	–	(168)	–	–
– gain on sale of shareholding in Bank of Shanghai	–	(428)	–	–	–	(428)	–	(428)
– impairment of our investment in Industrial Bank	–	271	–	–	–	271	–	271
– own credit spread[4]	(393)	4	6	(34)	–	(417)	(474)	1
– provisions arising from the ongoing review of compliance with the Consumer Credit Act in the UK	632	–	–	–	–	632	632	–
– (gain)/loss and trading results from disposals and changes in ownership levels	–	32	(14)	–	(27)	(9)	–	–
Adjusted[31]	20,266	22,949	2,495	8,016	6,382	57,227	15,022	13,729
LICs								
Reported	(764)	(647)	6	(322)	(2,124)	(3,851)	(214)	(320)
Currency translation	104	26	–	13	540	683	4	–
Significant items	–	–	(2)	–	2	–	–	–
– trading results from disposals and changes in ownership levels	–	–	(2)	–	2	–	–	–
Adjusted	(660)	(621)	4	(309)	(1,582)	(3,168)	(210)	(320)
Operating expenses								
Reported[31]	(20,217)	(10,427)	(1,216)	(6,429)	(5,932)	(41,249)	(15,576)	(5,424)
Currency translation[31]	1,499	352	16	129	1,373	3,278	809	(1)
Significant items	2,601	58	33	578	125	3,395	2,553	56
– charge in relation to the settlement agreement with the Federal Housing Finance Authority	–	–	–	550	–	550	–	–
– regulatory provisions in GPB	16	49	–	–	–	65	–	49
– restructuring and other related costs	123	9	2	28	116	278	91	7
– settlements and provisions in connection with legal matters	1,187	–	–	–	–	1,187	1,187	–
– UK customer redress programmes	1,275	–	–	–	–	1,275	1,275	–
– trading results from disposals and changes in ownership levels	–	–	31	–	9	40	–	–
Adjusted[31]	(16,117)	(10,017)	(1,167)	(5,722)	(4,434)	(34,576)	(12,214)	(5,369)
Share of profit in associates and joint ventures								
Reported	6	2,022	488	16	–	2,532	7	42
Currency translation	1	(38)	–	(2)	–	(39)	(1)	(1)
Adjusted	7	1,984	488	14	–	2,493	6	41
Profit/(loss) before tax								
Reported	596	14,625	1,826	1,417	216	18,680	(56)	8,142
Currency translation	(409)	(340)	(34)	(112)	42	(853)	(246)	2
Significant items	3,309	10	28	694	108	4,149	2,906	(63)
– revenue	708	(48)	(3)	116	(19)	754	353	(119)
– LICs	–	–	(2)	–	2	–	–	–
– operating expenses	2,601	58	33	578	125	3,395	2,553	56
Adjusted	3,496	14,295	1,820	1,999	366	21,976	2,604	8,081

For footnotes, see page 99.

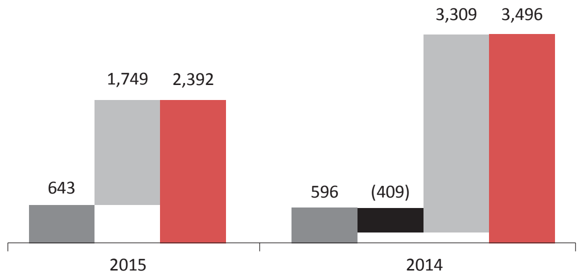
Europe

Our principal banking operations in Europe are HSBC Bank plc in the UK, HSBC France, HSBC Private Bank (Suisse) SA and HSBC Trinkaus & Burkhardt AG. Through these operations we provide a wide range of banking, treasury and financial services to personal, commercial and corporate customers across Europe.

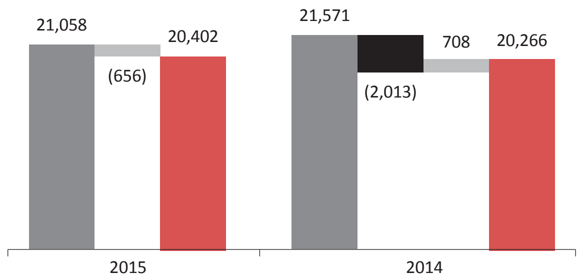
	2015 $m	2014 $m	2013 $m
Net interest income	**10,005**	10,611	10,693
Net fee income	**4,891**	6,042	6,032
Net trading income	**4,060**	2,534	4,423
Other income/(expense)	**2,102**	2,384	(181)
Net operating income[1]	**21,058**	21,571	20,967
LICs[34]	**(690)**	(764)	(1,530)
Net operating income	**20,368**	20,807	19,437
Total operating expenses	**(19,733)**	(20,217)	(17,613)
Operating profit	**635**	590	1,824
Income from associates[35]	**8**	6	1
Profit before tax	**643**	596	1,825
Cost efficiency ratio	**93.7%**	93.7%	84.0%
RoRWA[24]	**0.2%**	0.2%	0.6%
Year-end staff numbers	**67,509**	69,363	68,334

For footnotes, see page 99.

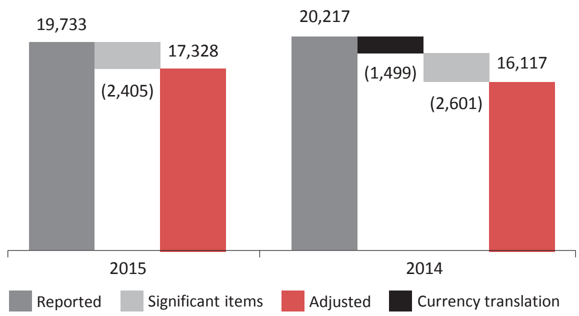
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 77.

Country view of adjusted revenue

	2015 $m	2014 $m
UK	**14,898**	15,022
France	**2,619**	2,487
Germany	**827**	788
Switzerland	**631**	698
Other	**1,427**	1,271
Year ended 31 December	**20,402**	20,266

Profit/(loss) before tax by country within global businesses

	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Total $m
UK	**964**	**2,040**	**384**	**169**	**(3,857)**	**(300)**
France[23]	**388**	**152**	**112**	**14**	**(27)**	**639**
Germany	**23**	**66**	**157**	**20**	**(27)**	**239**
Switzerland	**–**	**8**	**–**	**(220)**	**(4)**	**(216)**
Other	**(181)**	**53**	**395**	**31**	**(17)**	**281**
Year ended 31 December 2015	**1,194**	**2,319**	**1,048**	**14**	**(3,932)**	**643**
UK	589	2,193	(801)	191	(2,228)	(56)
France[23]	(181)	240	354	–	(199)	214
Germany	28	71	162	27	(10)	278
Switzerland	–	5	2	38	(3)	42
Other	(122)	39	332	59	(190)	118
Year ended 31 December 2014	314	2,548	49	315	(2,630)	596
UK	1,471	1,684	1,246	252	(3,493)	1,160
France[23]	285	255	351	21	(162)	750
Germany	30	70	183	44	(25)	302
Switzerland	–	2	2	(291)	–	(287)
Other	(33)	77	19	(191)	28	(100)
Year ended 31 December 2013	1,753	2,088	1,801	(165)	(3,652)	1,825

Profit/(loss) before tax and balance sheet data – Europe

	2015						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income/(expense)	5,128	3,433	1,848	471	(689)	(186)	10,005
Net fee income/(expense)	1,880	1,683	849	509	(30)	–	4,891
Trading income/(expense) excluding net interest income	103	35	3,270	186	(203)	–	3,391
Net interest income/(expense) on trading activities	(3)	(6)	493	(3)	2	186	669
Net trading income/(expense)[40]	100	29	3,763	183	(201)	186	4,060
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	671	–	671
Net income/(expense) from other financial instruments designated at fair value	446	6	(70)	–	47	–	429
Net income/(expense) from financial instruments designated at fair value	446	6	(70)	–	718	–	1,100
Gains less losses from financial investments	12	8	231	23	–	–	274
Dividend income	–	1	12	7	2	–	22
Net insurance premium income	2,295	135	–	42	–	–	2,472
Other operating income	360	7	61	7	1,229	(312)	1,352
Total operating income	10,221	5,302	6,694	1,242	1,029	(312)	24,176
Net insurance claims[45]	(2,918)	(139)	–	(61)	–	–	(3,118)
Net operating income[1]	7,303	5,163	6,694	1,181	1,029	(312)	21,058
Loan impairment (charges)/recoveries and other credit risk provisions	(260)	(475)	62	(18)	1	–	(690)
Net operating income	7,043	4,688	6,756	1,163	1,030	(312)	20,368
Total operating expenses	(5,851)	(2,368)	(5,715)	(1,149)	(4,962)	312	(19,733)
Operating profit/(loss)	1,192	2,320	1,041	14	(3,932)	–	635
Share of profit/(loss) in associates and joint ventures	2	(1)	7	–	–	–	8
Profit/(loss) before tax	1,194	2,319	1,048	14	(3,932)	–	643
	%	%	%	%	%		%
Share of HSBC's profit before tax	6.3	12.3	5.6	0.1	(20.9)		3.4
Cost efficiency ratio	80.1	45.9	85.4	97.3	482.2		93.7
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	156,156	110,617	101,568	23,273	427		392,041
Total assets	205,866	124,105	804,373	56,470	57,943	(119,392)	1,129,365
Customer accounts	200,437	132,928	126,225	37,810	476		497,876

	2014						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income/(expense)	5,196	3,616	1,956	594	(654)	(97)	10,611
Net fee income/(expense)	2,456	1,900	1,087	626	(27)	–	6,042
Trading income/(expense) excluding net interest income	(260)	33	1,943	140	(92)	–	1,764
Net interest income/(expense) on trading activities	14	2	660	(4)	1	97	770
Net trading income/(expense)[40]	(246)	35	2,603	136	(91)	97	2,534
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	614	–	614
Net income/(expense) from other financial instruments designated at fair value	616	119	14	(1)	(11)	–	737
Net income/(expense) from financial instruments designated at fair value	616	119	14	(1)	603	–	1,351
Gains less losses from financial investments	12	10	730	9	11	–	772
Dividend income	3	7	50	2	3	–	65
Net insurance premium income	2,741	217	–	50	–	–	3,008
Other operating income/(expense)	(127)	45	(3)	29	1,249	(186)	1,007
Total operating income	10,651	5,949	6,437	1,445	1,094	(186)	25,390
Net insurance claims[45]	(3,450)	(306)	–	(63)	–	–	(3,819)
Net operating income[1]	7,201	5,643	6,437	1,382	1,094	(186)	21,571
Loan impairment (charges)/recoveries and other credit risk provisions	(268)	(502)	–	4	2	–	(764)
Net operating income	6,933	5,141	6,437	1,386	1,096	(186)	20,807
Total operating expenses	(6,621)	(2,594)	(6,391)	(1,071)	(3,726)	186	(20,217)
Operating profit/(loss)	312	2,547	46	315	(2,630)	–	590
Share of profit in associates and joint ventures	2	1	3	–	–	–	6
Profit/(loss) before tax	314	2,548	49	315	(2,630)	–	596
	%	%	%	%	%		%
Share of HSBC's profit before tax	1.7	13.6	0.3	1.7	(14.1)		3.2
Cost efficiency ratio	91.9	46.0	99.3	77.5	340.6		93.7
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	165,112	106,342	113,136	24,766	377		409,733
Total assets	221,679	120,819	948,951	64,676	64,182	(129,381)	1,290,926
Customer accounts	202,413	135,837	166,075	41,380	254		545,959

For footnotes, see page 99.

Asia

Our principal banking subsidiaries in Hong Kong are The Hongkong and Shanghai Banking Corporation Limited and Hang Seng Bank Limited. The former is the largest bank incorporated in Hong Kong and is our flagship bank in Asia.

We offer a wide range of banking and financial services in mainland China through our local subsidiaries, HSBC Bank (China) Company Limited and Hang Seng Bank (China) Limited. We also participate indirectly in mainland China through our associate, Bank of Communications Co., Ltd.

Outside Hong Kong and mainland China in Asia, we conduct business in 18 countries and territories, with particularly strong coverage in Australia, India, Indonesia, Malaysia, Singapore and Taiwan.

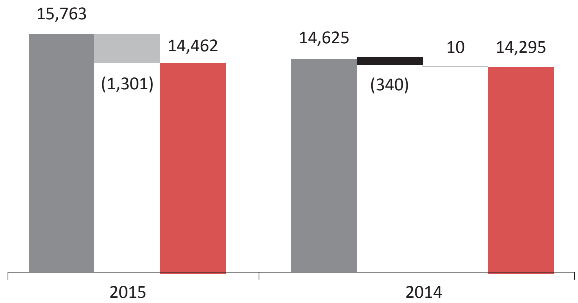
	2015 $m	2014 $m	2013 $m
Net interest income	**12,184**	12,273	11,432
Net fee income	**6,032**	5,910	5,936
Net trading income	**3,090**	2,622	2,026
Other income	**3,997**	2,872	5,038
Net operating income[1]	**25,303**	23,677	24,432
LICs[34]	**(693)**	(647)	(498)
Net operating income	**24,610**	23,030	23,934
Total operating expenses	**(10,889)**	(10,427)	(9,936)
Operating profit	**13,721**	12,603	13,998
Income from associates[35]	**2,042**	2,022	1,855
Profit before tax	**15,763**	14,625	15,853
Cost efficiency ratio	**43.0%**	44.0%	40.7%
RoRWA[24]	**3.3%**	3.1%	3.8%
Year-end staff numbers	**120,144**	118,322	113,701

For footnotes, see page 99.

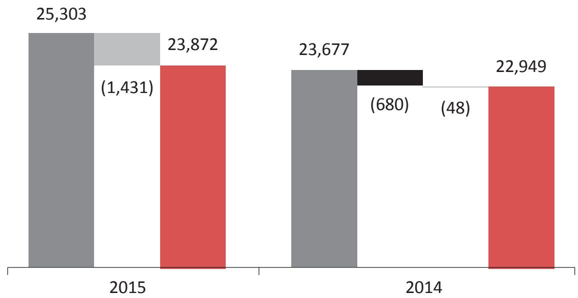
Country view of adjusted revenue

	2015 $m	2014 $m
Hong Kong	**14,233**	13,729
Australia	**847**	814
India	**1,845**	1,738
Indonesia	**536**	497
Mainland China	**2,606**	2,429
Malaysia	**984**	899
Singapore	**1,288**	1,234
Taiwan	**417**	469
Other	**1,116**	1,140
Year ended 31 December	**23,872**	22,949

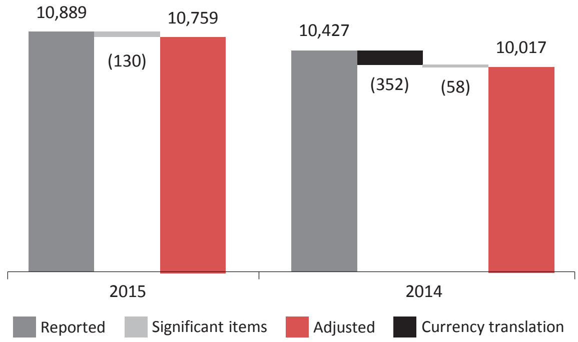
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 77.

Profit/(loss) before tax by country within global businesses

	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Total $m
Hong Kong	**3,799**	**2,384**	**2,119**	**177**	**1,327**	**9,806**
Australia	**61**	**79**	**238**	**–**	**(5)**	**373**
India	**(25)**	**97**	**379**	**14**	**141**	**606**
Indonesia	**(6)**	**(112)**	**80**	**–**	**31**	**(7)**
Mainland China	**297**	**1,569**	**1,062**	**(3)**	**135**	**3,060**
Malaysia	**119**	**95**	**215**	**–**	**13**	**442**
Singapore	**80**	**122**	**259**	**65**	**(19)**	**507**
Taiwan	**11**	**24**	**133**	**–**	**(13)**	**155**
Other	**50**	**250**	**449**	**(1)**	**73**	**821**
Year ended 31 December 2015	**4,386**	**4,508**	**4,934**	**252**	**1,683**	**15,763**
Hong Kong	3,727	2,264	1,807	146	198	8,142
Australia	78	126	232	–	(4)	432
India	4	121	442	11	122	700
Indonesia	10	53	110	–	25	198
Mainland China	292	1,533	954	(3)	175	2,951
Malaysia	156	122	190	–	28	496
Singapore	129	168	243	57	(8)	589
Taiwan	19	35	166	–	1	221
Other	57	320	432	–	87	896
Year ended 31 December 2014	4,472	4,742	4,576	211	624	14,625
Hong Kong	3,742	2,110	1,971	208	58	8,089
Australia	100	131	189	–	26	446
India	(21)	113	418	7	136	653
Indonesia	12	106	126	–	36	280
Mainland China	223	1,536	842	(4)	1,644	4,241
Malaysia	148	105	236	–	25	514
Singapore	147	120	262	74	22	625
Taiwan	7	30	158	–	5	200
Other	61	207	473	(1)	65	805
Year ended 31 December 2013	4,419	4,458	4,675	284	2,017	15,853

Analysis of mainland China profit/(loss) before tax

	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Total $m
BoCom and other associates	**260**	**1,448**	**301**	**–**	**–**	**2,009**
Mainland China operations	**37**	**121**	**761**	**(3)**	**135**	**1,051**
Year ended 31 December 2015	**297**	**1,569**	**1,062**	**(3)**	**135**	**3,060**
BoCom and other associates	255	1,421	296	–	1	1,973
Mainland China operations	37	112	658	(3)	174	978
Year ended 31 December 2014	292	1,533	954	(3)	175	2,951
BoCom and other associates	247	1,360	284	–	(38)	1,853
Mainland China operations	(24)	176	558	(4)	40	746
Industrial Bank	–	–	–	–	1,089	1,089
Ping An	–	–	–	–	553	553
Year ended 31 December 2013	223	1,536	842	(4)	1,644	4,241

Profit before tax and balance sheet data – Asia

	2015						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit before tax							
Net interest income/(expense)	5,132	3,613	3,373	175	(70)	(39)	12,184
Net fee income	2,939	1,466	1,304	310	13	–	6,032
Trading income excluding net interest income	225	352	1,801	127	13	–	2,518
Net interest income/(expense) on trading activities	(23)	(11)	559	1	7	39	572
Net trading income[40]	202	341	2,360	128	20	39	3,090
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	5	–	5
Net income/(expense) from other financial instruments designated at fair value	(329)	(30)	10	–	14	–	(335)
Net income/(expense) from financial instruments designated at fair value	(329)	(30)	10	–	19	–	(330)
Gains less losses from financial investments	35	23	117	–	1,384	–	1,559
Dividend income	2	–	1	–	25	–	28
Net insurance premium income /(expense)	6,006	780	–	–	(2)	–	6,784
Other operating income	659	149	146	2	2,878	(1,116)	2,718
Total operating income	14,646	6,342	7,311	615	4,267	(1,116)	32,065
Net insurance claims[45]	(5,925)	(837)	–	–	–	–	(6,762)
Net operating income[1]	8,721	5,505	7,311	615	4,267	(1,116)	25,303
Loan impairment (charges)/recoveries and other credit risk provisions	(307)	(425)	40	–	(1)	–	(693)
Net operating income	8,414	5,080	7,351	615	4,266	(1,116)	24,610
Total operating expenses	(4,320)	(2,020)	(2,719)	(363)	(2,583)	1,116	(10,889)
Operating profit	4,094	3,060	4,632	252	1,683	–	13,721
Share of profit in associates and joint ventures	292	1,448	302	–	–	–	2,042
Profit before tax	4,386	4,508	4,934	252	1,683	–	15,763
	%	%	%	%	%		%
Share of HSBC's profit before tax	23.2	23.9	26.2	1.3	8.9		83.5
Cost efficiency ratio	49.5	36.7	37.2	59.0	60.5		43.0
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	117,807	130,513	93,007	13,144	1,904		356,375
Total assets	172,719	157,838	540,404	14,488	69,080	(64,782)	889,747
Customer accounts	303,536	165,202	100,998	28,685	199		598,620

	2014						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit before tax							
Net interest income/(expense)	5,003	3,439	3,579	177	(16)	91	12,273
Net fee income	2,792	1,529	1,311	272	6	–	5,910
Trading income/(expense) excluding net interest income	216	382	1,220	142	(5)	–	1,955
Net interest income/(expense) on trading activities	(13)	(9)	771	–	9	(91)	667
Net trading income[40]	203	373	1,991	142	4	(91)	2,622
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	(4)	–	(4)
Net income/(expense) from other financial instruments designated at fair value	543	(6)	(2)	–	2	–	537
Net income/(expense) from financial instruments designated at fair value	543	(6)	(2)	–	(2)	–	533
Gains less losses from financial investments	1	5	46	–	148	–	200
Dividend income	1	–	1	–	177	–	179
Net insurance premium income	6,596	794	–	–	–	–	7,390
Other operating income	516	95	141	3	2,734	(1,158)	2,331
Total operating income	15,655	6,229	7,067	594	3,051	(1,158)	31,438
Net insurance claims[45]	(6,979)	(782)	–	–	–	–	(7,761)
Net operating income[1]	8,676	5,447	7,067	594	3,051	(1,158)	23,677
Loan impairment (charges)/recoveries and other credit risk provisions	(317)	(228)	(103)	1	–	–	(647)
Net operating income	8,359	5,219	6,964	595	3,051	(1,158)	23,030
Total operating expenses	(4,191)	(1,897)	(2,686)	(384)	(2,427)	1,158	(10,427)
Operating profit	4,168	3,322	4,278	211	624	–	12,603
Share of profit in associates and joint ventures	304	1,420	298	–	–	–	2,022
Profit before tax	4,472	4,742	4,576	211	624	–	14,625
	%	%	%	%	%		%
Share of HSBC's profit before tax	23.9	25.4	24.5	1.1	3.4		78.3
Cost efficiency ratio	48.3	34.8	38.0	64.6	79.5		44.0
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	115,643	132,509	99,934	12,894	1,975		362,955
Total assets	166,577	158,747	548,865	14,905	79,477	(89,848)	878,723
Customer accounts	286,670	155,608	104,896	29,847	470		577,491

For footnotes, see page 99.

Middle East and North Africa

The network of branches of HSBC Bank Middle East Limited, together with HSBC's subsidiaries and associates, gives us wide coverage in the region. Our associate in Saudi Arabia, The Saudi British Bank (40% owned), is the Kingdom's fifth largest bank by total assets.

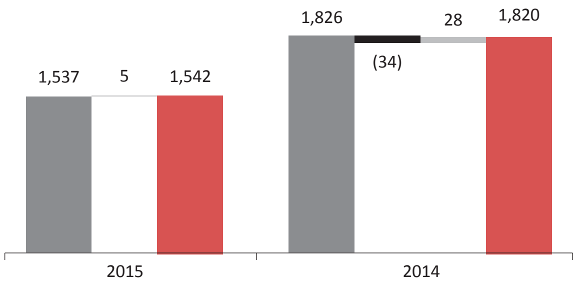
	2015 $m	2014 $m	2013 $m
Net interest income	**1,531**	1,519	1,486
Net fee income	**633**	650	622
Net trading income	**325**	314	357
Other income	**76**	65	38
Net operating income[1]	**2,565**	2,548	2,503
LICs[34]	**(299)**	6	42
Net operating income	**2,266**	2,554	2,545
Total operating expenses	**(1,234)**	(1,216)	(1,289)
Operating profit	**1,032**	1,338	1,256
Income from associates[35]	**505**	488	438
Profit before tax	**1,537**	1,826	1,694
Cost efficiency ratio	**48.1%**	47.7%	51.5%
RoRWA[24]	**2.5%**	2.9%	2.7%
Year-end staff numbers	**8,066**	8,305	8,618

For footnotes, see page 99.

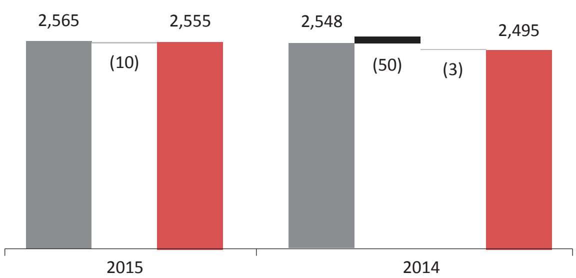
Country view of adjusted revenue

	2015 $m	2014 $m
Egypt	**610**	493
United Arab Emirates	**1,407**	1,446
Other	**538**	556
Year ended 31 December	**2,555**	2,495

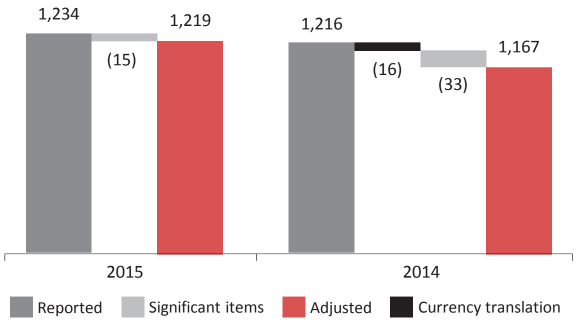
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 77.

Profit/(loss) before tax by country within global businesses

	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Total $m
Egypt	**50**	**101**	**256**	**–**	**3**	**410**
United Arab Emirates	**91**	**19**	**292**	**–**	**(35)**	**367**
Saudi Arabia	**112**	**169**	**202**	**16**	**1**	**500**
Other	**19**	**119**	**123**	**–**	**(1)**	**260**
Year ended 31 December 2015	**272**	**408**	**873**	**16**	**(32)**	**1,537**
Egypt	64	94	177	–	–	335
United Arab Emirates	154	190	364	–	(46)	662
Saudi Arabia	91	168	203	19	5	486
Other	14	152	182	–	(5)	343
Year ended 31 December 2014	323	604	926	19	(46)	1,826
Egypt	31	37	166	–	(29)	205
United Arab Emirates	142	290	275	1	(72)	636
Saudi Arabia	82	146	188	15	7	438
Other	3	172	240	–	–	415
Year ended 31 December 2013	258	645	869	16	(94)	1,694

Profit/(loss) before tax and balance sheet data – Middle East and North Africa

	2015						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income	587	451	478	–	3	12	1,531
Net fee income/(expense)	176	249	213	–	(5)	–	633
Trading income excluding net interest income	51	62	216	–	–	–	329
Net interest income/(expense) on trading activities	–	–	8	–	–	(12)	(4)
Net trading income[40]	51	62	224	–	–	(12)	325
Net expense from financial instruments designated at fair value	–	–	–	–	6	–	6
Gains less losses from financial investments	7	5	5	–	–	–	17
Dividend income	1	1	7	–	–	–	9
Other operating income	12	11	25	–	99	(103)	44
Total operating income	834	779	952	–	103	(103)	2,565
Net insurance claims[45]	–	–	–	–	–	–	–
Net operating income[1]	834	779	952	–	103	(103)	2,565
Loan impairment (charges)/recoveries and other credit risk provisions	(121)	(183)	5	–	–	–	(299)
Net operating income	713	596	957	–	103	(103)	2,266
Total operating expenses	(557)	(357)	(286)	–	(137)	103	(1,234)
Operating profit/(loss)	156	239	671	–	(34)	–	1,032
Share of profit in associates and joint ventures	116	169	202	16	2	–	505
Profit/(loss) before tax	272	408	873	16	(32)	–	1,537
	%	%	%	%	%		%
Share of HSBC's profit before tax	1.4	2.2	4.6	0.1	(0.2)		8.1
Cost efficiency ratio	66.8	45.8	30.0	–	133.0		48.1
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	6,374	13,695	9,825	–	–		29,894
Total assets	7,194	15,546	35,929	92	3,067	(2,592)	59,236
Customer accounts	17,172	12,192	6,901	–	203		36,468

	2014						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income	615	467	410	–	3	24	1,519
Net fee income/(expense)	152	268	240	–	(10)	–	650
Trading income/(expense) excluding net interest income	58	68	207	–	(5)	–	328
Net interest income/(expenses) on trading activities	–	–	10	–	–	(24)	(14)
Net trading income/(expense)[40]	58	68	217	–	(5)	(24)	314
Net expense from financial instruments designated at fair value	–	–	–	–	(3)	–	(3)
Gains less losses from financial investments	1	1	20	–	–	–	22
Dividend income	1	1	12	–	–	–	14
Other operating income	8	–	27	–	108	(111)	32
Total operating income	835	805	926	–	93	(111)	2,548
Net insurance claims[45]	–	–	–	–	–	–	–
Net operating income[1]	835	805	926	–	93	(111)	2,548
Loan impairment (charges)/recoveries and other credit risk provisions	(26)	(21)	53	–	–	–	6
Net operating income	809	784	979	–	93	(111)	2,554
Total operating expenses	(578)	(348)	(256)	–	(145)	111	(1,216)
Operating profit/(loss)	231	436	723	–	(52)	–	1,338
Share of profit in associates and joint ventures	92	168	203	19	6	–	488
Profit/(loss) before tax	323	604	926	19	(46)	–	1,826
	%	%	%	%	%		%
Share of HSBC's profit before tax	1.7	3.2	5.0	0.1	(0.2)		9.8
Cost efficiency ratio	69.2	43.2	27.6	–	155.9		47.7
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	6,318	13,104	9,641	–	–		29,063
Total assets	7,073	14,911	39,229	77	2,900	(1,773)	62,417
Customer accounts	18,024	11,809	9,630	–	257		39,720

For footnotes, see page 99.

North America

Our principal North American businesses are located in the US and Canada. Operations in the US are primarily conducted through HSBC Bank USA, N.A., and HSBC Finance, a national consumer finance company. HSBC Markets (USA) Inc. is the intermediate holding company of, *inter alia*, HSBC Securities (USA) Inc. Canadian operations are conducted through HSBC Bank Canada.

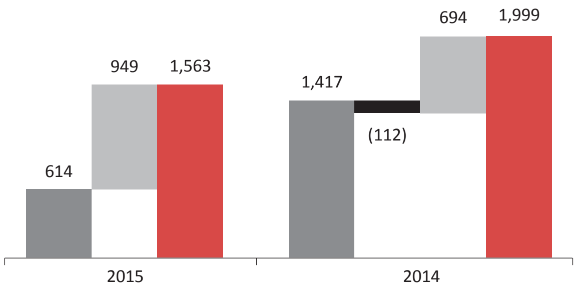
	2015 $m	2014 $m	2013 $m
Net interest income	**4,532**	5,015	5,742
Net fee income	**2,018**	1,940	2,143
Net trading income	**545**	411	948
Other income/(expense)	**562**	786	(30)
Net operating income[1]	**7,657**	8,152	8,803
LICs[34]	**(544)**	(322)	(1,197)
Net operating income	**7,113**	7,830	7,606
Total operating expenses	**(6,501)**	(6,429)	(6,416)
Operating profit	**612**	1,401	1,190
Income from associates[35]	**2**	16	31
Profit before tax	**614**	1,417	1,221
Cost efficiency ratio	**84.9%**	78.9%	72.9%
RoRWA[24]	**0.3%**	0.6%	0.5%
Year-end staff numbers	**19,656**	20,412	20,871

For footnotes, see page 99.

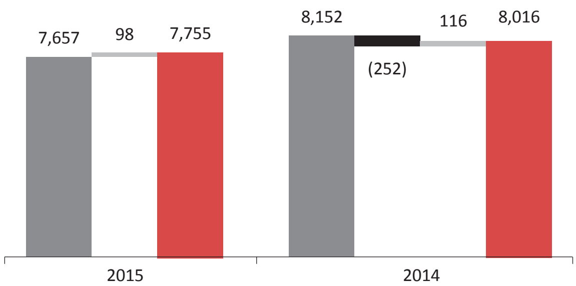
Country view of adjusted revenue

	2015 $m	2014 $m
US	**5,926**	6,083
Canada	**1,585**	1,663
Other	**244**	270
Year ended 31 December	**7,755**	8,016

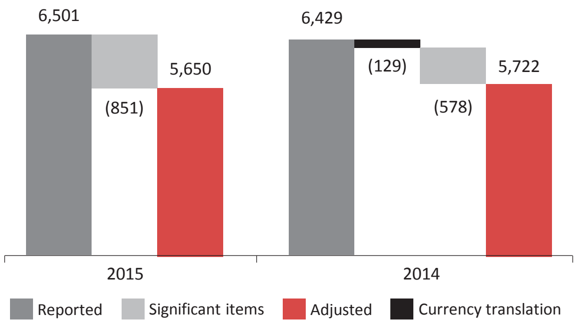
Profit before tax ($m)



Revenue ($m)



Operating expenses ($m)



For details of significant items, see page 77.

Profit/(loss) before tax by country within global businesses

	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Total $m
US	**(736)**	**302**	**355**	**65**	**55**	**41**
Canada	**58**	**259**	**189**	**–**	**(21)**	**485**
Other	**33**	**12**	**49**	**(6)**	**–**	**88**
Year ended 31 December 2015	**(645)**	**573**	**593**	**59**	**34**	**614**
US	513	400	(403)	82	(60)	532
Canada	96	514	242	–	(23)	829
Other	23	(1)	49	3	(18)	56
Year ended 31 December 2014	632	913	(112)	85	(101)	1,417
US	(358)	296	633	53	(350)	274
Canada	131	506	280	–	(3)	914
Other	20	(16)	16	4	9	33
Year ended 31 December 2013	(207)	786	929	57	(344)	1,221

Profit/(loss) before tax and balance sheet data – North America

	2015						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income	2,188	1,365	771	206	31	(29)	4,532
Net fee income/(expense)	499	539	876	117	(13)	–	2,018
Trading income/(expense) excluding net interest income	12	33	188	11	(7)	–	237
Net interest income on trading activities	7	1	271	–	–	29	308
Net trading income/(expense)[40]	19	34	459	11	(7)	29	545
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	181	–	181
Net income from other financial instruments designated at fair value	–	–	–	–	–	–	–
Net expense from financial instruments designated at fair value	–	–	–	–	181	–	181
Gains less losses from financial investments	–	–	189	–	(42)	–	147
Dividend income	16	12	19	4	6	–	57
Net insurance premium income	–	–	–	–	–	–	–
Other operating income	(142)	53	76	(6)	1,804	(1,608)	177
Total operating income	2,580	2,003	2,390	332	1,960	(1,608)	7,657
Net insurance claims[45]	–	–	–	–	–	–	–
Net operating income[1]	2,580	2,003	2,390	332	1,960	(1,608)	7,657
Loan impairment (charges)/recoveries and other credit risk provisions	(159)	(323)	(68)	6	–	–	(544)
Net operating income	2,421	1,680	2,322	338	1,960	(1,608)	7,113
Total operating expenses	(3,066)	(1,109)	(1,729)	(279)	(1,926)	1,608	(6,501)
Operating profit/(loss)	(645)	571	593	59	34	–	612
Share of profit in associates and joint ventures	–	2	–	–	–	–	2
Profit/(loss) before tax	(645)	573	593	59	34	–	614
	%	%	%	%	%		%
Share of HSBC's profit before tax	(3.4)	3.0	3.1	0.3	0.3		3.3
Cost efficiency ratio	118.8	55.4	72.3	84.0	98.3		84.9
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	53,737	40,696	27,940	6,478	–		128,851
Total assets	62,127	47,009	282,201	8,629	14,489	(20,495)	393,960
Customer accounts	51,685	45,475	24,182	13,807	3		135,152

	2014						
	Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income	2,645	1,455	587	204	157	(33)	5,015
Net fee income/(expense)	497	572	775	130	(34)	–	1,940
Trading income/(expense) excluding net interest income	(165)	34	302	13	3	–	187
Net interest income on trading activities	7	1	183	–	–	33	224
Net trading income/(expense)[40]	(158)	35	485	13	3	33	411
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	(99)	–	(99)
Net income from other financial instruments designated at fair value	–	–	–	–	–	–	–
Net expense from financial instruments designated at fair value	–	–	–	–	(99)	–	(99)
Gains less losses from financial investments	–	15	237	–	5	–	257
Dividend income	13	8	16	3	4	–	44
Net insurance premium income	–	–	–	–	–	–	–
Other operating income	268	61	101	1	1,872	(1,719)	584
Total operating income	3,265	2,146	2,201	351	1,908	(1,719)	8,152
Net insurance claims[45]	–	–	–	–	–	–	–
Net operating income[1]	3,265	2,146	2,201	351	1,908	(1,719)	8,152
Loan impairment (charges)/recoveries and other credit risk provisions	(117)	(148)	(63)	8	(2)	–	(322)
Net operating income	3,148	1,998	2,138	359	1,906	(1,719)	7,830
Total operating expenses	(2,516)	(1,101)	(2,250)	(274)	(2,007)	1,719	(6,429)
Operating profit/(loss)	632	897	(112)	85	(101)	–	1,401
Share of profit in associates and joint ventures	–	16	–	–	–	–	16
Profit/(loss) before tax	632	913	(112)	85	(101)	–	1,417
	%	%	%	%	%		%
Share of HSBC's profit before tax	3.4	4.9	(0.6)	0.5	(0.5)		7.6
Cost efficiency ratio	77.1	51.3	102.2	78.1	105.2		78.9
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	60,365	41,966	21,110	6,346	–		129,787
Total assets	74,680	48,411	319,819	8,386	16,823	(31,260)	436,859
Customer accounts	51,258	45,275	30,301	12,050	–		138,884

For footnotes, see page 99.

Latin America

Our operations in Latin America principally comprise HSBC Bank Brasil S.A.-Banco Múltiplo and HSBC México, S.A. In addition to banking services, we operate insurance businesses in Brazil, Mexico and Argentina. During the year our operations in Brazil were classified as held for sale.

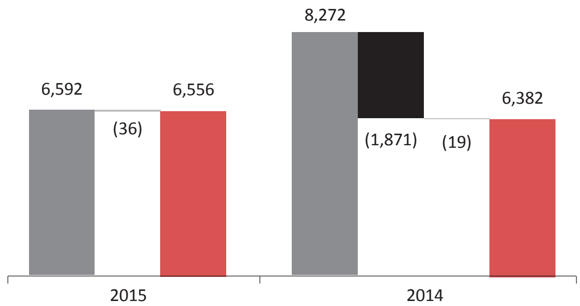
	2015			2014			2013		
	Total Latin America $m	**Brazil $m**	**Other Latin America $m**	Total Latin America $m	Brazil $m	Other Latin America $m	Total Latin America $m	Brazil $m	Other Latin America $m
Net interest income	**4,318**	**2,225**	**2,093**	5,310	3,040	2,270	6,186	3,542	2,644
Net fee income	**1,131**	**560**	**571**	1,415	741	674	1,701	862	839
Net trading income	**664**	**370**	**294**	856	452	404	936	469	467
Other income	**479**	**429**	**50**	691	584	107	1,745	491	1,254
Net operating income[1]	**6,592**	**3,584**	**3,008**	8,272	4,817	3,455	10,568	5,364	5,204
LICs[34]	**(1,495)**	**(965)**	**(530)**	(2,124)	(1,500)	(624)	(2,666)	(1,712)	(954)
Net operating income	**5,097**	**2,619**	**2,478**	6,148	3,317	2,831	7,902	3,652	4,250
Total operating expenses	**(4,786)**	**(2,613)**	**(2,173)**	(5,932)	(3,564)	(2,368)	(5,930)	(3,301)	(2,629)
Operating profit/(loss)	**311**	**6**	**305**	216	(247)	463	1,972	351	1,621
Income from associates[35]	**(1)**	**(1)**	**–**	–	–	–	–	–	–
Profit/(loss) before tax	**310**	**5**	**305**	216	(247)	463	1,972	351	1,621
Loans and advances to customers (net)	**17,293**	**–**	**17,293**	43,122	23,749	19,373	43,918	24,924	18,994
– reported in held for sale[22]	**17,001**	**17,001**	**–**	–	–	–	–	–	–
Customer accounts	**21,470**	**–**	**21,470**	48,588	23,204	25,384	51,389	23,999	27,390
– reported in held for sale[22]	**15,094**	**15,094**	**–**	–	–	–	–	–	–
Cost efficiency ratio	**72.6%**	**72.9%**	**72.2%**	71.7%	74.0%	68.5%	56.1%	61.5%	50.5%
RoRWA[24]	**0.4%**	**–**	**0.8%**	0.2%	(0.5%)	1.2%	2.0%	0.7%	3.7%
Year-end staff numbers	**39,828**	**19,145**	**20,683**	41,201	19,564	21,637	42,542	19,869	22,673

For footnotes, see page 99.

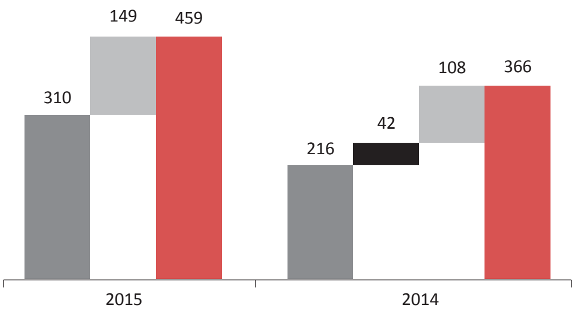
Country view of adjusted revenue

	2015 $m	2014 $m
Argentina	**1,036**	940
Mexico	**1,968**	1,931
Other	**3,552**	3,511
– included in Other: Brazil	**3,550**	3,443
Year ended 31 December	**6,556**	6,382

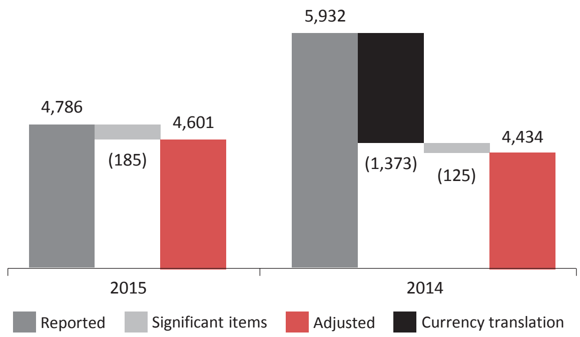
Revenue ($m)



Profit before tax ($m)



Operating expenses ($m)



For details of significant items, see page 49.

Profit/(loss) before tax by country within global businesses

	Retail Banking and Wealth Management[28] $m	Commercial Banking[28] $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Total $m
Argentina	**43**	**152**	**125**	**–**	**(3)**	**317**
Brazil	**(344)**	**11**	**336**	**6**	**(4)**	**5**
Mexico	**73**	**(5)**	**(15)**	**(3)**	**(18)**	**32**
Other	**(12)**	**7**	**16**	**–**	**(55)**	**(44)**
Year ended 31 December 2015	**(240)**	**165**	**462**	**3**	**(80)**	**310**
Argentina	68	119	219	–	(22)	384
Brazil	(230)	(97)	115	(2)	(33)	(247)
Mexico	7	(23)	89	(2)	(20)	51
Other	(5)	8	27	–	(2)	28
Year ended 31 December 2014	(160)	7	450	(4)	(77)	216
Argentina	112	127	170	–	(1)	408
Brazil	(209)	52	514	5	(11)	351
Mexico	138	(144)	115	(3)	11	117
Other	289	525	368	(1)	(85)	1,096
Year ended 31 December 2013	330	560	1,167	1	(86)	1,972

For footnote, see page 99.

Profit/(loss) before tax and balance sheet data – Latin America

	2015						
	Retail Banking and Wealth Management[28] $m	Commercial Banking[28] $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income	2,891	997	461	18	15	(64)	4,318
Net fee income/(expense)	724	253	133	23	(2)	–	1,131
Trading income/(expense) excluding net interest income	149	89	239	3	(7)	–	473
Net interest income on trading activities	–	–	124	–	3	64	191
Net trading income/(expense)[40]	149	89	363	3	(4)	64	664
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	–	–	–
Net income from other financial instruments designated at fair value	439	134	2	–	–	–	575
Net income from financial instruments designated at fair value	439	134	2	–	–	–	575
Gains less losses from financial investments	14	1	56	–	–	–	71
Dividend income	4	2	1	–	–	–	7
Net insurance premium income	903	191	5	–	–	–	1,099
Other operating income	83	32	12	–	236	(224)	139
Total operating income	5,207	1,699	1,033	44	245	(224)	8,004
Net insurance claims[45]	(1,129)	(279)	(4)	–	–	–	(1,412)
Net operating income[1]	4,078	1,420	1,029	44	245	(224)	6,592
Loan impairment charges and other credit risk provisions	(1,092)	(364)	(39)	–	–	–	(1,495)
Net operating income	2,986	1,056	990	44	245	(224)	5,097
Total operating expenses	(3,226)	(890)	(528)	(41)	(325)	224	(4,786)
Operating profit/(loss)	(240)	166	462	3	(80)	–	311
Share of loss in associates and joint ventures	–	(1)	–	–	–	–	(1)
Profit/(loss) before tax	(240)	165	462	3	(80)	–	310
	%	%	%	%	%		%
Share of HSBC's profit before tax	(1.3)	0.9	2.4	–	(0.3)		1.7
Cost efficiency ratio	79.1	62.7	51.3	93.2	132.7		72.6
Balance sheet data[22,30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	5,935	6,719	4,592	47	–		17,293
Total assets	25,378	20,792	36,953	1,769	2,838	(1,468)	86,262
Customer accounts	12,042	5,904	3,422	102	–		21,470

	2014						
	Retail Banking and Wealth Management[28] $m	Commercial Banking[28] $m	Global Banking and Markets $m	Global Private Banking $m	Other $m	Inter-segment elimination[44] $m	Total $m
Profit/(loss) before tax							
Net interest income	3,671	1,181	490	19	9	(60)	5,310
Net fee income	939	301	147	28	–	–	1,415
Trading income/(expense) excluding net interest income	125	101	391	3	(1)	–	619
Net interest income/(expense) on trading activities	1	4	174	–	(2)	60	237
Net trading income/(expense)[40]	126	105	565	3	(3)	60	856
Changes in fair value of long-term debt issued and related derivatives	–	–	–	–	–	–	–
Net income from other financial instruments designated at fair value	525	166	–	–	–	–	691
Net income from financial instruments designated at fair value	525	166	–	–	–	–	691
Gains less losses from financial investments	–	–	84	–	–	–	84
Dividend income	6	2	1	–	–	–	9
Net insurance premium income	1,272	246	5	–	–	–	1,523
Other operating income	61	40	19	–	213	(184)	149
Total operating income	6,600	2,041	1,311	50	219	(184)	10,037
Net insurance claims[45]	(1,428)	(334)	(3)	–	–	–	(1,765)
Net operating income[1]	5,172	1,707	1,308	50	219	(184)	8,272
Loan impairment charges and other credit risk provisions	(1,208)	(659)	(252)	(5)	–	–	(2,124)
Net operating income	3,964	1,048	1,056	45	219	(184)	6,148
Total operating expenses	(4,124)	(1,041)	(606)	(49)	(296)	184	(5,932)
Operating profit/(loss)	(160)	7	450	(4)	(77)	–	216
Share of profit in associates and joint ventures	–	–	–	–	–	–	–
Profit/(loss) before tax	(160)	7	450	(4)	(77)	–	216
	%	%	%	%	%		%
Share of HSBC's profit before tax	(0.8)	–	2.4	–	(0.5)		1.1
Cost efficiency ratio	79.7	61.0	46.3	98.0	135.2		71.7
Balance sheet data[30]							
	$m	$m	$m	$m	$m		$m
Loans and advances to customers (net)	13,266	19,118	10,642	96	–		43,122
Total assets	30,855	28,070	55,827	298	1,155	(851)	115,354
Customer accounts	25,392	12,789	8,219	2,188	–		48,588

For footnotes, see page 99.

Other information

Funds under management and assets held in custody

Funds under management[48]

	2015 $bn	2014 $bn
Funds under management		
At 1 January	**954**	921
Net new money	**(3)**	38
Value change	**2**	40
Exchange and other	**(57)**	(45)
At 31 December	**896**	954
Funds under management by business		
Global Asset Management	**419**	445
Global Private Banking	**261**	275
Affiliates	**4**	5
Other	**212**	229
At 31 December	**896**	954

For footnote, see page 99.

Funds under management ('FuM') represents assets managed, either actively or passively, on behalf of our customers. At 31 December 2015, FuM amounted to $896bn, a decrease of 6% primarily due to adverse foreign exchange movements as the US dollar strengthened against all major currencies. Excluding currency translation, FuM was broadly unchanged compared with 31 December 2014 as a reduction in GPB and other FuM was broadly offset by an increase in Global Asset Management FuM.

Global Asset Management FuM decreased by 6% to $419bn compared with 31 December 2014. Excluding currency translation, FuM increased by 2% as we attracted $8bn of net new money, notably in fixed income products from our customers in Asia and net inflows into liquidity funds in North America and Europe.

GPB FuM decreased by 5% to $261bn compared with 31 December 2014. Excluding currency translation, FuM decreased by 1%, reflecting the ongoing repositioning of our client base. This was partly offset by favourable market movements, principally in Europe, and from positive net new money in areas targeted for growth.

Other FuM, of which the main element is a corporate trust business in Asia, decreased by 7% to $212bn, primarily due to net outflows.

Assets held in custody[48] and under administration

Custody is the safekeeping and servicing of securities and other financial assets on behalf of clients. At 31 December 2015, we held assets as custodian of $6.2 trillion, 3% lower than the $6.4 trillion held at 31 December 2014. This decrease was driven by adverse foreign exchange movements, primarily in Europe and Asia. Excluding this, assets held as custodian increased by 2% compared with 31 December 2014, due to incremental net asset inflows in Asia and Europe, partly offset by adverse market movements, particularly in the second half of 2015.

Our Assets Under Administration business, which includes the provision of bond and loan administration services and the valuation of portfolios of securities and other financial assets on behalf of clients, complements the Custody business. At 31 December 2015, the value of assets held under administration by the Group amounted to $3.2 trillion. This was broadly unchanged compared with 31 December 2014, which included adverse foreign exchange movements, primarily in Europe. Excluding the impact of currency translation, assets held under administration increased by 4% driven by net asset inflows in Europe and Asia.

Our disclosure philosophy

HSBC strives to maintain the highest standards of disclosure in our reporting.

It has long been our policy to provide disclosures that help investors and other stakeholders understand the Group's performance, financial position and changes thereto.

In accordance with this policy, the information provided in the 'Notes on the Financial Statements' and the 'Report of the Directors' goes beyond the minimum levels required by accounting standards, statutory and regulatory requirements and listing rules. In particular, we provide additional disclosures having regard to the recommendations of two Enhanced Disclosures Task Force reports. *Enhancing the Risk Disclosures of Banks,* issued in October 2012, aims to help financial institutions identify areas that investors had highlighted as needing better and more transparent information about banks' risks, and how these risks relate to performance measurement and reporting. We have complied with all 32 recommendations in this report and in our Pillar 3 Disclosures 2015 document. The 'Risk', 'Capital' and 'Corporate Governance' sections of this report and the financial statements are accompanied by detailed tables of contents to assist the reader to navigate through the disclosures. *Impact of Expected Credit Loss Approaches on Bank Risk Disclosures,* issued in December 2015, provides further guidance on the application of the existing recommendations in the context of an Expected Credit Loss ('ECL') framework which we have considered in developing the commentary under 'Future accounting developments' on page 347. In addition, we continue to enhance our disclosures in line with good practice recommendations issued by relevant regulators and standard setters and in response to feedback received from users of our financial statements.

Taxes paid by region and country

The following tables reflect a geographical view of HSBC's operations.

Breakdown of tax paid by region[49]

Region	2015 $bn	2014 $bn
UK	2.5	2.4
Rest of Europe	1.1	1.2
Asia	2.8	2.7
Middle East and North Africa	0.4	0.3
North America	0.4	(0.1)
Latin America	1.2	1.4
Total	**8.4**	7.9

For footnote, see page 99.

Taxes paid by country[49]

	2015 $m	2014 $m	2013 $m
Asia	**2,780**	2,687	2,536
Home and priority markets	2,445	2,399	2,185
– Hong Kong	1,415	1,273	1,248
– Mainland China	277	278	207
– India	285	290	318
– Australia	173	204	105
– Malaysia	92	133	106
– Indonesia	70	76	74
– Singapore	80	101	88
– Taiwan	53	44	39
Other markets	335	288	351
Europe	**3,660**	3,625	3,500
Home and priority markets	3,346	3,391	3,244
– UK	2,526	2,363	2,107
– France	620	790	844
– Germany	108	131	151
– Switzerland	92	107	142
Turkey	16	75	82
Other markets	298	159	174
Middle East and North Africa	**433**	294	321
Priority markets	407	246	283
– Saudi Arabia	151	84	70
– UAE	120	102	98
– Egypt	136	60	115
Other markets	26	48	38
North America	**353**	(108)	414
Priority markets	353	(108)	410
– US	127	(377)	125
– Canada	226	269	285
Other markets	–	–	4
Latin America	**1,184**	1,384	1,836
Priority markets	431	534	643
– Argentina	340	333	318
– Mexico	91	201	325
Brazil	735	804	1,002
Other markets	18	46	191
Total	**8,410**	7,882	8,607

For footnote, see page 99.

Conduct-related matters

Conduct-related costs included in significant items

	2015 $m	2014 $m	2013 $m
Income statement			
Net interest income	10	632	–
Provisions arising from the ongoing review of compliance with the Consumer Credit Act in the UK	10	632	–
Operating expenses	2,362	3,077	1,687
Comprising:			
Legal proceedings and regulatory matters	1,821	1,802	352
– charge in relation to the settlement agreement with the Federal Housing Finance Authority	–	550	–
– regulatory provisions in GPB	172	65	352
– settlements and provisions in connection with legal matters	1,649	1,187	–
Customer remediation	541	1,275	1,335
– UK customer redress programmes	541	1,275	1,235
– US customer remediation provisions relating to Card and Retail Services	–	–	100
Total charge for the year relating to significant items	**2,372**	3,709	1,687
Of which: Total provisions charge for the year	2,362	2,500	1,687
Total provisions utilised during the year	1,021	2,503	1,238
Balance sheet at 31 December			
Total provisions	3,926	2,545	2,793
– legal proceedings and regulatory matters	2,729	1,154	657
– customer remediation	1,197	1,391	2,136
Accruals, deferred income and other liabilities	168	379	–

The table above provides a summary of conduct-related costs incurred and included within significant items (see pages 66 and 77).

HSBC defines 'conduct' as ensuring that we deliver fair outcomes for our customers and that we do not disrupt the orderly and transparent operation of financial markets. The Board places a strong emphasis on conduct, requiring adherence to high behavioural standards and doing the right thing. This includes ensuring that the lessons of unexpected outcomes, mistakes and control failings are both acknowledged and responded to in a timely and effective manner.

Board oversight of conduct matters is provided by the Conduct & Values Committee, which oversees the promotion and embedding of HSBC Values and our required global conduct outcomes, and the Remuneration Committee, which considers conduct and compliance-related matters relevant to remuneration. The reports of these committees may be found on pages 270 to 273.

An overview of our conduct framework is set out in page 41. The management of conduct of business and the steps taken to raise standards and deal with historical incidents are described on page 178.

'Regulatory focus on conduct of business and financial crime' is one of the Group's top and emerging risks which is discussed on page 112.

Total conduct-related costs within significant items were \$2.4bn, a decrease of \$1.3bn compared with 2014. Provisions raised in 2015 resulted from the on-going consequences of a small number of significant historical events.

Operating expenses included significant items related to conduct matters of \$2.4bn, including \$1.8bn in respect of legal proceedings and regulatory matters, of which \$0.2bn related to regulatory matters in our private banking operations and \$1.6bn was in respect of settlements and provisions in connection with legal matters. These are discussed in Note 40 on the Financial Statements.

Customer remediation costs charged to operating expenses included \$0.5bn in respect of the mis-selling of payment protection insurance ('PPI'). Cumulative PPI provisions made since the Judicial Review ruling in the first half of 2011 totalled \$4.7bn, of which \$3.6bn had been paid as at 31 December 2015 (see Note 29 on the Financial Statements).

Carbon dioxide emissions

HSBC's carbon dioxide emissions are calculated on the basis of the energy used in our buildings and employee business travel from over 28 countries (covering about 91% of our operations by FTE).

The data, gathered on energy consumption and distance travelled, are converted to carbon dioxide emissions using conversion factors from the following sources, if available, in order of preference:

1. electricity attribute certificates or equivalent instruments;
2. contracts for electricity, such as Power Purchase Agreements;
3. supplier/utility emission rates;
4. residual mix (sub-national or national);
5. other grid-average emission factors (sub-national or national); and
6. for other types of energy than electricity and travel, if no specific factors can be obtained, we use the latest available factors provided by the UK Department for Environment, Food and Rural Affairs and/or the Department of Energy and Climate Change in the UK.

This is the market-based methodology recommended by the revised guidelines of the Greenhouse Gas Protocol for 2015 disclosure onwards.

To incorporate all of the operations over which we have financial (management) control, the calculated carbon dioxide emissions are scaled up on the basis of the FTE coverage rate to account for any missing data (typically less than 10% of FTEs). In addition, emission uplift rates are applied to allow for uncertainty on the quality and coverage of emission measurement and estimation. The rates are 4% for electricity, 10% for other energy and 6% for business travel, based on the *Intergovernmental Panel on Climate Change Good Practice Guidance* and *Uncertainty Management in National Greenhouse Gas Inventories*, and our internal analysis of data coverage and quality.

Carbon dioxide emissions in tonnes

	2015	2014[50]
Total	**771,000**	795,000
From energy	**662,000**	676,000
From travel	**109,000**	119,000

Carbon dioxide emissions in tonnes per FTE

	2015	2014[50]
Total	**2.97**	3.08
From energy	**2.54**	2.62
From travel	**0.42**	0.46

For footnote, see page 99.

Our greenhouse gas reporting year runs from October to September. For the year from 1 October 2014 to 30 September 2015, carbon dioxide emissions from our global operations were 771,000 tonnes.

Independent assurance of our carbon dioxide emissions will be available in the first half of 2016 on our website.

Property

At 31 December 2015, we operated from some 6,860 operational properties worldwide.

Approximately 1,840 were located in Europe, 1,760 in Asia, 430 in North America, 2,590 in Latin America and 240 in Middle East and North Africa. These properties had an area of approximately 51.9m square feet (2014: 54.3m square feet).

Our freehold and long leasehold properties, together with all our leasehold land in Hong Kong, were valued in 2015. The value of these properties was \$11.3bn (2014: \$10.8bn) in excess of their carrying amount in the consolidated balance sheet on an historical cost based measure. In addition, properties with a net book value of \$1.4bn (2014: \$1.6bn) were held for investment purposes.

Our operational properties are stated at cost, being historical cost or fair value at the date of transition to IFRSs (their deemed cost) less any impairment losses, and are depreciated on a basis calculated to write off the assets over their estimated useful lives. Properties owned as a consequence of an acquisition are recognised initially at fair value.

Footnotes to pages 48 to 98

Use of non-GAAP financial measures

1 *Net operating income before loan impairment charges and other credit risk provisions, also referred to as revenue.*
2 *'Own credit spread' includes the fair value movements on our long-term debt attributable to credit spread where the net result of such movements will be zero upon maturity of the debt. This does not include fair value changes due to own credit risk in respect of trading liabilities or derivative liabilities.*

Consolidated income statement/Group performance by income and expense item

3 *Dividends recorded in the financial statements are dividends per ordinary share declared in a year and are not dividends in respect of, or for, that year.*
4 *Dividends per ordinary share expressed as a percentage of basic earnings per share.*
5 *Net interest income includes the cost of internally funding trading assets, while the related external revenues are reported in 'Trading income'. In our global business results, the cost of funding trading assets is included with Global Banking and Market's net trading income as interest expense.*
6 *Gross interest yield is the average annualised interest rate earned on average interest-earning assets ('AIEA').*
7 *Net interest spread is the difference between the average annualised interest rate earned on AIEA, net of amortised premiums and loan fees, and the average annualised interest rate paid on average interest-bearing funds.*
8 *Net interest margin is net interest income expressed as an annualised percentage of AIEA.*
9 *Interest income on trading assets is reported as 'Net trading income' in the consolidated income statement.*
10 *Interest income on financial assets designated at fair value is reported as 'Net income from financial instruments designated at fair value' in the consolidated income statement.*
11 *Including interest-bearing bank deposits only.*
12 *Interest expense on financial liabilities designated at fair value is reported as 'Net income on financial instruments designated at fair value' in the consolidated income statement, other than interest on own debt which is reported in 'Interest expense'.*
13 *Including interest-bearing customer accounts only.*
14 *Trading income also includes movements on non-qualifying hedges. These hedges are derivatives entered into as part of a documented interest rate management strategy for which hedge accounting was not, nor could be, applied. They are principally cross-currency and interest rate swaps used to economically hedge fixed rate debt issued by HSBC Holdings and floating rate debt issued by HSBC Finance. The size and direction of the changes in the fair value of non-qualifying hedges that are recognised in the income statement can be volatile from year-to-year, but do not alter the cash flows expected as part of the documented interest rate management strategy for both the instruments and the underlying economically hedged assets and liabilities if the derivative is held to maturity.*
15 *Net insurance claims and benefits paid and movement in liabilities to policyholders arise from both life and non-life insurance business. For non-life business, amounts reported represent the cost of claims paid during the year and the estimated cost of incurred claims. For life business, the main element of claims is the liability to policyholders created on the initial underwriting of the policy and any subsequent movement in the liability that arises, primarily from the attribution of investment performance to savings-related policies. Consequently, claims rise in line with increases in sales of savings-related business and with investment market growth.*
16 *The cost efficiency ratio is defined as total operating expenses divided by net operating income before loan impairment charges and other credit risk provisions.*

Consolidated balance sheet

17 *Net of impairment allowances.*
18 *On 1 January 2014, CRD IV came into force and the calculation of capital resources and risk-weighted assets for 2014 and 2015 are calculated and presented on this basis. 2011 to 2013 comparatives are on a Basel 2.5 basis.*
19 *Capital resources are total regulatory capital, the calculation of which is set out on page 234.*
20 *Including perpetual preferred securities, details of which can be found in Note 30 on the Financial Statements.*
21 *The definition of net asset value per ordinary share is total shareholders' equity, less non-cumulative preference shares and capital securities, divided by the number of ordinary shares in issue excluding shares the company has purchased and are held in treasury.*
22 *In the first half of 2015 our operations in Brazil were classified as held for sale. As a result, balance sheet accounts have been classified to 'Assets held for sale' and 'Liabilities of disposal groups held for sale'. There is no separate income statement classification.*
23 *France primarily comprises the domestic operations of HSBC Finance, HSBC Assurances Vie and the Paris branch of HSBC Bank plc.*

Reconciliation of RoRWA measures

24 *Pre-tax return on average risk-weighted assets ('RoRWA') is calculated using pre-tax return and reported average RWAs. Adjusted RoRWA is calculated using adjusted pre-tax return and adjusted average RWAs.*
25 *Reported average risk-weighted assets ('average RWAs') are calculated using an average of RWAs at quarter-ends on a Basel 2.5 basis for 31 December 2013 and a CRD IV end point basis from all periods from 1 January 2014. Adjusted average RWAs are calculated using reported average RWAs adjusted for the effects of currency translation differences and significant items.*
26 *'Other' includes treasury services related to the US Consumer and Mortgage Lending business and commercial operations in run-off. US CML includes loan portfolios within the run-off business that are designated held for sale.*
27 *'Currency translation adjustment' is the effect of translating the assets and liabilities of subsidiaries and associates for the previous year-end at the rates of exchange applicable at the current year-end.*

Global businesses and geographical regions

28 *In the first half of 2015, a portfolio of customers was transferred from CMB to RBWM in Latin America in order to better align the combined banking needs of the customers with our established global businesses. Comparative data have been re-presented accordingly.*
29 *The main items reported under 'Other' are the results of HSBC's holding company and financing operations, which includes net interest earned on free capital held centrally, operating costs incurred by the head office operations in providing stewardship and central management services to HSBC, along with the costs incurred by the Group Service Centres and Shared Service Organisations and associated recoveries. The results also include fines and penalties as part of the settlement of investigations into past inadequate compliance with anti-money laundering and sanctions laws, the UK bank levy together with unallocated investment activities, centrally held investment companies, gains arising from the dilution of interests in associates and joint ventures and certain property transactions. In addition, 'Other' also includes part of the movement in the fair value of long-term debt designated at fair value (the remainder of the Group's movement on own debt is included in GB&M).*

30 *Assets by geographical region and global businesses include intra-HSBC items. These items are eliminated, where appropriate, under the heading 'Intra-HSBC items' or 'Inter-segment elimination', as appropriate.*
31 *Amounts are non-additive across geographical regions and global businesses due to inter-company transactions within the Group.*
32 *Excludes items where there are substantial offsets in the income statement for the same year.*
33 *Other income in this context comprises where applicable net trading income, net income/(expense) from other financial instruments designated at fair value, gains less losses from financial investments, dividend income, net insurance premium income and other operating income less net insurance claims and benefits paid and movement in liabilities to policyholders.*
34 *Loan impairment charges and other credit risk provisions.*
35 *Share of profit in associates and joint ventures.*
36 *'Investment distribution' includes Investments, which comprises mutual funds (HSBC manufactured and third party), structured products and securities trading, and Wealth Insurance distribution, consisting of HSBC manufactured and third-party life, pension and investment insurance products.*
37 '*Other personal lending' includes personal non-residential closed-end loans and personal overdrafts.*
38 '*Other' mainly includes the distribution and manufacturing (where applicable) of retail and credit protection insurance.*
39 *'Markets products, Insurance and Investments and Other' includes revenue from Foreign Exchange, insurance manufacturing and distribution, interest rate management and GCF products.*
40 *Net interest income includes the cost of internally funding trading assets, while the related revenues are reported in net trading income. In our global business results, the total cost of funding trading assets is included within GB&M's net trading income as an interest expense. In the statutory presentation, internal interest income and expense are eliminated.*
41 *In 2015, Markets included a favourable fair value movement of $202m on the widening of credit spreads on structured liabilities (2014: adverse fair value movement of $15m; 2013: adverse fair value movement of $66m).*
42 *'Other' in GB&M includes net interest earned on free capital held in the global business not assigned to products, allocated funding costs and gains resulting from business disposals. Within the management view of total operating income, notional tax credits are allocated to the businesses to reflect the economic benefit generated by certain activities which is not reflected within operating income, for example notional credits on income earned from tax-exempt investments where the economic benefit of the activity is reflected in tax expense. In order to reflect the total operating income on an IFRSs basis, the offset to these tax credits are included within 'Other'.*
43 *'Client assets' are translated at the rates of exchange applicable for their respective period-ends, with the effects of currency translation reported separately. The main components of client assets were funds under management ($261bn at 31 December 2015) which were not reported on the Group's balance sheet, and customer deposits ($88bn at 31 December 2015), of which $80bn was reported on the Group's balance sheet and $8bn were off-balance sheet deposits.*
44 *Inter-segment elimination comprises (i) the costs of shared services and Group Service Centres included within 'Other' which are recovered from global businesses, and (ii) the intra-segment funding costs of trading activities undertaken within GB&M. HSBC's Balance Sheet Management business, reported within GB&M, provides funding to the trading businesses. To report GB&M's 'Net trading income' on a fully funded basis, 'Net interest income' and 'Net interest income/(expense) on trading activities' are grossed up to reflect internal funding transactions prior to their elimination in the inter-segment column.*
45 *Net insurance claims and benefits paid and movement in liabilities to policyholders.*
46 *'Employee expenses' comprises costs directly incurred by each global business. The reallocation and recharging of employee and other expenses directly incurred in the 'Other' category is shown in 'Other operating expenses'.*
47 *RWAs are non-additive across geographical regions due to market risk diversification effects within the Group.*
48 *Funds under management and assets held in custody are not reported on the Group's balance sheet, except where it is deemed that we are acting as principal rather than agent in our role as investment manager, and these assets are consolidated as Structured entities (see Note 39 on the Financial Statements).*
49 *Taxes paid by HSBC relate to HSBC's own tax liabilities including tax on profits earned, employer taxes, bank levy and other duties/levies such as stamp duty. Numbers are reported on a cash flow basis*.
50 *Following the release of the new* GHG Protocol Scope 2 Guidance, *we decided to use the state-specific eGRID emission factors for our US operations until such time as we obtain supplier-specific emission factors. For 2014, therefore, our reported total carbon dioxide emissions have increased by 43,000 tonnes and our carbon dioxide emissions per FTE have increased by 0.16 tonnes.*

Risk

1 *Appendix to Risk – risk policies and practices.*

For details of HSBC's policies and practices regarding risk management and governance see the Appendix to Risk on page 193.

Managing risk

All of our activities involve, to varying degrees, the measurement, evaluation and management of risk or combinations of risks.

Our conservative risk profile

We maintain a conservative risk profile which encompasses the following:

Financial position

- Strong capital position, defined by regulatory and internal capital ratios.
- Liquidity and funding management for each operating entity, on a stand-alone basis.

Operating model

- Returns generated in line with risk taken.
- Sustainable and diversified earnings mix, delivering consistent returns for shareholders.

Business practice

- Zero tolerance for knowingly engaging in any business, activity or association where foreseeable reputational risk or damage has not been considered and/or mitigated.
- No appetite for deliberately or knowingly causing detriment to consumers arising from our products and services or incurring a breach of the letter or spirit of regulatory requirements.
- No appetite for inappropriate market conduct by a member of staff or by any Group business.

Risk management framework

Managing risk effectively is fundamental to the delivery of our strategic priorities. In doing so, we employ a risk management framework at all levels of the organisation and across all risk types. It fosters the continuous monitoring of the risk environment and an integrated evaluation of risks and their interactions. It also ensures that we have a consistent approach to risk management across the Group.

Our enterprise risk management framework is underpinned by our risk culture and is reinforced by the HSBC Values and our Global Standards. These are instrumental in aligning the behaviours of individuals with the Group's attitude to assuming and managing risk and helping to ensure that our risk profile remains in line with our risk appetite.

Our enterprise risk management framework is set out overleaf.

HSBC Culture and Values

Governance and Structure	Role of Board and its Committees: Group Risk Committee ('GRC'); Financial System Vulnerabilities Committee ('FSVC'); Conduct & Values Committee ('CVC')	The Board approves risk appetite, plans and performance targets (page 256), which sets the 'tone from the top'. GRC advises on risk appetite, risk governance and other high-level risk-related matters (page 266). FSVC advises on financial crime and financial systems abuse (page 268). CVC advises on polices and procedures to ensure we adhere to HSBC Values (page 272).
	Role of senior management	Formulate and implement strategy within risk appetite. Responsible for risk governance and controls
	Risk appetite	Describes the types and quantum of risks we are prepared to accept in achieving our medium- and long-term strategic goals (page 102).
	Risk governance framework	Ensures appropriate oversight of and accountability for management of risk (page 102).
	Enterprise-wide risk management tools: Risk map; Top and emerging risks; Stress testing	Processes to identify, monitor and mitigate risks to ensure we remain within our risk appetite (page 103).
Responsibilities	Three lines of defence model; People; Independent Risk function	Our 'Three lines of defence' model defines roles and responsibilities for risk management (page 104). Our risk culture empowers our people to do the right thing for our customers, reinforced by our approach to remuneration (page 104). An independent Risk function ensures the necessary balance in risk/return decisions (page 104).
	Identification and Assessment → Monitoring → Mitigation/ Management → Reporting	Essential for the effective management of risk.
Processes	Banking and insurance risks	Risks arising from our business activities that are measured, monitored and managed (page 105).
	Risk Policies and Practices	Set by Risk Stewards for each of our material banking and insurance risks (page 105).
	Internal Controls	The Operational Risk Management Framework defines minimum standards and processes for operational risks and internal controls across the Group (page 176).

Tools, Technology and Infrastructure

Governance and structure

Corporate and risk governance

Robust risk governance and accountability are embedded throughout the Group through an established framework that ensures appropriate oversight of and accountability for the effective management of risk.

The Board has ultimate responsibility for the effective management of risk and approves HSBC's risk appetite. The Board is advised on risk-related matters by the following committees:

- The Group Risk Committee advises the Board on risk appetite and its alignment with strategy, risk governance and internal controls, and high-level risk related matters.
- The Financial System Vulnerabilities Committee reports to the Board on matters relating to financial crime and financial system abuse and provides a forward-looking perspective on financial crime risk.
- The Conduct & Values Committee oversees the design and application of HSBC's policies, procedures and standards to ensure that we conduct business responsibly and consistently adhere to HSBC Values, and advises the Board accordingly.

Executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of our risk management policies resides with the RMM, the Risk Management Meeting of the Group Management Board ('GMB'). Day-to-day risk management activities are the responsibility of senior managers of individual businesses, supported by global functions as described under 'Three lines of defence' below.

The consistency of governance structures across HSBC is enforced through risk management committees, as set out in our enterprise risk management framework, and adherence to consistent standards and risk management policies.

The executive and non-executive risk governance structures and their interactions are set out on page 193, with similar arrangements in place for major operating subsidiaries.

The report of the Group Risk Committee is on page 266, of the Financial System Vulnerabilities Committee is on page 268, and of the Conduct & Values Committee is on page 272.

Risk appetite

The Group's Risk Appetite Statement ('RAS') is the written articulation of the aggregated level and types of risk that we are willing to accept in our business activities in order to achieve our medium to long-term business objectives. It is a key component of our management of risk and is reviewed on an ongoing basis, with formal approval from the Board every six months on the recommendation of the Group Risk Committee.

The Group's actual risk appetite profile is reported to the RMM on a monthly basis to enable senior management to monitor the risk profile and guide business activity in order to balance risk and return, allowing risks to be promptly identified and mitigated, and inform risk-adjusted remuneration to drive a strong risk culture across the Group.

The RAS is established and monitored as part of the Global Risk Appetite Framework, which provides a globally consistent and structured approach to the management, measurement and control of risk by detailing the processes, governance and other features of how risk appetite is cascaded to drive day-to-day decision-making through policies, limits and the control framework.

Risk appetite informs the strategic and financial planning process, defining the desired forward-looking risk profile of the Group. It is also embedded in other enterprise risk tools such as top and emerging risks and stress testing, to ensure consistency in risk management.

Global businesses, geographical regions and strategic countries are required to have their own RASs, which are subject to assurance to ensure they remain directionally aligned to the Group's. All RASs and business activities are guided and underpinned by a set of qualitative principles, outlined in the Appendix to Risk on page 194. Additionally, quantitative metrics are defined along with appetite and tolerance thresholds for 10 risk areas.

Enterprise-wide risk management tools

The following processes to identify, manage and mitigate risks are integral to risk management at HSBC, helping to ensure that we remain within our risk appetite.

Risk map

The risk map process provides a point-in-time view of the risk profile of the Group across a suite of risk categories including our material banking risks and insurance risks (see page 105). It assesses the potential for these risks to materially affect our financial results, reputation or business sustainability on current and projected bases.

The risk categories presented on the risk map are regularly assessed through our risk appetite profile, are stress tested and, where thematic issues arise, are considered for classification as top or emerging risks.

Top and emerging risks

Identifying, managing and monitoring risks are integral to our approach to risk management. Our top and emerging risks process provides a forward-looking view of those risks which have the potential to threaten the execution of our strategy and our global operations. Top and emerging risks are generally described thematically, and may have an impact across multiple risk map categories, global businesses or regions.

We define a 'top risk' as a thematic issue arising across any combination of risk map categories, regions or global businesses which has the potential to have a material effect on the Group's financial results, reputation or long-term business model, and which may form and crystallise between six months and one year. The risk impact may be well understood by senior management, with some mitigating actions already in place. Stress tests of varying granularity may also have been carried out to assess the effect.

An 'emerging risk' is defined as a thematic issue that has large unknown components which may form and crystallise beyond a one-year time horizon. If it were to materialise, it could have a significant material effect on a combination of the Group's long-term strategy, profitability and reputation. Existing management action plans are likely to be minimal, reflecting the uncertain nature of these risks at this stage. Some high-level analysis and/or stress testing may have been carried out to assess the impact.

Our top and emerging risk framework enables us to identify and manage current and forward-looking risks to ensure our risk appetite remains appropriate. The ongoing assessment of our top and emerging risks is informed by a comprehensive suite of risk factors (see page 108) and the results of our stress testing programme. When our top and emerging risks result in our risk appetite being exceeded, or have the potential to exceed, we take steps to mitigate them, including reducing our exposure to areas of stress.

Our current top and emerging risks are discussed on page 110.

Stress testing

Our stress testing and scenario analysis programme examines the sensitivities of our capital plans and unplanned demand for regulatory capital under a number of scenarios and ensures that top and emerging risks are appropriately considered. These scenarios include, but are not limited to, adverse macroeconomic events, failures at country, sector and counterparty levels, geopolitical occurrences and a variety of projected major operational risk events.

At Board level, the Group Chief Risk Officer and the Group Finance Director are the two executive Directors jointly accountable for oversight of stress testing in HSBC. The Stress Testing Management Board, which is chaired by the Group Finance Director, is responsible for stress testing strategy and stewardship. Updates on stress testing are provided regularly to the RMM. The Group Risk Committee is informed and consulted on the bank's stress testing activities, as appropriate, and approves the key elements of the Bank of England concurrent stress test, including final results.

The development of macroeconomic scenarios is a critical part of the process. Potential scenarios are defined and generated by a panel of economic experts from various global teams, including Risk and Finance. Scenarios are translated into financial impacts, such as on our forecast profitability and RWAs, using a suite of stress testing models and methodologies. Models are subject to independent model review and go through a process of validation and approval. Model overlays may be considered where necessary.

Stress testing results are subject to a review and challenge process at regional, global business and Group levels and action plans are developed to mitigate identified risks. The extent to which these action plans would be implemented in the event of particular scenarios occurring depends on senior management's evaluation of the risks and their potential consequences, taking into account HSBC's risk appetite.

In addition to the Group-wide risk scenarios, each major HSBC subsidiary conducts regular macroeconomic and event-driven scenario analyses specific to their region. They also participate in local regulatory stress testing programmes, where required.

Stress testing is applied to risks such as operational risk, including market risk, liquidity and funding risk, credit risk and conduct to evaluate the potential effects of stress scenarios on portfolio values, structural long-term funding positions, income or capital.

Reverse stress testing is run annually on both Group and, where required, subsidiary entity bases. This stress test is conducted by assuming the business model is non-viable and works backwards to identify a range of occurrences that could bring that event about. Non-viability might occur before the bank's capital is depleted, and could result from a variety of events, including idiosyncratic or systemic events or combinations thereof. It could imply failure of the Group's holding company or one of its major subsidiaries. Reverse stress testing is used to strengthen our resilience by identifying potential stresses and vulnerabilities which the Group might face and helping to inform early-warning triggers, management actions and contingency plans designed to mitigate their effect, were they to occur.

HSBC participated in regulatory stress testing programmes in a number of jurisdictions during 2015, as outlined on page 116. In addition, we have conducted an internal stress test, incorporating the latest portfolio developments and business plan. For this exercise management considers that the Bank of England 2015 scenario reflects key risks which merit examination at this time. The results of this exercise are used for internal risk and capital management processes, including the Internal Capital Adequacy Assessment Process ('ICAAP').

Responsibilities

Three lines of defence

We use the three lines of defence model to underpin our approach to strong risk management. It defines responsibilities for: identifying, assessing, measuring, managing, monitoring and mitigating risks; encouraging collaboration; and enabling efficient coordination of risk and control activities.

For details of the three lines of defence model, see page 177.

People

All employees are required to identify, assess and manage risk within the scope of their assigned responsibilities and, as such, they are critical to the effectiveness of the three lines of defence.

Clear and consistent employee communication on risk conveys strategic messages and sets the tone from senior leadership. We deploy a suite of mandatory training on critical risk and compliance topics to embed skills and understanding and strengthen the risk culture within HSBC. It reinforces the attitude to risk in the behaviour expected of employees, as described in our risk policies. The training is updated regularly, describing technical aspects of the various risks assumed by the Group and how they should be managed effectively. A confidential disclosure line enables staff to raise concerns (see page 179).

Our risk culture is reinforced by our approach to remuneration. Individual awards, including those for executives, are based on compliance with HSBC Values and the achievement of financial and non-financial objectives which are aligned to our risk appetite and global strategy.

For further information on risk and remuneration, see the Report of the Group Remuneration Committee on page 270.

Independent Risk function

Global Risk, headed by the Group Chief Risk Officer, is responsible for the enterprise risk management framework. This includes establishing global policy, monitoring risk profiles and forward-looking risk identification and management. Global Risk also has functional responsibility for risk management in support of HSBC's global businesses and regions through its Risk sub-functions, which are independent from the sales and trading functions of the Group's businesses. This independence ensures the necessary balance in risk/return decisions.

Processes

Banking and insurance risks

The material risk types associated with our banking and insurance manufacturing operations are described in the tables below.

Description of risks – banking operations

Risks	Arising from	Measurement, monitoring and management of risk
Credit risk (page 118)		
The risk of financial loss if a customer or counterparty fails to meet an obligation under a contract.	Credit risk arises principally from direct lending, trade finance and leasing business, but also from certain other products such as guarantees and derivatives.	Credit risk is: • **measured** as the amount which could be lost if a customer or counterparty fails to make repayments. In the case of derivatives, the measurement of exposure takes into account the current mark-to-market value to HSBC of the contract and the expected potential change in that value over time caused by movements in market rates; • **monitored** within limits approved by individuals within a framework of delegated authorities. These limits represent the peak exposure or loss to which HSBC could be subjected should the customer or counterparty fail to perform its contractual obligations; and • **managed** through a robust risk control framework which outlines clear and consistent policies, principles and guidance for risk managers.
Liquidity and funding risk (page 154)		
The risk that we do not have sufficient financial resources to meet our obligations as they fall due or that we can only do so at excessive cost.	Liquidity risk arises from mismatches in the timing of cash flows. Funding risk arises when the liquidity needed to fund illiquid asset positions cannot be obtained at the expected terms and when required.	Liquidity and funding risk is: • **measured** using internal metrics including stressed operational cash flow projections, coverage ratios and advances to core funding ratios; • **monitored** against the Group's liquidity and funding risk framework and overseen by regional Asset and Liability Management Committees ('ALCO's), Group ALCO and the RMM; and • **managed** on a stand-alone basis with no reliance on any Group entity (unless pre-committed) or central bank unless this represents routine established business-as-usual market practice.
Market risk (page 166)		
The risk that movements in market factors, including foreign exchange rates and commodity prices, interest rates, credit spreads and equity prices, will reduce our income or the value of our portfolios.	Exposure to market risk is separated into two portfolios: • trading portfolios comprise positions arising from market-making and warehousing of customer-derived positions. • non-trading portfolios comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities, financial investments designated as available for sale and held to maturity, and exposures arising from our insurance operations (page 180).	Market risk is: • **measured** in terms of value at risk, which is used to estimate potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence, augmented with stress testing to evaluate the potential impact on portfolio values of more extreme, though plausible, events or movements in a set of financial variables; • **monitored** using measures including the sensitivity of net interest income and the sensitivity of structural foreign exchange which are applied to the market risk positions within each risk type; and • **managed** using risk limits approved by the GMB for HSBC Holdings and our various global businesses. These units are allocated across business lines and to the Group's legal entities.

Risks	Arising from	Measurement, monitoring and management of risk
Operational risk (page 176)		
The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, including legal risk.	Operational risk arises from day to day operations or external events, and is relevant to every aspect of our business. Compliance risk and Fiduciary risk are discussed below. Other operational risks are covered in the Appendix to Risk (page 217).	Operational risk is: • **measured** using both the top risk analysis process and the risk and control assessment process, which assess the level of risk and effectiveness of controls; • **monitored** using key indicators and other internal control activities; and • **managed** primarily by global business and functional managers. They identify and assess risks, implement controls to manage them and monitor the effectiveness of these controls utilising the operational risk management framework. Global Operational Risk is responsible for the framework and for overseeing the management of operational risks within global businesses and global functions.
Compliance risk (page 178)		
The risk that we fail to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice, and incur fines and penalties and suffer damage to our business as a consequence.	Compliance risk is part of operational risk, and arises from rules, regulations, other standards and Group policies, including those relating to anti-money laundering, anti-bribery and corruption, counter-terrorist and proliferation financing, sanctions compliance and conduct of business. The US DPA is discussed on page 113 and the Monitor on page 116.	Compliance risk is: • **measured** by reference to identified metrics, incident assessments (whether affecting HSBC or the wider industry), regulatory feedback and the judgement and assessment of compliance officers in our global businesses, regions and functions; • **monitored** against our compliance risk assessments and metrics, the results of the monitoring and control activities of the second line of defence functions, including the Financial Crime Compliance and Regulatory Compliance sub-functions, and the results of internal and external audits and regulatory inspections; and • **managed** by establishing and communicating appropriate policies and procedures, training employees in them, and monitoring activity to assure their observance. Proactive risk control and/or remediation work is undertaken where required.
Other material risks		
Reputational risk (page 189)		
The risk of failure to meet stakeholder expectations as a result of any event, behaviour, action or inaction, either by HSBC itself, our employees or those with whom we are associated, that might cause stakeholders to form a negative view of the Group. This may result in financial or non-financial impacts, loss of confidence, or other consequences.	Primary reputational risks arise directly from an action or inaction by HSBC, its employees or associated parties that are not the consequence of another type of risk. Secondary reputational risks are those arising indirectly and are a result of another risk caused either by HSBC, its employees or associated third parties.	Reputational risk is: • **measured** by reference to our reputation as indicated by our dealings with all relevant stakeholders, including media, regulators, customers and employees; • **monitored** through a reputational risk management framework that is integrated into the Group's broader risk taxonomy; and • **managed** by every member of staff and is covered by a number of policies and guidelines. There is a clear structure of committees and individuals charged with mitigating reputational risk, including the Group Reputational Risk Policy Committee, the Global Risk Resolution Committee and reputational risk committees in the regions and global businesses.
Fiduciary risk (page 189)		
The risk of breaching our fiduciary duties, defined as any duty where HSBC holds, manages, oversees or has responsibilities for assets for a third party that involves a legal and/or regulatory duty to act with the highest standard of care and with utmost good faith.	Fiduciary risk is part of operational risk, and arises from our business activities where we act in a fiduciary capacity ('designated businesses') as Trustee, Investment Manager or as mandated by law or regulation.	Fiduciary risk is: • **measured** by each designated business monitoring against their own risk appetite statements and by the operational risk and control assessment process, which assesses the level of risk and the effectiveness of the key controls; • **monitored** through a combination of testing, key indicators and other metrics such as client and regulatory feedback; and • **managed** within the designated businesses via established governance frameworks, and comprehensive policies, procedures and training programmes.

Risks	Arising from	Measurement, monitoring and management of risk
Pension risk (page 189)		
The risk that contributions from Group companies and members fail to generate sufficient funds to meet the cost of accruing benefits for the future service of active members, and the risk that the performance of assets held in pension funds is insufficient to cover existing pension liabilities.	Pension risk arises from investments delivering an inadequate return, economic conditions leading to corporate failures, adverse changes in interest rates or inflation, or members living longer than expected (longevity risk). Pension risk includes operational risks listed above.	Pension risk is: • **measured** in terms of the schemes' ability to generate sufficient funds to meet the cost of their accrued benefits; • **monitored** through the specific risk appetite that has been developed at both Group and regional levels; and • **managed** locally through the appropriate pension risk governance structure and globally through the RMM.
Sustainability risk (page 190)		
The risk that financial services provided to customers by the Group indirectly result in unacceptable impacts on people or on the environment.	Sustainability risk arises from the provision of financial services to companies or projects which indirectly result in unacceptable impacts on people or on the environment.	Sustainability risk is: • **measured** by assessing the potential sustainability effect of a customer's activities and assigning a Sustainability Risk Rating to all high risk transactions; • **monitored** quarterly by the RMM and monthly by Group Sustainability Risk; and • **managed** using sustainability risk policies covering project finance lending and sector-based sustainability policies for sectors and themes with potentially high environmental or social impacts.

Our insurance manufacturing subsidiaries are separately regulated from our banking operations. Risks in the insurance entities are managed using methodologies and processes appropriate to insurance activities, but remain subject to oversight at Group level. Our insurance operations are also subject to the operational risks and the other material risk types presented above in relation to the banking operations, and these are covered by the Group's risk management processes.

Description of risks – insurance manufacturing operations

Risks	Arising from	Measurement, monitoring and management of risk
Financial risks (page 183)		
Our ability to effectively match the liabilities arising under insurance contracts with the asset portfolios that back them is contingent on the management of financial risks such as market, credit and liquidity risks, and the extent to which these risks are borne by the policyholders. *Liabilities to policyholders under unit-linked contracts move in line with the value of the underlying assets, and as such the policyholder bears the majority of the financial risks.* *Contracts with DPF share the performance of the underlying assets between policyholders and the shareholder in line with the type of contract and the specific contract terms.*	Exposure to financial risks arises from: • market risk of changes in the fair values of financial assets or their future cash flows from fluctuations in variables such as interest rates, foreign exchange rates and equity prices; • credit risk and the potential for financial loss following the default of third parties in meeting their obligations; and • liquidity risk of entities not being able to make payments to policyholders as they fall due as there are insufficient assets that can be realised as cash.	Financial risks are: • **measured** separately for each type of risk: – market risk is measured in terms of exposure to fluctuations in key financial variables; – credit risk is measured as the amount which could be lost if a customer or counterparty fails to make repayments; and – liquidity risk is measured using internal metrics including stressed operational cash flow projections. • **monitored** within limits approved by individuals within a framework of delegated authorities; and • **managed** through a robust risk control framework which outlines clear and consistent policies, principles and guidance for risk managers. Subsidiaries manufacturing products with guarantees are usually exposed to falls in market interest rates and equity prices to the extent that the market exposure cannot be managed by utilising any discretionary participation (or bonus) features within the policy contracts they issue.

Risks	Arising from	Measurement, monitoring and management of risk
Insurance risk (page 188)		
The risk that, over time, the cost of the contract, including claims and benefits may exceed the total amount of premiums and investment income received.	The cost of claims and benefits can be influenced by many factors, including mortality and morbidity experience, lapse and surrender rates.	Insurance risk is: • **measured** in terms of life insurance liabilities; • **monitored** by the RBWM Risk Management Committee, which checks the risk profile of the insurance operations against a risk appetite for insurance business agreed by the GMB; and • **managed** both centrally and locally using product design, underwriting, reinsurance and claims-handling procedures.

Risks incurred in our business activities

The chart below provides a high level guide to how our business activities are reflected in our risk measures and in the Group's balance sheet. The third-party assets and liabilities indicate the contribution each business makes to the balance sheet, while RWAs illustrate the relative size of the risks incurred in respect of each business.

Exposure to risks arising from the business activities of global businesses

	HSBC				Other (including Holding Company)
Global business	RBWM	CMB	GB&M	GPB	
Business activities	– Deposits – Accounts services – Credit and lending – Asset management – Wealth solutions and financial planning – Broking – Insurance (distribution; life manufacturing)	– Deposits – Payments and cash management – Credit and lending – International trade and receivables finance – Insurance (distribution; life manufacturing)	– Deposits – Payments and cash management – Balance sheet management – Credit and lending – Asset and trade finance – Corporate finance – Markets – Securities services	– Deposits – Account services – Credit and lending – Investment management – Financial advisory – Broking – Corporate finance (via GB&M) – Alternative investments – Trusts and estate planning – Insurance	– HSBC holding company and central operations
Balance sheet[1]	$bn – Assets 473 – Customer accounts 585	$bn – Assets 365 – Customer accounts 362	$bn – Assets 1,617 – Customer accounts 262	$bn – Assets 81 – Customer accounts 80	$bn – Assets 147 – Customer accounts 1
RWAs	$bn – Credit risk 154 – Operational risk 36	$bn – Credit risk 390 – Operational risk 31	$bn – Credit risk 285 – Counterparty credit risk 69 – Operational risk 44 – Market risk 43	$bn – Credit risk 16 – Operational risk 3	$bn – Credit risk 32 – Operational risk –
Risk profile	Liquidity and funding risk (page 154), Pension risk (page 189), Fiduciary risk (page 189), Reputational risk (page 189), Compliance risk (page 178), Sustainability risk (page 190) and Insurance risk (page 180). The latter is predominantly in RBWM and CMB.				

For footnote, see page 191.

Risk factors

We have identified a comprehensive suite of risk factors which covers the broad range of risks our businesses are exposed to.

A number of the risk factors have the potential to affect the results of our operations or financial condition, but may not necessarily be deemed as top or emerging risks. However, they inform the ongoing assessment of our top and emerging risks. The risk factors are:

Macroeconomic and geopolitical risk

- Current economic and market conditions may adversely affect our results.
- We are subject to political and economic risks in the countries in which we operate, including the risk of government intervention.
- We may suffer adverse effects as a result of the interaction between market perceptions surrounding mainland China's slowdown, the course of global

monetary policies, economic conditions in the eurozone and damage from plummeting oil prices, all of which may result in further capital outflows from emerging markets.

- Changes in foreign currency exchange rates may affect our results.

Macro-prudential, regulatory and legal risks to our business model

- Failure to implement and adhere to our obligations under the deferred prosecution agreements could have a material adverse effect on our results and operations.
- We may fail to effectively manage affiliate risk.
- Failure to comply with certain regulatory requirements could have a material adverse effect on our results and operations.
- We may fail to meet the requirements of regulatory stress tests.
- We are subject to a number of legal and regulatory actions and investigations, the outcomes of which are inherently difficult to predict.
- We are subject to unfavourable legislative or regulatory developments and changes in the policy of regulators or governments.
- We may fail to comply with all applicable regulations, particularly any changes thereto.
- We and our UK subsidiaries may become subject to stabilisation provisions under the Banking Act 2009, as amended, in certain significant stress situations.
- Structural separation of banking and trading activities proposed or enacted in a number of jurisdictions could have a material adverse effect on us.
- We are subject to tax-related risks in the countries in which we operate.

Risks related to our business, business operations, governance and internal control systems

- The delivery of our strategic actions is subject to execution risk.
- We may not achieve any of the expected benefits of our strategic initiatives.
- We may fail to increase the cross-selling and/or business synergies required to achieve our growth strategy.
- We operate in markets that are highly competitive.
- Our risk management measures may not be successful.
- Operational risks are inherent in our business.
- Our operations are subject to the threat of fraudulent activity.
- Our operations are subject to disruption from the external environment.
- Our operations utilise third-party suppliers and service providers.
- Our operations are highly dependent on our information technology systems.
- We may not be able to meet regulatory requests for data.
- Our operations have inherent reputational risk.
- We may suffer losses due to employee misconduct.
- We rely on recruiting, retaining and developing appropriate senior management and skilled personnel.
- Our financial statements are based in part on judgements, estimates and assumptions which are subject to uncertainty.
- We could incur losses or be required to hold additional capital as a result of model limitations or failure.
- Third parties may use us as a conduit for illegal activities without our knowledge.
- We have significant exposure to counterparty risk.
- Market fluctuations may reduce our income or the value of our portfolios.
- Liquidity, or ready access to funds, is essential to our businesses.
- Any reduction in the credit rating assigned to HSBC Holdings, any subsidiaries of HSBC Holdings or any of their respective debt securities could increase the cost or decrease the availability of our funding and adversely affect our liquidity position and interest margin.
- Risks concerning borrower credit quality are inherent in our businesses.
- Our insurance businesses are subject to risks relating to insurance claim rates and changes in insurance customer behaviour.
- HSBC Holdings is a holding company and, as a result, is dependent on loan payments and dividends from its subsidiaries to meet its obligations, including obligations with respect to its debt securities, and to provide profits for payment of future dividends to shareholders.
- We may be required to make substantial contributions to our pension plans.

Top and emerging risks

Our approach to identifying and monitoring top and emerging risks is described on page 103. Our current top and emerging risks are as follows:

Externally driven

- Economic outlook and capital flows
- Geopolitical risk
- Turning of the credit cycle
- Regulatory developments with adverse impact on business model and profitability
- Regulatory focus on conduct of business and financial crime
- Dispute risk
- Regulatory commitments and consent orders
- Cyber threat and unauthorised access to systems

Economic outlook and capital flows

Economic growth remained subdued in 2015, with a number of headwinds adversely affecting both developed and emerging market countries.

The slowdown of the mainland Chinese economy has dampened global trade flows and caused volatility in currency and global stock markets. Market concerns persist as to the scale of the slowdown and the potential for further depreciation of the renminbi and emerging market currencies.

Oil and gas prices fell further during 2015 and early 2016 as a result of continuing global supply and demand imbalances, raising the risk that any recovery in oil prices over the medium term will be even more gradual than currently expected. Although oil importers benefit from low prices, low oil prices increase fiscal and financing challenges for exporters and accentuate deflationary risks.

Emerging market economies have been affected by falling commodity prices, the economic slowdown in mainland China and a vulnerability to monetary policy normalisation in the US. This has led to steep depreciation in several key emerging market currencies against the US dollar and substantial capital outflows.

The economic recovery in the eurozone remains fragile, driven by a combination of low oil prices, a weak euro, slowing growth and loose monetary policy. Populist parties are in the ascendancy in several EU countries, helped by the subdued economic backdrop as well as other issues such as migration. A referendum on the UK's EU membership is expected to occur within the lifetime of the current Parliament, and may be held as early as mid-2016 (see 'Geopolitical risk' below). While the risk of Greece exiting the EU has faded, the implementation of required structural reforms could prove politically challenging.

Potential impact on HSBC

- We earn a significant proportion of our profits from our operations in Asia. Our results could be adversely affected by a prolonged or severe slowdown in regional economic growth or contraction in global trade and capital flows as a consequence.
- HSBC's results could be impacted by a prolonged period of low oil prices, particularly in conjunction with a low inflation environment and/or low or negative interest rates.
- The intensification of fragmentation risks in the EU could have both political and economic consequences for Europe.

Mitigating actions

- We closely monitor economic developments in key markets and sectors with the aim of ensuring trends are identified, the implications for specific customers, customer segments or portfolios are assessed, and appropriate mitigating action – which may include revising key risk appetite metrics or limits – is taken as circumstances evolve.
- We use internal stress testing and scenario analysis as well as regulatory stress test programmes to evaluate the impact of macroeconomic shocks on our businesses and portfolios. Analyses undertaken on our oil and gas portfolio and mainland China exposures are discussed on page 117.

Geopolitical risk

Our operations and portfolios are exposed to risks arising from political instability, civil unrest and military conflict in many parts of the world.

In the Middle East, the intervention of Russia and the rise of the terrorist group, Daesh, have added to an already complex civil war in Syria and further destabilised Iraq. These are conflicts which show few signs of resolution. Daesh has proved capable of carrying out attacks in neighbouring countries and further afield. The lifting of sanctions following a deal between Iran and the five permanent members of the UN Security Council on the country's nuclear programme has done little to calm regional tensions.

Violence in Ukraine has abated but the conflict in the east of the country has not been resolved. Sanctions imposed by the US and EU against the Russian government, institutions and individuals have damaged the Russian economy.

European states are experiencing heightened political tension, reflecting concerns over migration, fears of terrorism and the possibility that the UK may vote to exit the EU following a referendum. An exit could have a significant impact on UK, European and global macroeconomic conditions, as well as substantial political ramifications.

In Asia, territorial disputes between Japan and China and other states have strained diplomatic relations and are testing the resolve of the US to defend freedom of navigation.

Potential impact on HSBC

- Our results are subject to the risk of loss from physical conflicts or terrorist attacks, unfavourable political developments, currency fluctuations, social instability and changes in government policies in the jurisdictions in which we operate.

- Physical conflicts or terrorist attacks could expose our staff to physical risk and/or result in physical damage to our assets and disruption to our operations.
- The effect of a UK exit from the EU on HSBC would depend on the manner in which the exit occurs. A disorderly exit could force changes to HSBC's operating model, affect our ability to access ECB and high value euro payments, and affect our transaction volumes due to possible disruption to global trade flows.

Mitigating actions

- We continuously monitor the geopolitical outlook, in particular in countries where we have material exposures and/or a physical presence.
- Our internal credit risk ratings of sovereign counterparties take geopolitical factors into account and drive our appetite for conducting business in those countries. Where necessary, we adjust our country limits and exposures to reflect our risk appetite and mitigate risks as appropriate.
- We run internal stress tests and scenario analyses, including reverse stress tests, on our portfolios that take into account geopolitical scenarios, such as conflicts in countries where we have a significant presence, or political developments that could disrupt our operations, including the potential effect of a UK exit on our business model.

Turning of the credit cycle

The long-anticipated move by the US Federal Reserve Board ('FRB') to raise interest rates and the slowdown in mainland China's economy, which is expected to continue, have increased risk aversion in global markets. This tendency has deepened since the turn of 2016, with market volatility increasing. In 2015, emerging markets experienced net capital outflows for the first time since 1988, with several major currencies at decade-plus lows against the US dollar and global corporate defaults rose to the highest since 2009. 2016 could see an intensification of these trends and the appearance of stress in a wide array of credit segments, particularly if monetary policy is tightened quickly, sentiment regarding China worsens and oil prices fail to recover. The combination of these factors with substantial amounts of external refinancing being due in emerging markets in 2016-18 increases the risk of sharper and more protracted volatility.

Potential impact on HSBC

- Impairment allowances or losses could begin to rise from their historical lows in 2014 and 2015 if the credit quality of our customers is affected by less favourable global economic conditions in some markets.
- There may be impacts on the delinquency and losses in some portfolios which may be impacted by worsening macroeconomic conditions and their possible effects on particular geographies or industry sectors.
- Particular portfolios such as oil and gas may come under particular strain which is partly cyclical and partly driven by geopolitical concerns.

Mitigating actions

- We closely monitor economic developments in key markets and sectors, taking portfolio actions where necessary including enhanced monitoring or reducing limits and exposures.
- We stress test those portfolios of particular concern to identify sensitivity to loss, with management actions taken to control appetite where necessary.
- Where customers are either individually or collectively assessed, regular portfolio reviews are undertaken for sensitive portfolios to ensure that individual customer or portfolio risks are understood and that the level of facilities offered and our ability to manage through any downturn are appropriate.

Regulatory developments with adverse impact on business model and profitability

Financial service providers continue to face stringent and costly regulatory and supervisory requirements, particularly in the areas of capital and liquidity management, conduct of business, financial crime, operational structures and the integrity of financial services delivery. Government intervention and control over financial institutions both on a sector-wide basis and individually, together with measures to reduce systemic risk, may significantly affect the competitive landscape locally, regionally and/or globally for some or all of the Group's businesses. These measures may be introduced with different, potentially conflicting requirements and to differing timetables by different regulatory regimes. Regulatory changes may affect our activities, both of the Group as a whole and of some or all of our principal subsidiaries. These changes include:

- the UK's Financial Services (Banking Reform) Act 2013, which requires the ring-fencing of our UK retail banking activities from wholesale banking, together with the structural separation of other activities required by US legislation and rules (including the Volcker Rule implemented in December 2013 under the Dodd-Frank Act), and potential further changes under the European Commission's Banking Structural Reform Regulation which proposes similar structural reform for larger EU banks as well as structural changes in other jurisdictions;
- revisions in the regime for the operation of capital markets, notably mandatory central clearing of over the counter ('OTC') derivatives and mandatory margin requirements for non-cleared derivatives under the Dodd-Frank Act, the EU's European Market Infrastructure Regulation ('EMIR') and similar local measures being progressed in Hong Kong, Singapore and Canada;

- those arising from the Markets in Financial Instruments Regulation/Directive ('MiFID II'), which includes mandatory trading of derivatives on organised venues, enhanced transparency and reporting requirements, controls on high frequency and algorithmic trading, changes to the use of dealing commissions and potential future restrictions on the ability of non-EU Group companies to provide certain services to EU based clients. Aspects of MiFID II also further enhance protections for investors in line with many regulators' focus on the wider conduct of business and delivery of fair outcomes for customers;
- changes aimed at promoting effective competition in the interests of consumers, including investigations ordered by the UK Competition and Markets Authority and work to increase competition more generally;
- the recommendations arising out of the *Final Report on the Fair and Effective Financial Markets Review* undertaken by the Bank of England, which include changes to market conduct rules and forward looking supervision in the operation of wholesale financial markets in the UK;
- continued focus in the UK and elsewhere on matters relating to management accountability, institutional culture, employee conduct and increased obligations on market abuse and whistleblowing. In the UK, this includes implementing the individual accountability regime and wider recommendations made by the Parliamentary Commission on Banking Standards and the activities of the Banking Standards Board;
- the Basel Committee on Banking Supervision ('Basel Committee') initiatives to enhance the risk sensitivity and robustness of the standardised approaches, to minimise reliance on internal models, and to incorporate capital floors in the Basel capital framework;
- the implementation of the Capital Requirements Directive ('CRD IV'), notably the UK application of the capital framework and its interaction with Pillar 2;
- proposals from the Financial Stability Board for global systemically important banks ('G-SIB's) to hold minimum levels of capital and debt as total loss absorbing capacity ('TLAC'), together with the Bank of England's consultation on UK implementation of MREL (for further details, see 'Capital' on page 239);
- requirements flowing from arrangements for the resolution strategy of the Group and its individual operating entities, which may have different effects in different countries; and
- the continued risk of further changes to regulation relating to taxes affecting financial service providers, including financial transaction taxes and ongoing implementation of initiatives to share tax information such as the Common Reporting Standard introduced by the Organisation for Economic Co-operation and Development ('OECD').

Potential impact on HSBC

- Proposed changes in and/or the implementation of regulations including mandatory central clearing of OTC derivatives, EMIR, ring-fencing and similar requirements, MiFID II, the Volcker Rule, recovery and resolution plans, tax information sharing initiatives and findings from competition orientated enquiries and investigations may affect the manner in which we conduct our activities and how the Group is structured.
- Requirements for higher levels of capital or TLAC may increase the funding costs for the Group and reduce our return on equity.
- Mandatory central clearing of OTC derivatives also brings new risks to HSBC in its role as a clearing member, as we will be required to underwrite losses incurred by central clearing counterparties from the default of other clearing members and their clients. Hence central clearing brings with it a new element of interconnectedness between clearing members and clients which we believe may increase rather than reduce our exposure to systemic risk.
- Increased regulatory scrutiny of conduct of business and management accountability may affect the industry in areas such as employee recruitment and retention, product pricing and profitability in both retail and wholesale markets. HSBC's businesses may be affected by these developments.
- These measures have the potential to increase our cost of doing business and curtail the types of business we can carry out, which may adversely affect future profitability.

Mitigating actions

- We are engaged closely with governments and regulators in the countries in which we operate to help ensure that the new requirements are considered properly and can be implemented in an effective manner.
- We have enhanced our governance around central clearing counterparties and appointed specialists to manage the associated liquidity and collateral risks.
- We continue to enhance and strengthen governance and resourcing more generally around regulatory change management and the implementation of required measures to actively address this ongoing and significant agenda of regulatory change.

Regulatory focus on conduct of business and financial crime

Financial service providers are at risk of regulatory sanctions or fines related to conduct of business and financial crime. The incidence of regulatory proceedings against financial service firms has become more common-place and may increase in frequency due to increased media attention and higher expectations from prosecutors and the public, with a consequent increase also in civil litigation arising from or relating to issues which are subject to regulatory investigation, sanction or fine.

Regulators in the UK and other countries have continued to increase their focus on conduct matters relating to fair outcomes for customers and orderly and transparent operations in financial markets. For further details, see 'Compliance risk' on page 178.

Potential impact on HSBC

- HSBC may face regulatory censure or sanctions including fines and/or be exposed to legal proceedings and litigation.
- Regulators in the UK and other countries may identify future industry-wide mis-selling, market conduct or other issues that could affect the Group. This may lead from time to time to significant direct costs or liabilities and/or changes in the practices of such businesses. Also, decisions taken by the Financial Ombudsman Service in the UK (or similar overseas bodies) could, if applied to a wider class or grouping of customers, have a material adverse effect on the operating results, financial condition and prospects of the Group.

Mitigating actions

- We have taken a number of steps including introduction of new global policies, enhancement to the product governance processes, establishment of a global conduct programme and review of sale processes and incentive schemes (see 'Compliance risk' on page 178).

US deferred prosecution agreement and related agreements and consent orders

An independent compliance monitor ('the Monitor') was appointed in 2013 under the 2012 agreements entered into with the US Department of Justice ('DoJ') and the UK Financial Conduct Authority ('FCA') to produce annual assessments of the effectiveness of our AML and sanctions compliance programme. Additionally, the Monitor is serving as HSBC's independent consultant under the consent order of the FRB. HSBC Bank USA is also subject to an agreement entered into with the Office of the Comptroller of the Currency ('OCC') in December 2012, the Gramm-Leach-Bliley Act Agreement and other consent orders. In January 2016, the Monitor delivered his second annual follow-up review report as required by the US DPA. The Monitor's report is discussed on page 116.

Potential impact on HSBC

- The design and execution of AML and sanctions remediation plans are complex and require major investments in people, systems and other infrastructure. This complexity creates significant execution risk, which could affect our ability to effectively identify and manage financial crime risk and remedy AML and sanctions compliance deficiencies in a timely manner. This could, in turn, impact our ability to satisfy the Monitor or comply with the terms of the US DPA and related agreements and consent orders, and may require us to take additional remedial measures in the future.
- Under the terms of the US DPA, upon notice and an opportunity to be heard, the DoJ has sole discretion to determine whether HSBC has breached the US DPA. Potential consequences of breaching the US DPA could include the imposition of additional terms and conditions on HSBC, an extension of the agreement, including its monitorship, or the criminal prosecution of HSBC, which could, in turn, entail further financial penalties and collateral consequences.
- Breach of the US DPA or related agreements and consent orders could have a material adverse effect on our business, financial condition and results of operations, including loss of business and withdrawal of funding, restrictions on performing dollar-clearing functions through HSBC Bank USA or revocation of bank licences. Even if we are not determined to have breached these agreements, but the agreements are amended or their terms extended, our business, reputation and brand could suffer materially.

Mitigating actions

- We are continuing to take concerted action to remedy AML and sanctions compliance deficiencies and to implement Global Standards. We are also working to implement the agreed recommendations flowing from the Monitor's 2013 and 2014 reviews, and will implement the agreed recommendations from the 2015 review.
- During 2015, we continued to make progress toward putting in place a robust and sustainable AML and sanctions compliance programme, including continuing to build a strong Financial Crime Compliance sub-function, rolling out improved systems and infrastructure to manage financial crime risk and improve transaction monitoring and enhancing internal audits.

Dispute risk

HSBC is party to legal proceedings and regulatory matters in a number of jurisdictions arising out of its normal business operations. Further details are provided in Note 40 on the Financial Statements.

Potential impact on HSBC

- Dispute risk may give rise to potential financial loss as well as significant reputational damage. This in turn could adversely affect customer, investor and other stakeholder confidence.

Mitigating actions

- We continue to focus on identifying emerging regulatory and judicial trends, and sharing globally lessons learned in an effort to avoid or limit future litigation exposure and regulatory enforcement action.
- We continue to review and enhance our financial crime and regulatory compliance controls and resources.

Cyber threat and unauthorised access to systems

Like other public and private organisations, we continue to be a target of cyber attacks which, in some cases, disrupt services including the availability of our external facing websites, compromise organisational and customer information or expose security weaknesses. Management of cyber risks is coming under increased regulatory scrutiny.

Potential impact on HSBC

- A major cyber attack, which could result from unauthorised access to our systems, may result in financial loss as well as significant reputational damage which could adversely affect customer and investor confidence in HSBC. Any loss of customer data would also trigger regulatory breaches which could result in fines and penalties being incurred.

Mitigating actions

- The security of our information and technology infrastructure is crucial for maintaining our banking applications and processes and protecting our customers and the HSBC brand. We continue to strengthen our ability to prevent, detect and respond to the ever-increasing and sophisticated threat of cyber attacks by enhancing our governance and controls framework and technology infrastructure, processes and controls.
- We took part in the PRA's Cyber Vulnerability Testing exercise during 2015 and are making further enhancements to improve our resilience to, and ability to recover from, cyber attacks.
- We have realigned the responsibilities and accountabilities for cyber and information risk management to align with the operational risk lines of defence operational model and instigated a number of security improvement programmes within IT.

Internally driven

- People risk
- Execution risk
- Third-party risk management
- Model risk
- Data management

People risk

Significant demands continue to be placed on our staff. The cumulative workload arising from regulatory reform and remediation programmes together with those related to the delivery of our strategy is hugely consumptive of human resources, placing increasingly complex and conflicting demands on a workforce in a world where expertise is often in short supply and globally mobile.

Potential impact on HSBC

- Changes in remuneration policy and practice resulting from CRD IV regulations, European Banking Authority ('EBA') Guidelines and PRA remuneration rules apply on a Group-wide basis for any material risk takers. This presents significant challenges for HSBC because a significant number of our material risk takers are based outside the EU.
- The Senior Managers and Certification regimes and the related Rules of Conduct, which come into force in 2017 for other employees, set clear expectations of the accountabilities and behaviour of both senior and more junior employees.
- Organisational changes to support the Group's strategy and/or implement regulatory reform programmes have the potential to lead to increased staff turnover.

Mitigating actions

- The changes in remuneration under the CRD IV regulations, EBA guidelines and PRA remuneration rules have necessitated a review of our remuneration policy, especially the balance between fixed and variable pay, to ensure we can remain globally competitive on a total compensation basis and retain our key talent.
- We continue to increase the level of specialist resource in key areas, and to engage with our regulators as they finalise new regulations.
- Risks related to organisational change and disposals are subject to close management oversight, especially in those countries where staff turnover is particularly high.

Execution risk

Execution risk heightened during 2015 due to a number of factors. Significant programmes are under way to deliver nine business actions to capture value from our global presence, announced at the Investor Update in June 2015. These, along with the regulatory reform agenda and our commitments under the US DPA require the management of complex projects that are resource demanding and time sensitive. In addition, the risks arising from the disposal of our business in Brazil require careful management.

Potential impact on HSBC

- Risks arising from the number, magnitude and complexity of projects underway to meet these demands may include financial losses, reputational damage or regulatory censure.
- The potential risks of disposals include regulatory breaches, industrial action, loss of key personnel and interruption to systems and processes during business transformation. They can have both financial and reputational implications.

Mitigating actions

- We have strengthened our prioritisation and governance processes for significant projects, which are monitored by the GMB.
- We have invested in our project implementation and IT capabilities and increased our focus on resource management.
- Risks relating to disposals are carefully assessed and monitored and are subject to close management oversight.

Third-party risk management

HSBC, in common with peers in the financial services industry, utilises third parties for the provision of a range of goods and services. Global regulators have raised concerns regarding the dependency on third parties, and expect firms to be able to demonstrate adequate control over the selection, governance and oversight of their third parties (including affiliates). Risks arising from the use of third-party service providers may be less transparent and therefore more challenging to manage or influence.

Potential impact on HSBC

- Any deficiency in the management of third-party risk could affect our ability to meet strategic, regulatory and client expectations. This may lead to a range of consequences including regulatory censure, civil penalties or reputational damage.

Mitigating actions

- HSBC is undertaking a multi-year strategic plan to enhance its third-party risk management capability. We are implementing a programme that will provide a holistic view of third-party risks. This will enable the consistent risk assessment of any third-party service against key criteria, along with the associated control monitoring, testing and assurance throughout the third-party lifecycle.
- The Group's most critical third parties were identified and subjected to enhanced risk assessment, with remediation plans agreed where necessary. Plans are in place to extend the assessment to a broader group of third parties.
- In addition, the highest priority third-party vendors in the US went through enhanced risk assessment with findings remediated in 2015. A risk monitoring solution was implemented for all vendors and a due diligence solution is in the process of being implemented.

Model risk

We use models for a range of purposes in managing our business, including regulatory and economic capital calculations, stress testing, credit approvals, pricing, financial crime and fraud risk management and financial reporting. Model risk is the potential for adverse consequences as a result of decisions based on incorrect model outputs and reports or the use of such information for purposes for which it was not designed. This risk can arise from models that are poorly developed, implemented or used, or from the modelled outcome being misunderstood and acted upon inappropriately by management. The regulatory environment and supervisory concerns over banks' use of internal models to determine regulatory capital is also considerable, and further contributes to model risk.

Potential impact on HSBC

- HSBC could incur losses, be required to hold additional capital, fail to meet regulatory standards or incur higher operating expenses due to the use of inappropriate models or poor model risk management.
- Supervisory concerns over the internal models and assumptions used by banks in the calculation of regulatory capital have led to the imposition of floors in risk weight and model parameters such as the loss given default. Such changes have the potential to increase our capital requirement and/or make it more volatile.
- Our reputation may be questioned due to our inability to comply with specific modelling and model risk management requirements.

Mitigating actions

- We have strengthened our model risk governance framework by establishing global model oversight committees and implementing policies and standards in accordance with key regulatory requirements.
- We have strengthened our governance over the development, usage and validation of models including the creation of centralised global analytical functions with necessary subject-matter expertise.
- We have hired additional subject matter experts as part of our independent model review function and empowered the function to ensure appropriate challenge and feedback are given to models prior to and as part of their ongoing use.

Data management

Regulators require more frequent and granular data submissions, which must be produced on a consistent, accurate and timely basis. As a G-SIB, HSBC must comply with the principles for effective risk data aggregation and risk reporting set out by the Basel Committee.

Potential impact on HSBC

- Ineffective data management capabilities could impact our ability to aggregate and report complete, accurate and consistent data to regulators, investors and senior management on a timely basis.
- Financial institutions that fail to meet their Basel Committee data obligations by the required deadline may face supervisory measures.

Mitigating actions

- We have set a data strategy for the Group and defined Group-level principles, standards and policies to enable consistent data aggregation, reporting and management. We continue to focus on enhancing data governance, quality and architecture to support our objectives of ensuring reliability of information used in support of internal controls and external financial reporting.
- A number of key initiatives and projects to implement our data strategy and work towards meeting our Basel Committee data obligations are in progress.

Areas of special interest

During 2015, we considered a number of particular areas because of the effect they may have on the Group. Whilst these areas may already have been identified in top and emerging risks, further details of the actions taken during the year are provided below.

Financial crime compliance and regulatory compliance

We continued to experience increased levels of compliance risk as regulators and other agencies pursued investigations into historical activities. Examples include continued engagement with respect to compliance with AML and sanctions law (historical investigations gave rise to the US DPA and related FCA Direction), on-going interaction with regulators relating to mis-selling of the PPI policies and allegations of pressure selling in the UK, investigations in relation to conduct in the foreign exchange market, and benchmark interest rate and commodity price setting. Details of these investigations and legal proceedings may be found in Note 40 on the Financial Statements. The work of the Monitor, who was appointed to assess the effectiveness of our AML and sanctions compliance programme, is discussed below.

The level of inherent compliance risk remained high in 2015 as the industry continued to experience greater regulatory scrutiny and heightened levels of regulatory oversight and supervision.

For further information about the Group's compliance risk management, see page 178.

The Monitor

Under the agreements entered into with the DoJ and the FCA in 2012, including the five-year US DPA, the Monitor was appointed to produce annual assessments of the effectiveness of the Group's AML and sanctions compliance programme.

In January 2016, the Monitor delivered his second annual follow-up review report based on various thematic and country reviews he had conducted over the course of 2015. In his report, the Monitor concluded that, in 2015, HSBC made progress in developing an effective and sustainable financial crime compliance programme. However, he expressed significant concerns about the pace of that progress, instances of potential financial crime and systems and controls deficiencies, whether HSBC is on track to meet its goal to the Monitor's satisfaction within the five-year period of the US DPA and, pending further review and discussion with HSBC, did not certify as to HSBC's implementation of and adherence to remedial measures specified in the US DPA. The 'US deferred prosecution agreement and related agreements and consent orders' are discussed in top and emerging risks on page 113.

Regulatory stress tests

Stress testing is an important tool for regulators to assess vulnerabilities in the banking sector and in individual banks, the results of which could have a significant effect on minimum capital requirements, risk and capital management practices and planned capital actions, including the payment of dividends, going forward.

We are subject to regulatory stress testing in many jurisdictions. These have increased both in frequency and in the granularity of information required by supervisors. They include the programmes of the Bank of England ('BoE'), the FRB, the OCC, the EBA and the Hong Kong Monetary Authority and other regulators. Assessment by regulators is on both quantitative and qualitative bases, the latter focusing on portfolio quality, data provision, stress testing capability, forward-looking capital management processes and internal management processes.

In 2015, the Group took part in the BoE's concurrent stress test exercise involving major UK banks. The 2015 stress scenario incorporates a global recession in which disinflationary pressures and weakening expectations of growth lead to diminished risk appetite, falling commodity prices and lower market liquidity. Several emerging economies are adversely affected, as is the eurozone, where the rate of deflation increases. The UK experiences a downturn as the global recession affects exports and as financial linkages and weaker confidence affects other parts of the economy.

Selected key economic variables for the BoE 2015 concurrent stress test, as specified by the BoE

	GDP growth[1] %	Unemployment[2] %	House Price Index %	Equity prices[3] %
Hong Kong	(5.6)	5.8	40	65
China	1.7	–	35	–
UK	(3.1)	9.2	20	36

1 *Worst quarter (percentage quarter on quarter – year earlier).*
2 *Peak percentage.*
3 *Price fall percentage (start to trough).*

The results were published by the BoE alongside the *Financial Stability Report* on 1 December 2015. The stressed CET1 capital ratio of HSBC was deemed by the BoE to fall to a minimum of 7.7%, taking into account management mitigating actions accepted by the BoE for this exercise. This was above the hurdle ratio of 4.5% set for this exercise. The leverage ratio fell to a minimum of 3.7% after management actions, also above the minimum hurdle ratio of 3%.

HSBC North America Holdings Inc. ('HNAH') participated in the 2015 Comprehensive Capital Analysis and Review ('CCAR') and the annual Dodd-Frank Act Stress Test ('DFAST') programmes as required by the FRB. In addition, HSBC Bank USA N.A. ('HSBC Bank USA') participated in the OCC's 2015 DFAST programme. The CCAR and DFAST submissions were made on 5 January 2015 and their results publically disclosed on 5 March 2015. On 11 March 2015, HNAH received notice that the FRB did not object to its 2015 Capital Plan – a key component of the CCAR submission. Under DFAST, HNAH is also required to conduct a company-run mid-cycle stress test, the results of which were disclosed on 16 July 2015. Under this test HNAH maintained capital levels in excess of regulatory minimums; specifically, the stressed common equity tier 1 ratio fell to a minimum of 7.5% compared with a required level of 4.5%.

Other entities in the Group, including The Hongkong and Shanghai Banking Corporation Limited and HSBC Bank plc, continue to participate in regulatory stress tests conducted at a subsidiary level by local regulators.

In October 2015, the BoE published details of its medium-term approach to stress testing the UK banking system. Key features of the approach include an annual cyclical stress test and a biennial exploratory stress test, starting in 2017.

The EBA plan to conduct stress tests in 2016. Details of their proposed approach were published by them in November 2015.

Oil and gas prices

Oil and commodity prices have remained low since the middle of 2014 as a result of existing global supply and demand imbalances, with significant price declines in late 2015 and early 2016. Continued lower oil prices cause increased credit risks within oil-related industries together with fiscal and financing challenges for energy exporters.

The overall portfolio of exposures directly exposed to oil and gas companies had drawn risk exposures amounting to about $29bn (2014: $34bn) with sub-sectoral distributions as follows: integrated producers 48%, service companies 28%, pure producers 17% and infrastructure companies 7%.

The credit quality distribution of the oil and gas portfolio was as follows: 'strong' and 'good' categories made up 56% of the portfolio, 'satisfactory' 35%, 'sub-standard' 7% and 'impaired' 2%. The majority of the exposures were located in North America, Asia and Europe.

Oil and gas related counterparties have responded rapidly to the changing economic outlook, cutting back on capital expenditure as well as reducing operating expenses in order to manage cash flows and sustain profitability.

Large integrated producers remained resilient. Within the pure producers sector, the higher cost entities such as shale and oil sands producers showed more evidence of stress, resulting in credit grade deterioration. Similarly, service companies continued to be more vulnerable as producers curtailed capital expenditures.

Individually assessed loan impairment charges in 2015 remained contained at approximately $0.3bn. Oil prices are now predicted to remain lower for longer and the oil price recovery is dependent on the removal of the excess supply that currently exists in the market. In view of these factors collective allowances for exposures related to oil and gas were increased by $0.2bn at the end of the year. Total allowances in respect of the oil and gas portfolio were $0.6bn.

The sector remains under enhanced monitoring with risk appetite and new lending has been significantly curtailed.

Metals and mining

Metals prices declined during 2015 although the pace and extent of the price decline was more gradual than for oil and gas.

Precious metals, copper, nickel and zinc prices are generally forecast to improve slightly in 2016. The outlook for steel, aluminium and bulk metals is more negative due to a combination of oversupply and reduction in demand. The low oil and gas prices benefit most metals and mining customers given that they are large consumers of energy.

Our total drawn risk exposure to metals and mining was $18bn (steel and aluminium $9bn, copper, nickel and zinc $4bn, iron ore and metallurgical coal $3bn, precious metals $2bn). Individually assessed loan impairments were $0.1bn.

Given the pressures in metals prices the metals and mining sector is under heightened management review.

Mainland China exposures

Mainland China's economic growth rate slowed in 2014 and 2015 with a gross domestic product of 6.9% in 2015 compared with 7.3% in 2014 (2013: 7.7%). China's economic growth rate remains very strong when compared with developed western economies. Although the largest foreign bank in China, HSBC's overall lending market share is very small at about 0.2%. This allows us to be selective in our lending to mainland China-related exposures, targeting high quality lending centred around specific priority sectors. The portfolio has continued to perform well with loan impairment charges remaining at their existing low levels.

The total mainland China portfolio had drawn risk exposures of $143bn, of which $77bn was booked onshore, with the remainder mainly booked in Hong Kong. Retail lending amounted to $8bn, focused primarily on residential mortgages in selected geographical areas. Wholesale lending amounted to $135bn. 51% of the wholesale portfolio was corporate lending with 26% to banks and the remainder to China sovereign. The lending to banks was 99% investment grade. The corporate portfolio was also of high quality with 62% of the portfolio of investment grade. Only 2% of the corporate portfolio was rated substandard which compares favourably with the Group as a whole. The corporate portfolio was well diversified with less than 40% of lending to state owned enterprises. The corporate real estate portfolio amounted to about $15bn. This portfolio which is primarily focused on tier 1 and tier 2 cities and the Pearl River Delta, was managed carefully under a series of caps ensuring that the lending to this sector remained within our risk appetite.

Our resultant ability to be selective in our lending and apply our traditionally strong underwriting standards means we have a high quality portfolio which we would expect to be resilient even in a situation where mainland China's growth rate slows further.

Credit risk

1 *Appendix to Risk – risk policies and practices.*

Credit risk

Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract. It arises principally from direct lending, trade finance and leasing business, but also from other products such as guarantees and credit derivatives and from holding assets in the form of debt securities.

There have been no material changes to the policies and practices for the management of credit risk in 2015.

A summary of our current policies and practices regarding credit risk is provided in the Appendix to Risk on page 193.

Our maximum exposure to credit risk is presented on page 122 and credit quality on page 125. While credit risk arises across most of our balance sheet, losses have typically been incurred on loans and advances and securitisation exposures and other structured products. As a result, our disclosures focus primarily on these two areas.

Our exposures to mainland China and the effects of the decline in 'metals and mining' and 'oil and gas' prices are provided in 'Areas of special interest' on page 116.

In 2015, reported gross loans and advances declined by $75bn, mainly due to foreign exchange effects reducing balances by $51bn and the reclassification of Brazilian assets as 'Assets held for sale' reducing balances by a further $31bn. Additional details relating to the Brazilian reclassification are provided on page 121. Excluding foreign exchange movements and the reclassification, both wholesale and personal lending grew.

Loan impairment charges reduced by $0.5bn or 11% compared with 2014 with notable decreases in Latin America from favourable foreign exchange effects.

Information on constant currency movements is provided on page 148. While tables are presented on a reported basis, the commentary that follows in this summary section excludes the effects of the Brazilian reclassification and is on a constant currency basis.

Summary of credit risk

	2015 $bn	2014 $bn	Page
At year-end			
Maximum exposure to credit risk			
– total assets subject to credit risk	**2,234**	2,434	
– off-balance sheet commitments subject to credit risk[2]	**713**	699	
	2,947	3,133	123
Gross loans and advances			
– personal lending	**374**	393	143
– wholesale lending	**650**	706	136
	1,024	1,099	124
Impaired loans			
– personal lending	**12**	15	128
– wholesale lending	**12**	14	128
	24	29	128
Impaired loans as a % of gross loans and advances			
– personal lending	**3.1%**	3.9%	
– wholesale lending	**1.9%**	2.0%	
– total	**2.3%**	2.7%	
	$bn	$bn	
Impairment allowances			
– personal lending	**2.9**	4.6	135
– wholesale lending	**6.7**	7.8	136
	9.6	12.4	134
Loans and advances net of impairment allowances	**1,015**	1,087	
For year ended 31 December			
Loan impairment charge	**3.6**	4.1	133
– personal lending	**1.8**	1.8	132
– wholesale lending	**1.8**	2.3	132
Other credit risk provisions	**0.1**	(0.2)	
	3.7	3.9	

For footnote, see page 191.

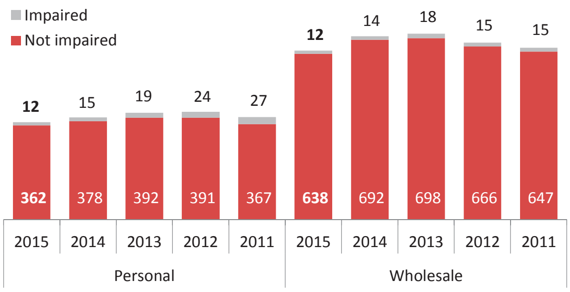
In 2015, wholesale and personal gross loans and advances grew by $0.5bn and $7bn, respectively.

In wholesale lending, Asia balances decreased by $9.6bn and were partly offset by an increase of $7.5bn in North America and $3.2bn in Europe. Middle East and North Africa decreased $1.2bn and Latin America remained relatively unchanged.

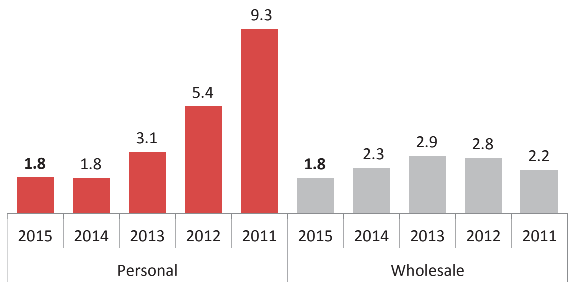
In personal lending, Asia balances grew by $7.4bn across both its mortgage and other personal lending, and there was a $1.9bn increase in the Premier mortgage portfolio in the US and Canada. The increase was partly offset by a $5.0bn reduction in the US CML portfolio as a result of the ongoing run-off of the portfolio and continued loan sales.

Loan impairment charges increased by $0.2bn compared with 2014, notably in Middle East and North Africa and North America.

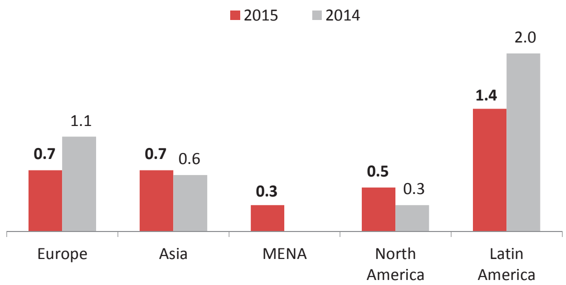
Gross loans to customers and banks over five years ($bn)



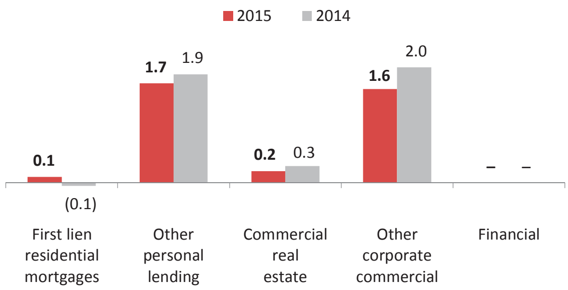
Loan impairment charge over five years ($bn)



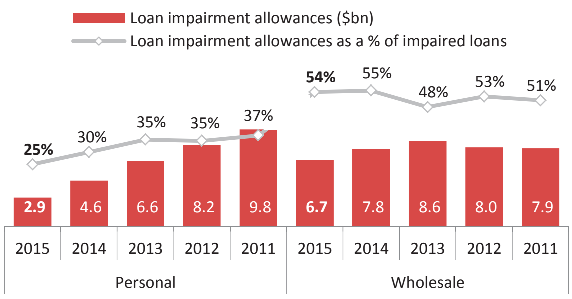
Loan impairment charges by geographical region ($bn)



Loan impairment charges by industry ($bn)



Loan impairment allowances over five years



Assets held for sale

(Audited)

During 2015, gross loans and advances and related impairment allowances arising in our Brazilian operations were reclassified from 'Loans and advances to customers' and 'Loans and advances to banks' to 'Assets held for sale' in the balance sheet.

Disclosures relating to assets held for sale are provided in the following credit risk management tables, primarily where the disclosure is relevant to the measurement of these financial assets:

- Maximum exposure to credit risk (page 122);
- Distribution of financial instruments by credit quality (page 125);
- Past due but not impaired gross financial instruments by geographical region (page 127); and
- Ageing analysis of days past due but not impaired gross financial instruments (page 127).

Although there was a reclassification on the balance sheet, there was no separate income statement reclassification. As a result, charges for loan impairment losses shown in the credit risk disclosures include loan impairment charges relating to financial assets classified as 'Assets held for sale'.

Loans and advances to customers and banks measured at amortised cost

(Audited)

	Total gross loans and advances $m	Impairment allowances on loans and advances $m
As reported	1,024,428	(9,573)
Reported in 'Assets held for sale'	24,544	(1,454)
At 31 December 2015	**1,048,972**	**(11,027)**

At 31 December 2014, the gross loans and advances and related impairment allowances of our Brazilian operations were $31bn and $1.7bn, respectively. Gross loans and advances reduced by $8.5bn, mainly as a result of foreign exchange movements.

Lending balances held for sale continue to be measured at amortised cost less allowances for impairment; such carrying amounts may differ from fair value. Any difference between the carrying amount and the sales price, which is the fair value at the time of sale, would be recognised as a gain or loss at the time of sale.

See Note 23 on the Financial Statements for the carrying amount and the fair value at 31 December 2015 of loans and advances to banks and customers classified as held for sale.

Gross loans and impairment allowances on loans and advances to customers and banks reported in 'Assets held for sale'
(Audited)

	Brazil $m	Other $m	Total $m
Gross loans			
Loans and advances to customers	18,103	2,042	20,145
– personal	5,571	40	5,611
– corporate and commercial	12,532	2,002	14,534
Financial	4,399	–	4,399
– non-bank financial institutions	331	–	331
– banks	4,068	–	4,068
At 31 December 2015	**22,502**	**2,042**	**24,544**
Impairment allowances			
Loans and advances to customers	(1,433)	(21)	(1,454)
– personal	(664)	–	(664)
– corporate and commercial	(769)	(21)	(790)
Financial	–	–	–
– non-bank financial institutions	–	–	–
– banks	–	–	–
At 31 December 2015	**(1,433)**	**(21)**	**(1,454)**

The table below analyses the amount of LICs arising from assets held for sale. The held for sale assets primarily relate to the Brazilian operations.

Loan impairment charges and other credit risk provisions
(Audited)

	2015 $m
LICs arising from:	
– assets held for sale	965
– assets not held for sale	2,757
Year ended 31 December	**3,722**

Credit exposure

Maximum exposure to credit risk

(Audited)

The table on page 123 provides information on balance sheet items, offsets and loan and other credit-related commitments. Commentary on balance sheet movements is provided on page 62.

The offset in derivatives decreased in line with the decrease in maximum exposure amounts.

The offset on corporate and commercial loans to customers decreased by $15bn. This reduction was mainly related to corporate overdraft balances where a small number of clients benefited from the use of net interest arrangements across overdrafts and deposits. As a result, while net risk exposures are generally stable, gross balances can be volatile.

'Maximum exposure to credit risk' table (page 123)

The table presents our maximum exposure to credit risk from balance sheet and off-balance sheet financial instruments before taking account of any collateral held or other credit enhancements (unless such enhancements meet accounting offsetting requirements). For financial assets recognised on the balance sheet, the maximum exposure to credit risk equals their carrying amount; for financial guarantees and similar contracts granted, it is the maximum amount that we would have to pay if the guarantees were called upon. For loan commitments and other credit-related commitments, it is generally the full amount of the committed facilities.

The offset in the table relates to amounts where there is a legally enforceable right of offset in the event of counterparty default and where, as a result, there is a net exposure for credit risk purposes. However, as there is no intention to settle these balances on a net basis under normal circumstances, they do not qualify for net presentation for accounting purposes. No offset has been applied to off-balance sheet collateral. In the case of derivatives the offset column also includes collateral received in cash and other financial assets.

Other credit risk mitigants

While not disclosed as an offset in the 'Maximum exposure to credit risk' table, other arrangements are in place which reduce our maximum exposure to credit risk. These include a charge over collateral over borrowers' specific assets such as residential properties. Other credit risk mitigants include short positions in securities and financial assets held as part of linked insurance/investment contracts where the risk is predominantly borne by the policyholder. In addition, we hold collateral in the form of financial instruments that are not recognised on the balance sheet.

See Note 32 and from page 139 and page 147 respectively on the Financial Statements for further details on collateral in respect of certain loans and advances and derivatives.

Maximum exposure to credit risk

(Audited)

	2015			2014		
	Maximum exposure $m	**Offset $m**	**Net $m**	Maximum exposure $m	Offset $m	Net $m
Cash and balances at central banks	**98,934**	**–**	**98,934**	129,957	–	129,957
Items in the course of collection from other banks	**5,768**	**–**	**5,768**	4,927	–	4,927
Hong Kong Government certificates of indebtedness	**28,410**	**–**	**28,410**	27,674	–	27,674
Trading assets	**158,346**	**–**	**158,346**	228,944	–	228,944
– Treasury and other eligible bills	**7,829**	**–**	**7,829**	16,170	–	16,170
– debt securities	**99,038**	**–**	**99,038**	141,532	–	141,532
– loans and advances to banks	**22,303**	**–**	**22,303**	27,581	–	27,581
– loans and advances to customers	**29,176**	**–**	**29,176**	43,661	–	43,661
Financial assets designated at fair value	**4,857**	**–**	**4,857**	9,031	–	9,031
– Treasury and other eligible bills	**396**	**–**	**396**	56	–	56
– debt securities	**4,341**	**–**	**4,341**	8,891	–	8,891
– loans and advances to banks	**120**	**–**	**120**	84	–	84
– loans and advances to customers	**–**	**–**	**–**	–	–	–
Derivatives	**288,476**	**(258,755)**	**29,721**	345,008	(313,300)	31,708
Loans and advances to customers held at amortised cost	**924,454**	**(52,190)**	**872,264**	974,660	(67,094)	907,566
– personal	**371,203**	**(5,373)**	**365,830**	388,954	(4,412)	384,542
– corporate and commercial	**493,078**	**(44,260)**	**448,818**	535,184	(59,197)	475,987
– non-bank financial institutions	**60,173**	**(2,557)**	**57,616**	50,522	(3,485)	47,037
Loans and advances to banks held at amortised cost	**90,401**	**(53)**	**90,348**	112,149	(258)	111,891
Reverse repurchase agreements – non-trading	**146,255**	**(900)**	**145,355**	161,713	(5,750)	155,963
Financial investments	**423,120**	**–**	**423,120**	404,773	–	404,773
– Treasury and other similar bills	**104,551**	**–**	**104,551**	81,517	–	81,517
– debt securities	**318,569**	**–**	**318,569**	323,256	–	323,256
Assets held for sale	**40,078**	**–**	**40,078**	1,375	–	1,375
– disposal groups	**38,097**	**–**	**38,097**	889	–	889
– non-current assets held for sale	**1,981**	**–**	**1,981**	486	–	486
Other assets	**25,310**	**–**	**25,310**	33,889	–	33,889
– endorsements and acceptances	**9,149**	**–**	**9,149**	10,775	–	10,775
– other	**16,161**	**–**	**16,161**	23,114	–	23,114
Total balance sheet exposure to credit risk	**2,234,409**	**(311,898)**	**1,922,511**	2,434,100	(386,402)	2,047,698
Total off-balance sheet[2]	**712,546**	**–**	**712,546**	698,458	–	698,458
– financial guarantees and similar contracts	**46,116**	**–**	**46,116**	47,078	–	47,078
– loan and other credit-related commitments[2]	**666,430**	**–**	**666,430**	651,380	–	651,380
At 31 December	**2,946,955**	**(311,898)**	**2,635,057**	3,132,558	(386,402)	2,746,156

For footnote, see page 191.

Loan and other credit-related commitments[2]

	Europe $m	**Asia $m**	**MENA $m**	**North America $m**	**Latin America $m**	**Total $m**
Personal	**70,013**	**103,153**	**3,092**	**14,510**	**12,175**	**202,943**
Corporate and commercial	**105,303**	**159,947**	**20,139**	**102,369**	**18,155**	**405,913**
Financial	**20,230**	**11,619**	**186**	**24,543**	**996**	**57,574**
At 31 December 2015	**195,546**	**274,719**	**23,417**	**141,422**	**31,326**	**666,430**
Personal	86,247	96,497	2,995	15,636	11,679	213,054
Corporate and commercial	98,045	138,366	20,141	102,911	17,540	377,003
Financial	26,605	9,355	711	23,559	1,093	61,323
At 31 December 2014	210,897	244,218	23,847	142,106	30,312	651,380

For footnote, see page 191.

Concentration of exposure

The geographical diversification of our lending portfolio and our broad range of global businesses and products ensured that we did not overly depend on a few markets to generate growth in 2015. This diversification also supported our strategy for growth in faster-growing markets and those with international connectivity.

Financial investments

Our holdings of available-for-sale government and government agency debt securities, corporate debt securities, ABSs and other securities were spread across a wide range of issuers and geographical regions in 2015, with 14% invested in securities issued by banks and other financial institutions and 75% in government or government agency debt securities. We also held assets backing insurance and investment contracts.

For an analysis of financial investments, see Note 17 on the Financial Statements.

Trading assets

Trading securities remained the largest concentration within trading assets at 77% in 2015 and 2014. The largest concentration within the trading securities portfolio was in government and government agency debt securities. We had significant exposures to US Treasury and government agency debt securities ($15bn) and UK ($10bn) and Hong Kong ($6.5bn) government debt securities.

For an analysis of debt and equity securities held for trading, see Note 12 on the Financial Statements.

Derivatives

Derivative assets were $288bn at 31 December 2015 (2014: $345bn). Details of derivative amounts cleared through an exchange, central counterparty and non-central counterparty are shown on page 142.

For an analysis of derivatives, see page 141 and Note 16 on the Financial Statements.

Loans and advances

The following tables analyse loans by industry sector and by the location of the principal operations of the lending subsidiary or, in the case of the operations of The Hongkong and Shanghai Banking Corporation, HSBC Bank, HSBC Bank Middle East Limited and HSBC Bank USA, by the location of the lending branch. Excluding the effect of the classification of Brazilian assets as 'Assets held for sale', the distribution of loans across geographical regions and industries remained similar to last year.

For an analysis of loans and advances by country see page 151.

Gross loans and advances by industry sector and by geographical region
(Audited)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m	As a % of total gross loans
Personal	**170,526**	**132,707**	**6,705**	**58,186**	**5,958**	**374,082**	**36.5**
– first lien residential mortgages	**125,544**	**94,606**	**2,258**	**50,117**	**1,986**	**274,511**	**26.8**
– other personal[3]	**44,982**	**38,101**	**4,447**	**8,069**	**3,972**	**99,571**	**9.7**
Wholesale							
Corporate and commercial	**191,765**	**211,224**	**22,268**	**62,882**	**11,374**	**499,513**	**48.8**
– manufacturing	**39,003**	**34,272**	**2,504**	**17,507**	**2,572**	**95,858**	**9.4**
– international trade and services	**62,667**	**72,199**	**9,552**	**11,505**	**3,096**	**159,019**	**15.5**
– commercial real estate	**26,256**	**32,371**	**690**	**7,032**	**1,577**	**67,926**	**6.7**
– other property-related	**7,323**	**35,206**	**1,908**	**8,982**	**45**	**53,464**	**5.2**
– government	**3,653**	**1,132**	**1,695**	**203**	**772**	**7,455**	**0.7**
– other commercial[4]	**52,863**	**36,044**	**5,919**	**17,653**	**3,312**	**115,791**	**11.3**
Financial	**51,969**	**68,321**	**10,239**	**16,308**	**3,996**	**150,833**	**14.7**
– non-bank financial institutions	**33,621**	**13,969**	**2,321**	**9,822**	**681**	**60,414**	**5.9**
– banks	**18,348**	**54,352**	**7,918**	**6,486**	**3,315**	**90,419**	**8.8**
Total wholesale	**243,734**	**279,545**	**32,507**	**79,190**	**15,370**	**650,346**	**63.5**
Total gross loans and advances at 31 December 2015	**414,260**	**412,252**	**39,212**	**137,376**	**21,328**	**1,024,428**	**100.0**
Percentage of total gross loans and advances	**40.4%**	**40.3%**	**3.8%**	**13.4%**	**2.1%**	**100.0%**	
Personal	178,531	129,515	6,571	65,400	13,537	393,554	35.8
– first lien residential mortgages	131,000	93,147	2,647	55,577	4,153	286,524	26.0
– other personal[3]	47,531	36,368	3,924	9,823	9,384	107,030	9.8
Wholesale							
Corporate and commercial	212,523	220,799	20,588	57,993	30,722	542,625	49.4
– manufacturing	39,456	37,767	2,413	15,299	12,051	106,986	9.7
– international trade and services	76,629	72,814	9,675	13,484	8,189	180,791	16.4
– commercial real estate	28,187	35,678	579	6,558	2,291	73,293	6.7
– other property-related	7,126	34,379	1,667	8,934	281	52,387	4.8
– government	2,264	1,195	1,552	164	968	6,143	0.6
– other commercial[4]	58,861	38,966	4,702	13,554	6,942	123,025	11.2
Financial	45,081	76,957	13,786	16,439	10,753	163,016	14.8
– non-bank financial institutions	23,103	13,997	3,291	9,034	1,393	50,818	4.6
– banks	21,978	62,960	10,495	7,405	9,360	112,198	10.2
Total wholesale	257,604	297,756	34,374	74,432	41,475	705,641	64.2
Total gross loans and advances at 31 December 2014	436,135	427,271	40,945	139,832	55,012	1,099,195	100.0
Percentage of total gross loans and advances	39.7%	38.9%	3.7%	12.7%	5.0%	100.0%	

For footnotes, see page 191.

Credit quality of financial instruments

(Audited)

We assess credit quality on all financial instruments which are subject to credit risk. Additional credit quality information in respect of our consolidated holdings of ABSs is provided on page 153.

For the purpose of the following disclosure, retail loans which are past due up to 90 days and are not otherwise classified as impaired in accordance with our disclosure convention are not disclosed within the expected loss grade to which they relate, but are separately classified as past due but not impaired.

Distribution of financial instruments by credit quality

(Audited)

	Neither past due nor impaired				Past due but not impaired	Impaired	Total gross amount	Impairment allowances[5]	Total
	Strong	Good	Satisfactory	Sub-standard					
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Cash and balances at central banks	97,365	583	939	47	–	–	98,934		98,934
Items in the course of collection from other banks	5,318	32	416	2	–	–	5,768		5,768
Hong Kong Government certificates of indebtedness	28,410	–	–	–	–	–	28,410		28,410
Trading assets[6]	116,633	21,243	19,894	576			158,346		158,346
– treasury and other eligible bills	6,749	790	190	100			7,829		7,829
– debt securities	77,088	10,995	10,656	299			99,038		99,038
– loans and advances:									
to banks	14,546	4,391	3,239	127			22,303		22,303
to customers	18,250	5,067	5,809	50			29,176		29,176
Financial assets designated at fair value[6]	3,037	701	736	383			4,857		4,857
– treasury and other eligible bills	139	193	–	64			396		396
– debt securities	2,898	508	616	319			4,341		4,341
– loans and advances:									
to banks	–	–	120	–			120		120
to customers	–	–	–	–			–		–
Derivatives[6]	248,101	32,056	7,209	1,110			288,476		288,476
Loans and advances to customers held at amortised cost[7]	472,691	214,152	194,393	16,836	12,179	23,758	934,009	(9,555)	924,454
– personal	309,720	29,322	15,021	944	7,568	11,507	374,082	(2,879)	371,203
– corporate and commercial	127,673	168,772	171,466	15,379	4,274	11,949	499,513	(6,435)	493,078
– non-bank financial institutions	35,298	16,058	7,906	513	337	302	60,414	(241)	60,173
Loans and advances to banks held at amortised cost	73,226	11,929	4,836	407	1	20	90,419	(18)	90,401
Reverse repurchase agreements – non-trading	108,238	16,552	20,931	46	–	488	146,255	–	146,255
Financial investments	382,328	18,600	16,341	4,525	–	1,326	423,120		423,120
– treasury and other similar bills	93,562	3,963	4,756	2,270	–	–	104,551		104,551
– debt securities	288,766	14,637	11,585	2,255	–	1,326	318,569		318,569
Assets held for sale	10,177	9,605	17,279	1,635	703	2,133	41,532	(1,454)	40,078
– disposal groups	10,149	8,815	16,213	1,567	701	2,085	39,530	(1,433)	38,097
– non-current assets held for sale	28	790	1,066	68	2	48	2,002	(21)	1,981
Other assets	8,306	5,688	10,204	632	147	333	25,310	–	25,310
– endorsements and acceptances	1,084	3,850	3,798	343	22	52	9,149		9,149
– accrued income and other	7,222	1,838	6,406	289	125	281	16,161		16,161
At 31 December 2015	1,553,830	331,141	293,178	26,199	13,030	28,058	2,245,436	(11,027)	2,234,409
	%	%	%	%	%	%	%		
Percentage of total gross amount	69.2	14.7	13.1	1.2	0.6	1.2	100.0		

Distribution of financial instruments by credit quality (continued)

	Neither past due nor impaired				Past due but not impaired	Impaired	Total gross amount	Impairment allowances[5]	Total
	Strong $m	Good $m	Satisfactory $m	Sub-standard $m	$m	$m	$m	$m	$m
Cash and balances at central banks	127,971	1,438	195	353			129,957		129,957
Items in the course of collection from other banks	4,515	46	365	1			4,927		4,927
Hong Kong Government certificates of indebtedness	27,674	–	–	–			27,674		27,674
Trading assets[6]	168,521	35,042	24,740	641			228,944		228,944
– treasury and other eligible bills	13,938	1,641	559	32			16,170		16,170
– debt securities	111,138	17,786	12,305	303			141,532		141,532
– loans and advances:									
to banks	17,492	4,961	5,016	112			27,581		27,581
to customers	25,953	10,654	6,860	194			43,661		43,661
Financial assets designated at fair value[6]	3,017	4,476	1,207	331			9,031		9,031
– treasury and other eligible bills	5	–	–	51			56		56
– debt securities	3,011	4,476	1,124	280			8,891		8,891
– loans and advances:									
to banks	1	–	83	–			84		84
to customers	–	–	–	–			–		–
Derivatives[6]	269,490	58,596	15,962	960			345,008		345,008
Loans and advances to customers held at amortised cost[7]	487,734	239,136	196,685	20,802	13,357	29,283	986,997	(12,337)	974,660
– personal	320,678	32,601	15,109	1,130	8,876	15,160	393,554	(4,600)	388,954
– corporate and commercial	141,375	192,799	171,748	18,986	3,922	13,795	542,625	(7,441)	535,184
– non-bank financial institutions	25,681	13,736	9,828	686	559	328	50,818	(296)	50,522
Loans and advances to banks held at amortised cost	83,766	19,525	7,945	914	1	47	112,198	(49)	112,149
Reverse repurchase agreements – non-trading	98,470	28,367	33,283	1,593	–	–	161,713	–	161,713
Financial investments	347,218	27,373	22,600	5,304	–	2,278	404,773		404,773
– treasury and other similar bills	68,966	6,294	4,431	1,826	–	–	81,517		81,517
– debt securities	278,252	21,079	18,169	3,478	–	2,278	323,256		323,256
Assets held for sale	802	43	79	–	2	465	1,391	(16)	1,375
– disposal groups	768	43	79	–	–	–	890	–	890
– non-current assets held for sale	34	–	–	–	2	465	501	(16)	485
Other assets	12,213	7,521	12,897	631	208	419	33,889		33,889
– endorsements and acceptances	1,507	4,644	4,281	298	34	11	10,775		10,775
– accrued income and other	10,706	2,877	8,616	333	174	408	23,114		23,114
At 31 December 2014	1,631,391	421,563	315,958	31,530	13,568	32,492	2,446,502	(12,402)	2,434,100
	%	%	%	%	%	%	%		
Percentage of total gross amount	66.7	17.2	12.9	1.3	0.6	1.3	100.0		

For footnotes, see page 191.

Past due but not impaired gross financial instruments

(Audited)

Past due but not impaired gross financial instruments are those loans where, although customers have failed to make payments in accordance with the contractual terms of their facilities, they have not met the impaired loan criteria described on page 128.

In personal lending, past due but not impaired balances decreased, mainly due to the Brazilian reclassification and the continued run-off and loan sales in the CML portfolio.

Past due but not impaired gross financial instruments by geographical region

(Audited)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Loans and advances to customers held at amortised cost	**1,928**	**3,405**	**909**	**5,392**	**545**	**12,179**
– personal	**1,152**	**2,573**	**180**	**3,287**	**376**	**7,568**
– corporate and commercial	**762**	**790**	**710**	**1,843**	**169**	**4,274**
– non-bank financial institutions	**14**	**42**	**19**	**262**	**–**	**337**
Assets held for sale	**–**	**–**	**–**	**2**	**701**	**703**
– disposal group	**–**	**–**	**–**	**–**	**701**	**701**
– non-current assets held for sale	**–**	**–**	**–**	**2**	**–**	**2**
Other financial instruments	**10**	**39**	**15**	**80**	**4**	**148**
At 31 December 2015	**1,938**	**3,444**	**924**	**5,474**	**1,250**	**13,030**
Loans and advances to customers held at amortised cost	2,409	4,260	704	4,634	1,350	13,357
– personal	1,159	2,880	182	3,759	896	8,876
– corporate and commercial	1,244	1,102	508	623	445	3,922
– non-bank financial institutions	6	278	14	252	9	559
Assets held for sale	–	–	–	2	–	2
– disposal group	–	–	–	–	–	–
– non-current assets held for sale	–	–	–	2	–	2
Other financial instruments	6	52	31	95	25	209
At 31 December 2014	2,415	4,312	735	4,731	1,375	13,568

Ageing analysis of days for past due but not impaired gross financial instruments

(Audited)

	Up to 29 days $m	30-59 days $m	60-89 days $m	90-179 days $m	180 days and over $m	Total $m
Loans and advances to customers held at amortised cost	**9,403**	**1,917**	**727**	**111**	**21**	**12,179**
– personal	**5,665**	**1,401**	**502**	**–**	**–**	**7,568**
– corporate and commercial	**3,432**	**505**	**225**	**93**	**19**	**4,274**
– non-bank financial institutions	**306**	**11**	**–**	**18**	**2**	**337**
Assets held for sale	**476**	**137**	**90**	**–**	**–**	**703**
– disposal group	**476**	**136**	**89**	**–**	**–**	**701**
– non-current assets held for sale	**–**	**1**	**1**	**–**	**–**	**2**
Other financial instruments	**80**	**35**	**14**	**10**	**9**	**148**
At 31 December 2015	**9,959**	**2,089**	**831**	**121**	**30**	**13,030**
Loans and advances to customers held at amortised cost	10,427	2,057	801	54	18	13,357
– personal	6,477	1,717	676	5	1	8,876
– corporate and commercial	3,417	328	114	48	15	3,922
– non-bank financial institutions	533	12	11	1	2	559
Assets held for sale	–	–	–	1	1	2
– disposal group	–	–	–	–	–	–
– non-current assets held for sale	–	–	–	1	1	2
Other financial instruments	130	33	18	11	17	209
At 31 December 2014	10,557	2,090	819	66	36	13,568

Impaired loans

(Audited)

Impaired loans and advances are those that meet any of the following criteria:

- wholesale loans and advances classified as Customer Risk Rating ('CRR') 9 or CRR 10. These grades are assigned when the bank considers that either the customer is unlikely to pay their credit obligations in full without recourse to security, or when the customer is more than 90 days past due on any material credit obligation to HSBC.
- retail loans and advances classified as Expected Loss ('EL') 9 or EL 10. These grades are typically assigned to retail loans and advances more than 90 days past due unless individually they have been assessed as not impaired.
- renegotiated loans and advances that have been subject to a change in contractual cash flows as a result of a concession which the lender would not otherwise consider, and where it is probable that without the concession the borrower would be unable to meet the contractual payment obligations in full, unless the concession is insignificant and there are no other indicators of impairment. Renegotiated loans remain classified as impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, and there are no other indicators of impairment.

Movement in impaired loans by geographical region

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Impaired loans at 1 January 2015	10,242	2,048	1,981	11,694	3,365	29,330
– personal	2,544	491	242	10,826	1,057	15,160
– corporate and commercial	7,385	1,545	1,696	862	2,307	13,795
– financial	313	12	43	6	1	375
Classified as impaired during the year	3,909	1,893	338	2,986	2,434	11,560
– personal	1,257	813	178	2,245	1,502	5,995
– corporate and commercial	2,567	1,079	159	740	924	5,469
– financial	85	1	1	1	8	96
Transferred from impaired to unimpaired during the year	(964)	(204)	(107)	(1,786)	(245)	(3,306)
– personal	(211)	(169)	(82)	(1,699)	(185)	(2,346)
– corporate and commercial	(734)	(35)	(6)	(87)	(60)	(922)
– financial	(19)	–	(19)	–	–	(38)
Amounts written off	(870)	(595)	(335)	(589)	(1,312)	(3,701)
– personal	(280)	(416)	(113)	(493)	(961)	(2,263)
– corporate and commercial	(577)	(179)	(222)	(95)	(351)	(1,424)
– financial	(13)	–	–	(1)	–	(14)
Net repayments and other	(2,640)	(767)	(111)	(3,375)	(3,212)	(10,105)
– personal	(780)	(203)	–	(2,885)	(1,171)	(5,039)
– corporate and commercial	(1,778)	(562)	(110)	(486)	(2,033)	(4,969)
– financial	(82)	(2)	(1)	(4)	(8)	(97)
Impaired loans at 31 December 2015	9,677	2,375	1,766	8,930	1,030	23,778
– personal	2,530	516	225	7,994	242	11,507
– corporate and commercial	6,863	1,848	1,517	934	787	11,949
– financial	284	11	24	2	1	322
	%	%	%	%	%	%
Impaired loans as a percentage of gross loans	2.3	0.6	4.5	6.5	4.8	2.3
– personal	1.5	0.4	3.4	13.7	4.1	3.1
– corporate and commercial	3.6	0.9	6.8	1.5	6.9	2.4
– financial	0.5	0.0	0.2	0.0	0.0	0.2

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Impaired loans at 1 January 2014	13,228	1,623	2,285	15,123	4,244	36,503
– personal	2,938	526	317	13,669	1,348	18,798
– corporate and commercial	9,714	1,082	1,765	1,427	2,889	16,877
– financial	576	15	203	27	7	828
Classified as impaired during the year	3,367	1,970	346	4,724	3,342	13,749
– personal	1,168	857	193	4,360	1,958	8,536
– corporate and commercial	2,166	1,113	153	354	1,383	5,169
– financial	33	–	–	10	1	44
Transferred from impaired to unimpaired during the year	(1,661)	(230)	(320)	(2,609)	(730)	(5,550)
– personal	(282)	(184)	(178)	(2,551)	(364)	(3,559)
– corporate and commercial	(1,319)	(46)	(53)	(57)	(366)	(1,841)
– financial	(60)	–	(89)	(1)	–	(150)
Amounts written off	(2,037)	(617)	(111)	(1,369)	(2,048)	(6,182)
– personal	(631)	(470)	(77)	(1,007)	(1,371)	(3,556)
– corporate and commercial	(1,201)	(147)	(29)	(356)	(673)	(2,406)
– financial	(205)	–	(5)	(6)	(4)	(220)
Net repayments and other	(2,655)	(698)	(219)	(4,175)	(1,443)	(9,190)
– personal	(649)	(238)	(13)	(3,645)	(514)	(5,059)
– corporate and commercial	(1,975)	(457)	(140)	(506)	(926)	(4,004)
– financial	(31)	(3)	(66)	(24)	(3)	(127)
Impaired loans at 31 December 2014	10,242	2,048	1,981	11,694	3,365	29,330
– personal	2,544	491	242	10,826	1,057	15,160
– corporate and commercial	7,385	1,545	1,696	862	2,307	13,795
– financial	313	12	43	6	1	375
	%	%	%	%	%	%
Impaired loans as a percentage of gross loans	2.3	0.5	4.8	8.4	6.1	2.7
– personal	1.4	0.4	3.7	16.6	7.8	3.9
– corporate and commercial	3.5	0.7	8.2	1.5	7.5	2.5
– financial	0.7	0.0	0.3	0.0	0.0	0.2

At 31 December 2014, our Brazilian impaired loans were $1.4bn in corporate and commercial and $0.8bn in personal.

Excluding the Brazilian reclassification to 'Assets held for sale', corporate and commercial impaired loans decreased $0.4bn including the favourable effects of a $0.8bn foreign exchange reduction. In personal, the continued run-off of the US CML portfolio reduced collectively assessed impaired loan balances by a further $2.7bn. 'Net repayments and other' included $2.1bn of CML portfolio assets that were reclassified as held for sale or sold during the year. Whilst there was a reduction in total personal impaired loans, there was a marginal increase in the UK resulting from improved identification of impaired residential mortgages.

Renegotiated loans and forbearance

The contractual terms of a loan may be modified for a number of reasons, including changes in market conditions, customer retention and other factors not related to the current or potential credit deterioration of a customer. 'Forbearance' describes concessions made on the contractual terms of a loan in response to an obligor's financial difficulties. We classify and report loans on which concessions have been granted under conditions of credit distress as 'renegotiated loans' when their contractual payment terms have been modified because we have significant concerns about the borrowers' ability to meet contractual payments when due. On renegotiation, where the existing agreement is cancelled and a new agreement is made on substantially different terms, or if the terms of an existing agreement are modified such that the renegotiated loan is substantially a different financial instrument, the loan would be derecognised and recognised as a new loan for accounting purposes. However, the newly recognised financial asset will retain the renegotiated loan classification. Concessions on loans made to customers which do not affect the payment structure or basis of repayment, such as waivers of financial or security covenants, do not directly provide concessionary relief to customers in terms of their ability to service obligations as they fall due and are therefore not included in this classification.

The most significant portfolio of renegotiated loans remained in North America, substantially all of which were retail loans held by HSBC Finance Corporation ('HSBC Finance').

The following tables show the gross carrying amounts of the Group's holdings of renegotiated loans and advances to customers by industry sector, geography, credit quality classification and by arrangement type.

Renegotiated loans and advances to customers by geographical region

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
First lien residential mortgages	1,461	68	36	10,680	37	12,282
– neither past due nor impaired	512	47	11	3,376	27	3,973
– past due but not impaired	174	5	4	1,567	3	1,753
– impaired	775	16	21	5,737	7	6,556
Other personal lending[3]	298	272	33	1,054	35	1,692
– neither past due nor impaired	131	141	24	410	10	716
– past due but not impaired	51	16	2	173	1	243
– impaired	116	115	7	471	24	733
Corporate and commercial	5,215	599	1,411	638	506	8,369
– neither past due nor impaired	1,467	119	343	93	130	2,152
– past due but not impaired	109	–	14	–	–	123
– impaired	3,639	480	1,054	545	376	6,094
Non-bank financial institutions	340	4	272	–	–	616
– neither past due nor impaired	143	–	248	–	–	391
– past due but not impaired	–	–	24	–	–	24
– impaired	197	4	–	–	–	201
Renegotiated loans at 31 December 2015	**7,314**	**943**	**1,752**	**12,372**	**578**	**22,959**
– neither past due nor impaired	**2,253**	**307**	**626**	**3,879**	**167**	**7,232**
– past due but not impaired	**334**	**21**	**44**	**1,740**	**4**	**2,143**
– impaired	**4,727**	**615**	**1,082**	**6,753**	**407**	**13,584**
Impairment allowances on renegotiated loans	1,402	193	575	1,014	155	3,339
– renegotiated loans as % of total gross loans	1.8%	0.3%	5.6%	9.5%	3.2%	2.5%
First lien residential mortgages	1,605	94	58	13,540	60	15,357
– neither past due nor impaired	529	63	19	3,695	32	4,338
– past due but not impaired	221	8	1	1,894	5	2,129
– impaired	855	23	38	7,951	23	8,890
Other personal lending[3]	324	292	27	1,267	326	2,236
– neither past due nor impaired	184	173	16	453	14	840
– past due but not impaired	40	22	5	214	1	282
– impaired	100	97	6	600	311	1,114
Corporate and commercial	5,469	501	1,439	427	1,324	9,160
– neither past due nor impaired	1,383	102	483	36	303	2,307
– past due but not impaired	68	–	31	1	1	101
– impaired	4,018	399	925	390	1,020	6,752
Non-bank financial institutions	413	4	323	1	1	742
– neither past due nor impaired	219	–	305	–	–	524
– past due but not impaired	–	–	–	–	–	–
– impaired	194	4	18	1	1	218
Renegotiated loans at 31 December 2014	7,811	891	1,847	15,235	1,711	27,495
– neither past due nor impaired	2,315	338	823	4,184	349	8,009
– past due but not impaired	329	30	37	2,109	7	2,512
– impaired	5,167	523	987	8,942	1,355	16,974
Impairment allowances on renegotiated loans	1,458	170	458	1,499	704	4,289
– renegotiated loans as % of total gross loans	1.9%	0.2%	6.1%	11.5%	3.7%	2.8%

For footnote, see page 191.

The following table shows movements in renegotiated loans during the year. Renegotiated loans decreased by $4.5bn to $23bn in 2015, partly due to the Brazilian reclassification of $1bn. Renegotiated loans in personal lending reduced by $3.6bn. Included within ‘other’ movements is $2.1bn of CML portfolio assets that were transferred to ‘Assets held for sale’. Write-offs reduced as a result of improvements in US economic conditions and housing market.

Movement in renegotiated loans and advances to customers by geographical region

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Renegotiated loans at 1 January 2015	7,811	891	1,847	15,235	1,711	27,495
– personal	1,929	386	85	14,807	386	17,593
– corporate and commercial	5,469	501	1,439	427	1,324	9,160
– non-bank financial institutions	413	4	323	1	1	742
Loans renegotiated in the year without derecognition	1,970	421	115	999	553	4,058
– personal	471	87	7	625	250	1,440
– corporate and commercial	1,494	334	89	374	303	2,594
– non-bank financial institutions	5	–	19	–	–	24
Loans renegotiated in the year resulting in recognition of a new loan	222	16	196	(1)	175	608
– personal	57	–	–	(1)	18	74
– corporate and commercial	156	16	4	–	157	333
– non-bank financial institutions	9	–	192	–	–	201
Repayments	(1,675)	(351)	(276)	(1,304)	(467)	(4,073)
– personal	(574)	(88)	(32)	(1,166)	(185)	(2,045)
– corporate and commercial	(1,054)	(263)	(159)	(138)	(282)	(1,896)
– non-bank financial institutions	(47)	–	(85)	–	–	(132)
Amounts written off	(294)	(52)	(11)	(254)	(290)	(901)
– personal	(45)	(24)	(5)	(241)	(139)	(454)
– corporate and commercial	(249)	(28)	(6)	(12)	(150)	(445)
– non-bank financial institutions	–	–	–	(1)	(1)	(2)
Other	(720)	18	(119)	(2,303)	(1,104)	(4,228)
– personal	(79)	(21)	14	(2,290)	(258)	(2,634)
– corporate and commercial	(601)	39	44	(13)	(846)	(1,377)
– non-bank financial institutions	(40)	–	(177)	–	–	(217)
At 31 December 2015	**7,314**	**943**	**1,752**	**12,372**	**578**	**22,959**
– personal	**1,759**	**340**	**69**	**11,734**	**72**	**13,974**
– corporate and commercial	**5,215**	**599**	**1,411**	**638**	**506**	**8,369**
– non-bank financial institutions	**340**	**4**	**272**	**–**	**–**	**616**
Renegotiated loans at 1 January 2014	9,756	767	2,094	18,789	2,769	34,175
– personal	2,251	435	149	18,130	607	21,572
– corporate and commercial	7,270	330	1,583	658	2,161	12,002
– non-bank financial institutions	235	2	362	1	1	601
Loans renegotiated in the year without derecognition	1,543	371	296	862	725	3,797
– personal	433	83	10	774	310	1,610
– corporate and commercial	939	288	286	78	415	2,006
– non-bank financial institutions	171	–	–	10	–	181
Loans renegotiated in the year resulting in recognition of a new loan	500	5	79	–	92	676
– personal	69	2	–	–	28	99
– corporate and commercial	381	–	61	–	64	506
– non-bank financial institutions	50	3	18	–	–	71
Repayments	(2,416)	(246)	(562)	(1,518)	(1,036)	(5,778)
– personal	(635)	(96)	(47)	(1,319)	(288)	(2,385)
– corporate and commercial	(1,757)	(149)	(445)	(189)	(747)	(3,287)
– non-bank financial institutions	(24)	(1)	(70)	(10)	(1)	(106)
Amounts written off	(828)	(42)	(23)	(640)	(510)	(2,043)
– personal	(88)	(28)	(7)	(568)	(223)	(914)
– corporate and commercial	(740)	(14)	(16)	(72)	(286)	(1,128)
– non-bank financial institutions	–	–	–	–	(1)	(1)
Other	(744)	36	(37)	(2,258)	(329)	(3,332)
– personal	(101)	(10)	(20)	(2,210)	(48)	(2,389)
– corporate and commercial	(624)	46	(30)	(48)	(283)	(939)
– non-bank financial institutions	(19)	–	13	–	2	(4)
At 31 December 2014	7,811	891	1,847	15,235	1,711	27,495
– personal	1,929	386	85	14,807	386	17,593
– corporate and commercial	5,469	501	1,439	427	1,324	9,160
– non-bank financial institutions	413	4	323	1	1	742

A range of forbearance strategies are employed in order to improve the management of customer relationships, maximise collection opportunities and, if possible, avoid default, foreclosure or repossession.

The table below shows the arrangement type as a percentage of the total value of arrangements offered. Corporate renegotiated loans often require the granting of more than one arrangement type as part of an effective strategy. The percentages reported in the table below includes the effect of loans being reported in more than one arrangement type.

Renegotiated loans by arrangement type: corporate and commercial and financial

	%
Maturity term extensions	42.4
Reductions in margin, principal forgiveness, debt equity swaps and interest, fees or penalty payment forgiveness	19.6
Other changes to repayment profile	14.1
Interest only conversion	13.9
Other	10.0
At 31 December 2015	**100.0**

In personal lending, renegotiated loans have been allocated to the single most dominant arrangement type.

Renegotiated loans by arrangement type: personal lending

	%
Personal	
– interest rate and terms modifications	11.4
– payment concessions	6.0
– collection re-age[8]	35.0
– modification re-age[9]	42.9
– other	4.7
At 31 December 2015	**100.0**

For footnotes, see page 191.

Impairment of loans and advances

(Audited)

For an analysis of loan impairment charges and other credit risk provisions by global business, see page 65.

The tables below analyse the loan impairment charges for the year by industry sector, for impaired loans and advances that are either individually or collectively assessed, and collective impairment allowances on loans and advances that are classified as not impaired.

Loan impairment charge to the income statement by industry sector

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Personal	263	309	122	157	983	1,834
– first lien residential mortgages	(7)	(1)	49	70	41	152
– other personal[3]	270	310	73	87	942	1,682
Corporate and commercial	432	372	195	319	451	1,769
– manufacturing and international trade and services	158	250	107	26	305	846
– commercial real estate and other property-related	33	18	49	24	47	171
– other commercial[4]	241	104	39	269	99	752
Financial	14	–	(18)	(7)	–	(11)
Total loan impairment charge for the year ended 31 December 2015	**709**	**681**	**299**	**469**	**1,434**	**3,592**
Personal	245	321	25	117	1,095	1,803
– first lien residential mortgages	(75)	6	(24)	26	15	(52)
– other personal[3]	320	315	49	91	1,080	1,855
Corporate and commercial	790	327	6	196	937	2,256
– manufacturing and international trade and services	520	197	36	116	382	1,251
– commercial real estate and other property-related	78	29	(28)	27	176	282
– other commercial[4]	192	101	(2)	53	379	723
Financial	44	(4)	(32)	(13)	1	(4)
Total loan impairment charge for the year ended 31 December 2014	1,079	644	(1)	300	2,033	4,055

For footnotes, see page 191.

Loan impairment charge to the income statement by assessment type

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Individually assessed impairment allowances	495	300	161	227	322	1,505
– new allowances	991	518	216	290	401	2,416
– release of allowances no longer required	(455)	(179)	(52)	(46)	(93)	(825)
– recoveries of amounts previously written off	(41)	(39)	(3)	(17)	14	(86)
Collectively assessed impairment allowances[10]	214	381	138	242	1,112	2,087
– new allowances net of allowance releases	561	507	168	301	1,272	2,809
– recoveries of amounts previously written off	(347)	(126)	(30)	(59)	(160)	(722)
Total loan impairment charge for the year ended 31 December 2015	**709**	**681**	**299**	**469**	**1,434**	**3,592**

For footnote, see page 191.

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Individually assessed impairment allowances	617	351	32	190	590	1,780
– new allowances	1,112	542	134	298	738	2,824
– release of allowances no longer required	(486)	(171)	(95)	(88)	(90)	(930)
– recoveries of amounts previously written off	(9)	(20)	(7)	(20)	(58)	(114)
Collectively assessed impairment allowances[10]	462	293	(33)	110	1,443	2,275
– new allowances net of allowance releases	757	426	2	205	1,726	3,116
– recoveries of amounts previously written off	(295)	(133)	(35)	(95)	(283)	(841)
Total loan impairment charge for the year ended 31 December 2014	1,079	644	(1)	300	2,033	4,055

For footnote, see page 191.

On a reported basis, loan impairment charges of $3.6bn were $0.5bn lower than in 2014, primarily due to favourable currency translation in Latin America and Europe.

The commentary that follows is on a constant currency basis, while tables are presented on a reported basis.

Loan impairment charges increased by $219m compared with 2014. Notably, in the fourth quarter of 2015, our loan impairment charges increased compared with the third quarter following a rise in individually assessed loan impairment charges in a small number of countries. This was reflective of specific circumstances associated with those countries with no common underlying theme. In addition, we increased our collectively assessed loan impairment allowances on exposures related to the oil and gas industry by $0.2bn. This was primarily in North America, Middle East and North Africa, and Asia.

The commentary that follows sets out in more detail the factors that have contributed to movements in loan impairment charges compared with 2014.

Collectively assessed loan impairment allowances rose by $221m, mainly in Middle East and North Africa, North America and Asia, partly offset in Europe. It arose from the following:

- in Middle East and North Africa (up by $167m), this was mainly in the UAE and reflected increased impairment allowances on our residential mortgage book following a review of the quality and value of collateral. In addition, loan impairment allowances increased on our corporate and commercial exposures, notably in the oil and foodstuffs industries;
- in North America (up by $132m) and Asia (up by $108m), the increase was in the 'other commercial' sector. This reflected an increase in allowances against our oil and gas exposures in the regions. In our US CML portfolio, loan impairment allowances on residential mortgages were higher than in 2014 following lower favourable market value adjustments of underlying properties as improvements in housing market conditions were less pronounced in 2015.
- in Europe, collectively assessed loan impairment allowances were $192m lower as 2014 included additional impairment charges from revisions to certain estimates used in our corporate collective loan impairment calculation.

Individually assessed loan impairment allowances were broadly unchanged from 2014. This reflected decreases in Latin America, Europe and Asia which were offset by increases in Middle East and North Africa and in North America. This included the following:

- in Latin America (down by $95m), Europe (down by $44m) and Asia (down by $44m), we saw reductions in individually assessed loan impairment allowances as 2014 included significant impairment charges related to corporate and commercial exposures in our respective regions. In Asia, the reduction was partly offset by an increase in loan impairment allowances against a small number of customers in Indonesia; and
- in Middle East and North Africa (up by $134m) and North America (up by $47m), individually assessed loan impairment allowances increased. In the former, this primarily related to higher loan impairment allowances on food wholesalers, while in North America the rise was in the oil and gas sector.

Charge for impairment losses as a percentage of average gross loans and advances to customers by geographical region

	Europe %	Asia %	MENA %	North America %	Latin America %	Total %
New allowances net of allowance releases	**0.31**	**0.23**	**1.07**	**0.41**	**5.37**	**0.48**
Recoveries	**(0.11)**	**(0.05)**	**(0.11)**	**(0.06)**	**(0.50)**	**(0.09)**
Total charge for impairment losses at 31 December 2015	**0.20**	**0.18**	**0.96**	**0.35**	**4.87**	**0.39**
Amount written off net of recoveries	**0.25**	**0.12**	**0.97**	**0.45**	**3.94**	**0.37**
New allowances net of allowance releases	0.37	0.22	0.14	0.32	5.00	0.53
Recoveries	(0.08)	(0.04)	(0.14)	(0.09)	(0.72)	(0.10)
Total charge for impairment losses at 31 December 2014	0.29	0.18	–	0.23	4.28	0.43
Amount written off net of recoveries	0.49	0.13	0.58	0.97	3.59	0.58

Movement in impairment allowances by industry sector and by geographical region

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Impairment allowances at 1 January 2015	4,455	1,356	1,406	2,640	2,529	12,386
Amounts written off						
Personal	(627)	(416)	(114)	(554)	(996)	(2,707)
– first lien residential mortgages	(12)	(6)	(1)	(344)	(24)	(387)
– other personal[3]	(615)	(410)	(113)	(210)	(972)	(2,320)
Corporate and commercial	(657)	(179)	(222)	(106)	(309)	(1,473)
– manufacturing and international trade and services	(234)	(149)	(214)	(28)	(213)	(838)
– commercial real estate and other property-related	(244)	(5)	(8)	(57)	(30)	(344)
– other commercial[4]	(179)	(25)	–	(21)	(66)	(291)
Financial	(12)	–	–	(2)	–	(14)
Total amounts written off	(1,296)	(595)	(336)	(662)	(1,305)	(4,194)
Recoveries of amounts written off in previous years						
Personal	340	135	30	57	119	681
– first lien residential mortgages	6	4	–	26	(17)	19
– other personal[3]	334	131	30	31	136	662
Corporate and commercial	46	30	3	18	27	124
– manufacturing and international trade and services	16	20	2	8	15	61
– commercial real estate and other property-related	24	5	–	5	2	36
– other commercial[4]	6	5	1	5	10	27
Financial	2	–	–	1	–	3
Total recoveries of amounts written off in previous years	388	165	33	76	146	808
Charge to income statement	709	681	299	469	1,434	3,592
Exchange and other movements[11]	(387)	(82)	16	(482)	(2,084)	(3,019)
Impairment allowances at 31 December 2015	3,869	1,525	1,418	2,041	720	9,573
Impairment allowances against banks:						
– individually assessed	–	–	18	–	–	18
Impairment allowances against customers:						
– individually assessed	2,661	908	1,068	327	438	5,402
– collectively assessed[10]	1,208	617	332	1,714	282	4,153
Impairment allowances at 31 December 2015	3,869	1,525	1,418	2,041	720	9,573
Impairment allowances at 1 January 2014	5,598	1,214	1,583	4,242	2,564	15,201
Amounts written off						
Personal	(724)	(463)	(157)	(1,030)	(1,359)	(3,733)
– first lien residential mortgages	(21)	(17)	(4)	(731)	(40)	(813)
– other personal[3]	(703)	(446)	(153)	(299)	(1,319)	(2,920)
Corporate and commercial	(1,202)	(146)	(47)	(346)	(684)	(2,425)
– manufacturing and international trade and services	(732)	(86)	(41)	(81)	(428)	(1,368)
– commercial real estate and other property-related	(342)	(53)	(6)	(153)	(39)	(593)
– other commercial[4]	(128)	(7)	–	(112)	(217)	(464)
Financial	(203)	–	(8)	(6)	(4)	(221)
Total amounts written off	(2,129)	(609)	(212)	(1,382)	(2,047)	(6,379)
Recoveries of amounts written off in previous years						
Personal	271	143	35	86	283	818
– first lien residential mortgages	3	3	–	40	33	79
– other personal[3]	268	140	35	46	250	739
Corporate and commercial	29	9	7	25	58	128
– manufacturing and international trade and services	19	7	7	6	46	85
– commercial real estate and other property-related	11	–	–	3	1	15
– other commercial[4]	(1)	2	–	16	11	28
Financial	4	1	–	4	–	9
Total recoveries of amounts written off in previous years	304	153	42	115	341	955
Charge to income statement	1,079	644	(1)	300	2,033	4,055
Exchange and other movements[11]	(397)	(46)	(6)	(635)	(362)	(1,446)
Impairment allowances at 31 December 2014	4,455	1,356	1,406	2,640	2,529	12,386
Impairment allowances against banks:						
– individually assessed	31	–	18	–	–	49
Impairment allowances against customers:						
– individually assessed	2,981	812	1,110	276	1,016	6,195
– collectively assessed[10]	1,443	544	278	2,364	1,513	6,142
Impairment allowances at 31 December 2014	4,455	1,356	1,406	2,640	2,529	12,386

For footnotes, see page 191.

Movement in impairment allowances on loans and advances to customers and banks

(Audited)

	Banks individually assessed $m	Customers Individually assessed $m	Collectively assessed[10] $m	Total $m
At 1 January 2015	49	6,195	6,142	12,386
Amounts written off	–	(1,368)	(2,826)	(4,194)
Recoveries of loans and advances previously written off	–	86	722	808
Charge to income statement	(11)	1,516	2,087	3,592
Exchange and other movements[11]	(20)	(1,027)	(1,972)	(3,019)
At 31 December 2015	**18**	**5,402**	**4,153**	**9,573**
Impairment allowances:				
on loans and advances to customers		5,402	4,153	9,555
– personal		426	2,453	2,879
– corporate and commercial		4,800	1,635	6,435
– non-bank financial institutions		176	65	241
	%	%	%	%
as a percentage of loans and advances	–	0.6	0.4	0.9
	$m	$m	$m	$m
At 1 January 2014	58	7,072	8,071	15,201
Amounts written off	(6)	(2,313)	(4,060)	(6,379)
Recoveries of loans and advances previously written off	–	114	841	955
Charge to income statement	4	1,776	2,275	4,055
Exchange and other movements[11]	(7)	(454)	(985)	(1,446)
At 31 December 2014	49	6,195	6,142	12,386
Impairment allowances:				
on loans and advances to customers		6,195	6,142	12,337
– personal		468	4,132	4,600
– corporate and commercial		5,532	1,909	7,441
– non-bank financial institutions		195	101	296
	%	%	%	%
as a percentage of loans and advances	–	0.6	0.6	1.1

For footnotes, see page 191.

Wholesale lending

On a reported basis and excluding the effects of the Brazilian reclassification of loans and advances to 'Assets held for sale', gross loans decreased by $32bn, mainly due to adverse foreign exchange effects.

The commentary that follows is on a constant currency basis, while tables are presented on a reported basis.

Wholesale lending increased by $0.5bn in the year. However, in Asia it fell by $9.6bn, mainly in Hong Kong and, to a lesser extent, mainland China and Taiwan. In Asia, the fourth quarter of 2015 saw lower than expected credit growth with a continuation of the slowdown in trade, the repayment of some existing corporate loans and slower demand for new lending.

In Europe, lending increased by $3.2bn, mainly in the UK and Germany. In the UK it rose by $1.9bn with increases in 'financial' partly offset by decreases in 'corporate and commercial', mainly relating to corporate overdraft balances where a small number of clients benefit from the use of net interest arrangements between overdrafts and deposits.

In Middle East and North Africa, overall lending reduced by $1.2bn with decreases of $3.2bn in 'financial' offset by increases of $2.0bn in 'corporate and commercial'.

In North America, lending increased by $7.5bn, mainly comprising $3.7bn in the US and $4.9bn in Canada.
The increase in Canada included: $3.8bn following a change in balance sheet presentation where certain bankers' acceptances previously disclosed under 'Trading assets' were included in 'Loans and advances'; and $1.0bn relating to corporate overdraft balances and the use of net interest arrangements between overdraft and deposits.
Comparatives have not been restated.

Excluding the effects of the Brazilian reclassification, lending in Latin America increased by $0.6bn, mainly in Argentina.

Total wholesale lending

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Corporate and commercial (A)	**191,765**	**211,224**	**22,268**	**62,882**	**11,374**	**499,513**
– manufacturing	**39,003**	**34,272**	**2,504**	**17,507**	**2,572**	**95,858**
– international trade and services	**62,667**	**72,199**	**9,552**	**11,505**	**3,096**	**159,019**
– commercial real estate	**26,256**	**32,371**	**690**	**7,032**	**1,577**	**67,926**
– other property-related	**7,323**	**35,206**	**1,908**	**8,982**	**45**	**53,464**
– government	**3,653**	**1,132**	**1,695**	**203**	**772**	**7,455**
– other commercial[4]	**52,863**	**36,044**	**5,919**	**17,653**	**3,312**	**115,791**
Financial	**51,969**	**68,321**	**10,239**	**16,308**	**3,996**	**150,833**
– non-bank financial institutions (B)	**33,621**	**13,969**	**2,321**	**9,822**	**681**	**60,414**
– banks (C)	**18,348**	**54,352**	**7,918**	**6,486**	**3,315**	**90,419**
Gross loans at 31 December 2015 (D)	**243,734**	**279,545**	**32,507**	**79,190**	**15,370**	**650,346**
Impairment allowances on wholesale lending						
Corporate and commercial (a)	**2,735**	**1,256**	**1,157**	**777**	**510**	**6,435**
– manufacturing	**528**	**254**	**135**	**140**	**49**	**1,106**
– international trade and services	**813**	**599**	**439**	**123**	**48**	**2,022**
– commercial real estate	**613**	**35**	**145**	**76**	**343**	**1,212**
– other property-related	**237**	**72**	**267**	**55**	**1**	**632**
– government	**6**	**–**	**–**	**–**	**2**	**8**
– other commercial	**538**	**296**	**171**	**383**	**67**	**1,455**
Financial	**194**	**13**	**22**	**30**	**–**	**259**
– non-bank financial institutions (b)	**194**	**13**	**4**	**30**	**–**	**241**
– banks (c)	**–**	**–**	**18**	**–**	**–**	**18**
Impairment allowances at 31 December 2015 (d)	**2,929**	**1,269**	**1,179**	**807**	**510**	**6,694**
	%	**%**	**%**	**%**	**%**	**%**
(a) as a percentage of (A)	**1.4**	**0.6**	**5.2**	**1.2**	**4.5**	**1.3**
(b) as a percentage of (B)	**0.6**	**0.1**	**0.2**	**0.3**	**–**	**0.4**
(c) as a percentage of (C)	**–**	**–**	**0.2**	**–**	**–**	**–**
(d) as a percentage of (D)	**1.2**	**0.5**	**3.6**	**1.0**	**3.3**	**1.0**
	$m	$m	$m	$m	$m	$m
Corporate and commercial (E)	212,523	220,799	20,588	57,993	30,722	542,625
– manufacturing	39,456	37,767	2,413	15,299	12,051	106,986
– international trade and services	76,629	72,814	9,675	13,484	8,189	180,791
– commercial real estate	28,187	35,678	579	6,558	2,291	73,293
– other property-related	7,126	34,379	1,667	8,934	281	52,387
– government	2,264	1,195	1,552	164	968	6,143
– other commercial[4]	58,861	38,966	4,702	13,554	6,942	123,025
Financial	45,081	76,957	13,786	16,439	10,753	163,016
– non-bank financial institutions (F)	23,103	13,997	3,291	9,034	1,393	50,818
– banks (G)	21,978	62,960	10,495	7,405	9,360	112,198
Gross loans at 31 December 2014 (H)	257,604	297,756	34,374	74,432	41,475	705,641
Impairment allowances on wholesale lending						
Corporate and commercial (e)	3,112	1,089	1,171	608	1,461	7,441
– manufacturing	529	242	141	152	348	1,412
– international trade and services	877	533	536	157	237	2,340
– commercial real estate	909	44	147	101	476	1,677
– other property-related	203	55	219	57	12	546
– government	4	–	1	–	–	5
– other commercial	590	215	127	141	388	1,461
Financial	252	13	39	39	2	345
– non-bank financial institutions (f)	221	13	21	39	2	296
– banks (g)	31	–	18	–	–	49
Impairment allowances at 31 December 2014 (h)	3,364	1,102	1,210	647	1,463	7,786
	%	%	%	%	%	%
(e) as a percentage of (E)	1.5	0.5	5.7	1.0	4.8	1.4
(f) as a percentage of (F)	0.9	0.1	0.6	0.4	0.1	0.6
(g) as a percentage of (G)	0.1	–	0.2	–	–	–
(h) as a percentage of (H)	1.3	0.4	3.5	0.9	3.5	1.1

For footnote, see page 191.

Commercial real estate

Commercial real estate lending

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Neither past due nor impaired	**24,533**	**32,182**	**466**	**6,659**	**1,086**	**64,926**
Past due but not impaired	**89**	**119**	**25**	**212**	**9**	**454**
Impaired loans	**1,634**	**70**	**199**	**161**	**482**	**2,546**
Total gross loans and advances at 31 December 2015	**26,256**	**32,371**	**690**	**7,032**	**1,577**	**67,926**
Of which:						
– renegotiated loans[12]	**1,586**	**6**	**182**	**150**	**210**	**2,134**
Impairment allowances	**613**	**35**	**145**	**76**	**343**	**1,212**
Neither past due nor impaired	25,860	35,430	333	6,136	1,535	69,294
Past due but not impaired	18	170	47	100	28	363
Impaired loans	2,309	78	199	322	728	3,636
Total gross loans and advances at 31 December 2014	28,187	35,678	579	6,558	2,291	73,293
Of which:						
– renegotiated loans[12]	1,954	19	183	191	377	2,724
Impairment allowances	909	44	147	101	476	1,677

For footnote, see page 191.

Commercial real estate lending includes the financing of corporate, institutional and high net worth individuals who are investing primarily in income-producing assets and, to a lesser extent, in their construction and development. The business focuses mainly on traditional core asset classes such as retail, offices, light industrial and residential building projects. The portfolio is globally diversified with larger concentrations in Hong Kong, the UK, the US and Canada.

In more developed markets, our exposure mainly comprises the financing of investment assets, the redevelopment of existing stock and the augmentation of both commercial and residential markets to support economic and population growth. In lesser developed commercial real estate markets our exposures comprise lending for development assets on relatively short tenors with a particular focus on supporting the larger, better capitalised developers involved in residential construction or in assets supporting economic expansion.

Our global exposure is centred largely on cities representing key locations of economic, political or cultural significance. In many lesser developed markets, industry is evolving to move away from the development and rapid construction of recent years to increasingly focus on investment stock consistent with more developed markets.

Excluding the effects of the Brazilian reclassification, commercial real estate lending was lower by $4.5bn including decreases of $3.2bn relating to adverse foreign exchange movements.

The commentary that follows is on a constant currency basis, while tables are presented on a reported basis.

The commercial real estate lending was lower by $1.3bn, largely due to a decrease of $2.6bn in Asia, mainly in Hong Kong and, to a lesser extent, mainland China and Singapore. The decrease in Asia was mainly due to the repayment and maturity of loans and was partly offset by increases of $1.0bn in North America and $0.4bn in Mexico. Europe and Middle East and Africa remained largely unchanged.

Refinance risk in commercial real estate

Commercial real estate lending tends to require the repayment of a significant proportion of the principal at maturity. Typically, a customer will arrange repayment through the acquisition of a new loan to settle the existing debt. Refinance risk is the risk that a customer, being unable to repay the debt on maturity, fails to refinance it at commercial rates. We monitor our commercial real estate portfolio closely, assessing those drivers that may indicate potential issues with refinancing. The principal driver is the vintage of the loan, when origination reflected previous market norms which do not apply in the current market. Examples might be higher loan-to-value ('LTV') ratios and/or lower interest cover ratios. The range of refinancing sources in the local market is also an important consideration, with risk increasing when lenders are restricted to banks and when bank liquidity is limited. In addition, underlying fundamentals such as the reliability of tenants, the ability to let and the condition of the property are important as they influence property values.

Commercial real estate loans and advances maturity analysis

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
On demand, overdrafts or revolving < 1 year[13]	**6,830**	**8,811**	**252**	**2,992**	**694**	**19,579**
1-2 years	**4,367**	**5,934**	**66**	**939**	**102**	**11,408**
2-5 years	**11,459**	**11,399**	**235**	**2,037**	**138**	**25,268**
> 5 years	**3,600**	**6,227**	**137**	**1,064**	**643**	**11,671**
At 31 December 2015	**26,256**	**32,371**	**690**	**7,032**	**1,577**	**67,926**
On demand, overdrafts or revolving < 1 year[13]	7,382	9,810	264	1,855	1,325	20,636
1-2 years	4,643	6,689	24	1,158	205	12,719
2-5 years	11,686	12,156	156	2,131	320	26,449
> 5 years	4,476	7,023	135	1,414	441	13,489
At 31 December 2014	28,187	35,678	579	6,558	2,291	73,293

For footnote, see page 191.

Collateral on loans and advances

Collateral held is analysed separately below for commercial real estate and for other corporate, commercial and financial (non-bank) lending. This reflects the greater correlation between collateral performance and principal repayment in the commercial real estate sector than applies to other lending. In each case, the analysis includes off-balance sheet loan commitments, primarily undrawn credit lines.

The collateral measured in the tables below consists of fixed first charges on real estate and charges over cash and marketable financial instruments. The values in the tables represent the expected market value on an open market basis; no adjustment has been made to the collateral for any expected costs of recovery. Cash is valued at its nominal value and marketable securities at their fair value. The LTV ratios presented are calculated by directly associating loans and advances with the collateral that individually and uniquely supports each facility. When collateral assets are shared by multiple loans and advances, whether specifically or, more generally, by way of an all monies charge, the collateral value is pro-rated across the loans and advances protected by the collateral.

Other types of collateral which are commonly taken for corporate and commercial lending such as unsupported guarantees and floating charges over the assets of a customer's business are not measured in the tables below. While such mitigants have value, often providing rights in insolvency, their assignable value is not sufficiently certain and they are therefore assigned no value for disclosure purposes.

For impaired loans the collateral values cannot be directly compared with impairment allowances recognised. The LTV tables below use open market values with no adjustments. Impairment allowances are calculated on a different basis, by considering other cash flows and adjusting collateral values for costs of realising collateral as explained further on page 202.

Commercial real estate loans and advances

The value of commercial real estate collateral is determined by using a combination of professional and internal valuations and physical inspections. Due to the complexity of valuing collateral for commercial real estate, local valuation policies determine the frequency of review on the basis of local market conditions. Revaluations are sought with greater frequency as concerns over the performance of the collateral or the direct obligor increase. Revaluations may also be sought where customers amend their banking requirements, resulting in the Group extending further funds or other significant rearrangements of exposure or collateral, which may change the customer risk profile. As a result, the real estate collateral values used for CRR1-7 might date back to the last point at which such considerations applied. For CRR 8 and 9-10 almost all collateral would have been revalued within the last three years.

In Hong Kong, market practice is typically for lending to major property companies to be either secured by guarantees or unsecured. In Europe, facilities of a working capital nature are generally not secured by a first fixed charge and are therefore disclosed as not collateralised.

Commercial real estate loans and advances including loan commitments by level of collateral

(Audited)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Rated CRR/EL 1 to 7						
Not collateralised	**4,498**	**12,329**	**499**	**8**	**500**	**17,834**
Fully collateralised	**25,773**	**26,270**	**36**	**9,997**	**542**	**62,618**
Partially collateralised (A)	**3,025**	**1,924**	**–**	**1,264**	**52**	**6,265**
– collateral value on A	**2,106**	**1,175**	**–**	**981**	**8**	**4,270**
	33,296	**40,523**	**535**	**11,269**	**1,094**	**86,717**
Rated CRR/EL 8						
Not collateralised	**28**	**–**	**–**	**–**	**–**	**28**
Fully collateralised	**668**	**4**	**–**	**9**	**1**	**682**
LTV ratio:						
– less than 50%	**86**	**–**	**–**	**5**	**1**	**92**
– 51% to 75%	**377**	**4**	**–**	**4**	**–**	**385**
– 76% to 90%	**174**	**–**	**–**	**–**	**–**	**174**
– 91% to 100%	**31**	**–**	**–**	**–**	**–**	**31**
Partially collateralised (B)	**120**	**1**	**–**	**1**	**–**	**122**
– collateral value on B	**87**	**–**	**–**	**–**	**–**	**87**
	816	**5**	**–**	**10**	**1**	**832**
Rated CRR/EL 9 to 10						
Not collateralised	**65**	**51**	**5**	**2**	**299**	**422**
Fully collateralised	**900**	**18**	**7**	**76**	**123**	**1,124**
LTV ratio:						
– less than 50%	**174**	**10**	**7**	**15**	**15**	**221**
– 51% to 75%	**425**	**2**	**–**	**27**	**59**	**513**
– 76% to 90%	**140**	**2**	**–**	**10**	**4**	**156**
– 91% to 100%	**161**	**4**	**–**	**24**	**45**	**234**
Partially collateralised (C)	**716**	**5**	**181**	**66**	**64**	**1,032**
– collateral value on C	**397**	**3**	**89**	**35**	**31**	**555**
	1,681	**74**	**193**	**144**	**486**	**2,578**
At 31 December 2015	**35,793**	**40,602**	**728**	**11,423**	**1,581**	**90,127**
Rated CRR/EL 1 to 7						
Not collateralised	5,351	16,132	361	87	1,719	23,650
Fully collateralised	25,873	26,323	23	9,093	556	61,868
Partially collateralised (D)	1,384	1,599	–	1,819	152	4,954
– collateral value on D	1,032	901	–	1,199	47	3,179
	32,608	44,054	384	10,999	2,427	90,472
Rated CRR/EL 8						
Not collateralised	34	7	–	9	2	52
Fully collateralised	568	23	–	30	1	622
LTV ratio:						
– less than 50%	64	–	–	16	1	81
– 51% to 75%	222	11	–	10	–	243
– 76% to 90%	132	9	–	4	–	145
– 91% to 100%	150	3	–	–	–	153
Partially collateralised (E)	365	–	–	7	–	372
– collateral value on E	296	–	–	2	–	298
	967	30	–	46	3	1,046
Rated CRR/EL 9 to 10						
Not collateralised	369	48	6	1	499	923
Fully collateralised	992	15	7	166	178	1,358
LTV ratio:						
– less than 50%	78	6	7	28	10	129
– 51% to 75%	593	2	–	91	43	729
– 76% to 90%	167	2	–	17	53	239
– 91% to 100%	154	5	–	30	72	261
Partially collateralised (F)	1,085	15	181	37	50	1,368
– collateral value on F	664	5	89	30	13	801
	2,446	78	194	204	727	3,649
At 31 December 2014	36,021	44,162	578	11,249	3,157	95,167

Other corporate, commercial and financial (non-bank) loans are analysed separately below. For financing activities in other corporate and commercial lending, collateral value is not strongly correlated to principal repayment performance. Collateral values are generally refreshed when an obligor's general credit performance deteriorates and we have to assess the likely performance of secondary sources of repayment should it prove necessary to rely on them.

Accordingly, the table below reports values only for customers with CRR 8 to 10, recognising that these loans and advances generally have valuations which are comparatively recent.

Other corporate, commercial and non-bank financial institutions loans and advances including loan commitments by level of collateral rated CRR/EL 8 to 10 only

(Audited)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Rated CRR/EL 8						
Not collateralised	**1,618**	**164**	**36**	**609**	**102**	**2,529**
Fully collateralised	**434**	**41**	**–**	**454**	**1**	**930**
LTV ratio:						
– less than 50%	**65**	**13**	**–**	**95**	**1**	**174**
– 51% to 75%	**337**	**8**	**–**	**85**	**–**	**430**
– 76% to 90%	**28**	**18**	**–**	**168**	**–**	**214**
– 91% to 100%	**4**	**2**	**–**	**106**	**–**	**112**
Partially collateralised (A)	**109**	**47**	**1**	**179**	**–**	**336**
– collateral value on A	**73**	**17**	**–**	**58**	**–**	**148**
	2,161	**252**	**37**	**1,242**	**103**	**3,795**
Rated CRR/EL 9 to 10						
Not collateralised	**2,850**	**889**	**814**	**80**	**244**	**4,877**
Fully collateralised	**824**	**440**	**188**	**323**	**78**	**1,853**
LTV ratio:						
– less than 50%	**283**	**94**	**46**	**47**	**44**	**514**
– 51% to 75%	**346**	**149**	**3**	**47**	**8**	**553**
– 76% to 90%	**96**	**74**	**25**	**27**	**9**	**231**
– 91% to 100%	**99**	**123**	**114**	**202**	**17**	**555**
Partially collateralised (B)	**1,702**	**506**	**441**	**423**	**7**	**3,079**
– collateral value on B	**795**	**236**	**55**	**283**	**5**	**1,374**
	5,376	**1,835**	**1,443**	**826**	**329**	**9,809**
At 31 December 2015	**7,537**	**2,087**	**1,480**	**2,068**	**432**	**13,604**
Rated CRR/EL 8						
Not collateralised	2,051	237	15	320	227	2,850
Fully collateralised	629	56	72	331	11	1,099
LTV ratio:						
– less than 50%	120	13	–	186	5	324
– 51% to 75%	293	–	–	72	6	371
– 76% to 90%	51	9	69	46	–	175
– 91% to 100%	165	34	3	27	–	229
Partially collateralised (C)	105	44	1	148	6	304
– collateral value on C	46	17	1	68	4	136
	2,785	337	88	799	244	4,253
Rated CRR/EL 9 to 10						
Not collateralised	4,185	939	813	62	1,420	7,419
Fully collateralised	615	143	147	231	124	1,260
LTV ratio:						
– less than 50%	169	68	25	48	48	358
– 51% to 75%	136	27	19	39	35	256
– 76% to 90%	168	16	6	35	26	251
– 91% to 100%	142	32	97	109	15	395
Partially collateralised (D)	624	364	547	251	140	1,926
– collateral value on D	341	169	92	141	46	789
	5,424	1,446	1,507	544	1,684	10,605
At 31 December 2014	8,209	1,783	1,595	1,343	1,928	14,858

Other credit risk exposures

In addition to collateralised lending, other credit enhancements are employed and methods used to mitigate credit risk arising from financial assets. These are described in more detail below:

- some securities issued by governments, banks and other financial institutions benefit from additional credit enhancement provided by government guarantees that cover the assets.
- debt securities issued by banks and financial institutions include ABSs and similar instruments which are supported by underlying pools of financial assets. Credit risk associated with ABSs is reduced through the purchase of credit default swap ('CDS') protection.

  Disclosure of the Group's holdings of ABSs and associated CDS protection is provided on page 153.
- trading assets include loans and advances held with trading intent. These mainly consist of cash collateral posted to satisfy margin requirements on derivatives, settlement accounts, reverse repos and stock borrowing. There is limited credit risk on cash collateral posted since in the event of default of the counterparty these would be set-off against the related liability. Reverse repos and stock borrowing are by their nature collateralised.

  Collateral accepted as security that the Group is permitted to sell or repledge under these arrangements is described on page 162 on the Financial Statements.
- the Group's maximum exposure to credit risk includes financial guarantees and similar contracts granted, as well as loan and other credit-related commitments. Depending on the terms of the arrangement, we may have recourse to additional credit mitigation in the event that a guarantee is called upon or a loan commitment is drawn and subsequently defaults.

  For further information on these arrangements, see Note 37 on the Financial Statements.

Derivatives

HSBC participates in transactions exposing us to counterparty credit risk. Counterparty credit risk is the risk of financial loss if the counterparty to a transaction defaults before satisfactorily settling it. It arises principally from OTC derivatives and securities financing transactions and is calculated in both the trading and non-trading books. Transactions vary in value by reference to a market factor such as interest rate, exchange rate or asset price.

The counterparty risk from derivative transactions is taken into account when reporting the fair value of derivative positions. The adjustment to the fair value is known as the credit value adjustment ('CVA').

For an analysis of CVA, see Note 13 on the Financial Statements.

The table below reflects by risk type the fair values and gross notional contract amounts of derivatives cleared through an exchange, central counterparty and non-central counterparty.

Notional contract amounts and fair values of derivatives by product type

	2015			2014		
	Notional	Fair value		Notional	Fair value	
	amount	Assets	Liabilities	amount	Assets	Liabilities
	$m	$m	$m	$m	$m	$m
Foreign exchange	5,690,354	96,341	95,598	5,573,415	97,312	95,759
– exchange traded	195,612	167	76	81,785	229	369
– central counterparty cleared OTC	29,263	406	443	18,567	321	349
– non-central counterparty cleared OTC	5,465,479	95,768	95,079	5,473,063	96,762	95,041
Interest rate	14,675,036	279,154	271,367	22,328,518	473,243	468,152
– exchange traded	1,259,888	49	8	1,432,333	112	161
– central counterparty cleared OTC	8,774,674	117,877	117,695	15,039,001	261,880	264,509
– non-central counterparty cleared OTC	4,640,474	161,228	153,664	5,857,184	211,251	203,482
Equity	501,834	8,732	10,383	568,932	11,694	13,654
– exchange traded	265,129	1,888	2,601	289,140	2,318	3,201
– non-central counterparty cleared OTC	236,705	6,844	7,782	279,792	9,376	10,453
Credit	463,344	6,961	6,884	550,197	9,340	10,061
– central counterparty cleared OTC	90,863	1,779	2,069	126,115	1,999	2,111
– non-central counterparty cleared OTC	372,481	5,182	4,815	424,082	7,341	7,950
Commodity and other	51,683	3,148	2,699	77,565	3,884	3,508
– exchange traded	8,136	38	–	7,015	80	23
– non-central counterparty cleared OTC	43,547	3,110	2,699	70,550	3,804	3,485
Total OTC derivatives	19,653,486	392,194	384,246	27,288,354	592,735	587,379
– total OTC derivatives cleared by central counterparties	8,894,800	120,062	120,207	15,183,683	264,200	266,968
– total OTC derivatives not cleared by central counterparties	10,758,686	272,132	264,039	12,104,671	328,535	320,411
Total exchange traded derivatives	1,728,765	2,142	2,685	1,810,273	2,739	3,755
Gross	21,382,251	394,336	386,931	29,098,627	595,473	591,134
Offset		(105,860)	(105,860)		(250,465)	(250,465)
Total at 31 December		288,476	281,071		345,008	340,669

The purposes for which HSBC uses derivatives are described in Note 16 on the Financial Statements.

The International Swaps and Derivatives Association ('ISDA') Master Agreement is our preferred agreement for documenting derivatives activity. It provides the contractual framework within which dealing activity across a full range of OTC products is conducted, and contractually binds both parties to apply close-out netting across all outstanding transactions covered by an agreement if either party defaults or another pre-agreed termination event occurs. It is common, and our preferred practice, for the parties to execute a Credit Support Annex ('CSA') in conjunction with the ISDA Master Agreement. Under a CSA, collateral is passed between the parties to mitigate the counterparty risk inherent in outstanding positions.

We manage the counterparty exposure arising from market risk on our OTC derivative contracts by using collateral agreements with counterparties and netting agreements. Currently, we do not actively manage our general OTC derivative counterparty exposure in the credit markets, although we may manage individual exposures in certain circumstances.

We place strict policy restrictions on collateral types and as a consequence the types of collateral received and pledged are, by value, highly liquid and of a strong quality, being predominantly cash.

Where a collateral type is required to be approved outside the collateral policy (which includes collateral that includes wrong way risks), a submission to one of three regional Documentation Approval Committees ('DAC's) for approval is required. These DACs require the participation and sign-off of senior representatives from regional Markets Chief Operating Officers, Legal and Risk.

The majority of our CSAs are with financial institutional clients.

As a consequence of our policy, the type of agreement we enter into is predominately ISDA CSAs, the majority of which are written under English law. The table below provides a breakdown of OTC collateral agreements by agreement type:

OTC collateral agreements by type

	Number of agreements
ISDA CSA (English law)	2,670
ISDA CSA (New York law)	1,702
ISDA CSA (Japanese law)	17
French Master Agreement and CSA equivalent[14]	223
German Master Agreement and CSA equivalent[15]	93
Others	395
At 31 December 2015	5,100

For footnotes, see page 191.

See page 122 and Note 32 on the Financial Statements for details regarding legally enforceable right of offset in the event of counterparty default and collateral received in respect of derivatives.

Reverse repos – non-trading by geographical region

The amount of non-trading reverse repos include transactions with customers and banks and is set out below.

Reverse repos – non-trading by geographical region
(Audited)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
With customers	**28,366**	**5,650**	**–**	**40,316**	**–**	**74,332**
With banks	**15,824**	**21,804**	**779**	**32,034**	**1,482**	**71,923**
At 31 December 2015	**44,190**	**27,454**	**779**	**72,350**	**1,482**	**146,255**
With customers	25,841	5,409	–	35,060	–	66,310
With banks	34,748	22,813	19	29,008	8,815	95,403
At 31 December 2014	60,589	28,222	19	64,068	8,815	161,713

Personal lending

We provide a broad range of secured and unsecured personal lending products to meet customer needs. Personal lending includes advances to customers for asset purchases such as residential property where the loans are secured by the assets being acquired. We also offer loans secured on existing assets, such as first liens on residential property, and unsecured lending products such as overdrafts, credit cards and payroll loans.

Total personal lending

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
First lien residential mortgages (A)	**125,544**	**94,606**	**2,258**	**50,117**	**1,986**	**274,511**
Of which:						
– interest only (including offset)	**40,906**	**936**	**–**	**180**	**–**	**42,022**
– affordability including ARMs	**356**	**3,966**	**–**	**17,041**	**–**	**21,363**
Other personal lending (B)	**44,982**	**38,101**	**4,447**	**8,069**	**3,972**	**99,571**
– other	**32,862**	**27,682**	**3,147**	**3,284**	**1,816**	**68,791**
– credit cards	**12,115**	**10,189**	**929**	**996**	**1,780**	**26,009**
– second lien residential mortgages	**–**	**33**	**2**	**3,762**	**–**	**3,797**
– motor vehicle finance	**5**	**197**	**369**	**27**	**376**	**974**
Total gross loans at 31 December 2015 (C)	**170,526**	**132,707**	**6,705**	**58,186**	**5,958**	**374,082**
Impairment allowances on personal lending						
First lien residential mortgages (a)	**278**	**29**	**24**	**991**	**22**	**1,344**
Other personal lending (b)	**667**	**227**	**214**	**241**	**186**	**1,535**
– other	**401**	**104**	**180**	**31**	**80**	**796**
– credit cards	**265**	**122**	**29**	**30**	**102**	**548**
– second lien residential mortgages	**–**	**–**	**–**	**180**	**–**	**180**
– motor vehicle finance	**1**	**1**	**5**	**–**	**4**	**11**
Total impairment allowances at 31 December 2015 (c)	**945**	**256**	**238**	**1,232**	**208**	**2,879**
	%	**%**	**%**	**%**	**%**	**%**
(a) as a percentage of A	**0.2**	**0.0**	**1.1**	**2.0**	**1.1**	**0.5**
(b) as a percentage of B	**1.5**	**0.6**	**4.8**	**3.0**	**4.7**	**1.5**
(c) as a percentage of C	**0.6**	**0.2**	**3.5**	**2.1**	**3.5**	**0.8**

Total personal lending (continued)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
First lien residential mortgages (D)	131,000	93,147	2,647	55,577	4,153	286,524
Of which:						
– interest only (including offset)	44,163	956	–	276	–	45,395
– affordability including ARMs	337	5,248	–	16,452	–	22,037
Other personal lending (E)	47,531	36,368	3,924	9,823	9,384	107,030
– other	34,567	25,695	2,633	4,328	4,846	72,069
– credit cards	12,959	10,289	897	1,050	3,322	28,517
– second lien residential mortgages	–	56	2	4,433	–	4,491
– motor vehicle finance	5	328	392	12	1,216	1,953
Total gross loans at 31 December 2014 (F)	178,531	129,515	6,571	65,400	13,537	393,554
Impairment allowances on personal lending						
First lien residential mortgages (d)	306	46	97	1,644	36	2,129
Other personal lending (e)	786	208	97	350	1,030	2,471
– other	438	87	59	43	672	1,299
– credit cards	347	119	33	36	298	833
– second lien residential mortgages	–	–	–	271	–	271
– motor vehicle finance	1	2	5	–	60	68
Total impairment allowances at 31 December 2014 (f)	1,092	254	194	1,994	1,066	4,600
	%	%	%	%	%	%
(d) as a percentage of D	0.2	–	3.7	3.0	0.9	0.7
(e) as a percentage of E	1.7	0.6	2.5	3.6	11.0	2.3
(f) as a percentage of F	0.6	0.2	3.0	3.0	7.9	1.2

On a reported basis, total personal lending was $374bn at 31 December 2015, down from $394bn at the end of 2014. The reduction of $20bn was mainly due to adverse foreign exchange movements of $19bn, the reclassification of $7.6bn of assets of our Brazilian operations as 'Assets held for sale' and the run-off of our CML portfolio in North America of $5bn during the year. Excluding these factors, personal lending balances grew by $12bn in 2015. This was primarily driven by increased mortgage and other lending in Asia.

Loan impairment allowances reduced by $1.7bn on a reported basis, mainly due to the Brazilian reclassification ($0.8bn) and the run-off of the US CML portfolio ($0.7bn).

Personal lending loan impairment charges were largely unchanged at $1.8bn on a reported basis. On a constant currency basis, they were $0.3bn higher than in 2014, reflecting increased write-offs in the UAE following a review of the quality and value of residential mortgage collateral and the effects of adverse macroeconomic conditions in Brazil.

Mortgage lending

We offer a wide range of mortgage products designed to meet customer needs, including capital repayment, interest-only, affordability and offset mortgages.

Group credit policy prescribes the range of acceptable residential property LTV thresholds with the maximum upper limit for new loans set at between 75% and 95%.

Specific LTV thresholds and debt-to-income ratios are managed at regional and country levels and, although the parameters must comply with Group policy, strategy and risk appetite, they differ in the various locations in which we operate to reflect the local economic and housing market conditions, regulations, portfolio performance, pricing and other product features.

Reported gross mortgage lending balances declined by $12bn. Adverse foreign exchange differences and the Brazilian reclassification reduced the gross mortgage lending balances by further $13bn and $2.1bn respectively.

The commentary that follows is on a constant currency basis, while tables are presented on a reported basis.

Excluding the effect of the Brazilian reclassification and the US CML run-off portfolio, mortgage lending balances increased by $7.7bn during the year.

Mortgage lending in Asia, excluding the reclassification to other personal lending discussed on page 145, grew by $6.4bn. The increases were primarily attributable to continued growth in Hong Kong ($4.2bn), mainland China ($1.7bn) and Australia ($1.1bn) as a result of strong demand and our competitive customer offerings. During the year, mortgage lending in Singapore fell by $1.1bn due to a business decision to constrain the level of our mortgage portfolio, coupled with the effect of a range of personal lending regulations. The quality of our Asian mortgage book remained high with negligible defaults and impairment allowances. The average LTV ratio on new mortgage lending in Hong Kong was 43% compared with an estimated 29% for the overall portfolio.

In North America, the US CML portfolio, including second lien mortgages, declined by $5.2bn in 2015 as we continued to run it off. The US Premier mortgage portfolio increased by $1.1bn during 2015 as we focused on growth in our core portfolios of higher quality mortgages. Our Canadian mortgage lending balances also grew by $0.8bn during the year. Collectively assessed impairment allowances reduced during the year due to continued improvements in the credit quality of the mortgage portfolio and continued loan sales.

In Europe, UK mortgage balances were unchanged and our products remained competitive in the prolonged low interest rate market environment. In the UK, the credit quality of our mortgage portfolio remained high, the LTV ratio on new lending was 57.8% compared with an average of 42.6% for the overall portfolio.

Exposure to UK interest-only mortgage loans

Interest-only mortgage products made up $40bn of total UK mortgage lending, including $16bn of offset mortgages in First Direct and $1.7bn of endowment mortgages.

The following information is presented for HSBC Bank plc's UK interest-only mortgage loans with balances of $18bn at the end of 2015. $0.2bn of interest-only mortgages matured during 2015. Of these, 2,636 loans with total balances of $0.1bn were repaid in full, 164 loans with balances of $0.03bn have agreed future repayment plans and 550 loans with balances of $0.1bn are subject to ongoing individual assessments.

The profile of expiring UK interest-only loans was as follows:

UK interest-only mortgage loans

	$m
2015 expired interest-only mortgage loans	**266**
Interest-only mortgage loans by maturity	
– 2016	**314**
– 2017	**384**
– 2018	**723**
– 2019	**801**
– 2020	**805**
– 2021-2025	**3,997**
– Post 2025	**10,390**
Total at 31 December 2015	**17,680**

Other personal lending

Reported other personal lending balances declined by $7.5bn during the year, mainly due to adverse foreign exchange movements of $5.8bn and the Brazilian reclassification of $5.5bn. The reduction was offset by the growth in other personal lending in Hong Kong.

The commentary that follows is on a constant currency basis, while tables are presented on a reported basis.

Excluding the Brazilian reclassification, other personal lending increased by $4bn in 2015. This was driven by strong growth in personal loans and overdrafts in Hong Kong ($1.5bn), other unsecured personal lending portfolio in UK ($0.7bn) and other personal lending in France ($0.6bn). In Mexico, other unsecured personal lending grew by $0.6bn mainly in payroll and personal loans as a result of various sales and credit initiatives. In addition, we reclassified a total of $1.8bn of loans in Malaysia and India, and $0.4bn in the UAE, from residential mortgages to other personal lending following a review of the supporting collateral.

HSBC Finance

HSBC Finance US Consumer and Mortgage Lending – residential mortgages[16]

	2015 $m	2014 $m
Residential mortgages:		
– first lien	**17,157**	21,915
Other personal lending:		
– second lien	**2,089**	2,509
Total (A) at 31 December	**19,246**	24,424
Impairment allowances	**986**	1,679
– as a percentage of A	**5.1%**	6.9%

For footnote, see page 191.

Mortgage lending balances in HSBC Finance declined by $5.2bn or 21% during 2015. In addition to the continued loan sales in the CML portfolio, we transferred a further $2.4bn to 'Assets held for sale' during the year, and these loans were sold in May, August and November 2015.

There was a decrease in impairment allowances reflecting reduced levels of delinquency, and lower levels of both new impaired loans and loan balances outstanding as a result of continued liquidation of the portfolio.

Among the first and second lien residential mortgages in our CML portfolio, two months and over delinquent balances halved to $1.2bn during 2015.

At 31 December 2015, renegotiated real estate secured accounts in HSBC Finance represented 91% (2014: 93%) of North America's total renegotiated loans. $5.1bn of renegotiated real estate secured loans was classified as impaired (2014: $7.6bn).

HSBC Bank USA

In HSBC Bank USA, mortgage balances grew by $1.1bn to $18bn at 31 December 2015 as we continued to implement our strategy to grow the HSBC Premier and Advance customer base. We continued to sell all agency-eligible new originations in the secondary market.

Trends in two months and over contractual delinquency in the US

	2015 $m	2014 $m
In personal lending in the US		
First lien residential mortgages	**1,954**	3,271
– Consumer and Mortgage Lending	**1,049**	2,210
– other mortgage lending	**905**	1,061
Second lien residential mortgages	**161**	216
– Consumer and Mortgage Lending	**106**	154
– other mortgage lending	**55**	62
Credit card	**16**	17
Personal non-credit card	**3**	7
Total at 31 December	**2,134**	3,511
	%	%
As a percentage of the equivalent loans and receivables balances		
First lien residential mortgages	**5.7**	8.6
Second lien residential mortgages	**4.4**	5.0
Credit card	**2.3**	2.4
Personal non-credit card	**0.7**	1.4
Total at 31 December	**5.4**	8.1

Gross loan portfolio of HSBC Finance real estate secured balances

	Re-aged[17] $m	Modified and re-aged $m	Modified $m	Total renegotiated loans $m	Total non-renegotiated loans $m	Total gross loans $m	Total impairment allowances $m	Impairment allowances/ gross loans %
At 31 December 2015	**4,858**	**5,257**	**519**	**10,634**	**8,612**	**19,246**	**986**	**5.1**
At 31 December 2014	6,637	6,581	587	13,805	10,619	24,424	1,679	6.9

For footnote, see page 191.

Number of renegotiated real estate secured accounts remaining in HSBC Finance's portfolio

	Number of renegotiated loans (000s)				Total number of loans (000s)
	Re-aged	Modified and re-aged	Modified	Total	
At 31 December 2015	**66**	**54**	**6**	**126**	**240**
At 31 December 2014	85	64	6	155	297

HSBC Finance loan modifications and re-age programmes

HSBC Finance maintains loan modification and re-age ('loan renegotiation') programmes in order to manage customer relationships, improve collection opportunities and, if possible, avoid foreclosure.

Qualifying criteria

For an account to qualify for renegotiation it must meet certain criteria, and HSBC Finance retains the right to decline a renegotiation.

Renegotiated real estate secured loans are not eligible for a subsequent renegotiation for six or 12 months depending upon the action, with a maximum of five renegotiations permitted within a five-year period. Borrowers must be approved for a modification and, to activate it, must generally make two minimum qualifying monthly payments within 60 days. In certain circumstances where the debt has been restructured in bankruptcy proceedings, fewer or no payments may be required. Real estate secured loans involving a bankruptcy and accounts whose borrowers are subject to a Chapter 13 plan filed with a bankruptcy court generally may be considered current upon receipt of one qualifying payment, while accounts whose borrowers have filed for Chapter 7 bankruptcy protection may be re-aged upon receipt of a signed reaffirmation agreement. In addition, any account may be re-aged without receipt of a payment in certain special circumstances (for example, in the event of a natural disaster or a hardship programme).

Within the constraints of our Group credit policy, we allow for multiple renegotiations under certain circumstances. Consequently, a significant proportion of loans included in the table above have undergone multiple re-ages or modifications. In this regard, multiple modifications have remained consistent at 70% to 75% of total modifications.

The accounts that received second or subsequent renegotiations during the year do not appear in the statistics presented. These statistics treat a loan as an addition to the volume of renegotiated loans on its first renegotiation only.

Types of loan renegotiation programmes in HSBC Finance

- A temporary modification is a change to the contractual terms of a loan that results in HSBC Finance giving up a right to contractual cash flows over a pre-defined period, typically two years. With a temporary modification the loan is expected to revert back to the original contractual terms, including the interest rate charged, after the modification period. An example is reduced interest payments.

  A substantial number of HSBC Finance modifications involve interest rate reductions, which lower the amount of interest income HSBC Finance is contractually entitled to receive in future periods. Historically, modifications were granted for terms as low as six months, although more recent modifications have a minimum term of two years.

- A permanent modification is a change to the contractual terms of a loan that results in HSBC Finance giving up a right to contractual cash flows over the life of the loan.

  An example is a permanent reduction in the interest rate charged.

HSBC Finance also offers a 're-age' renegotiation programme, which results in the resetting of an account's contractual delinquency status to current (non-delinquent) upon fulfilment of certain requirements and without additional concessions. The overdue principal and/or interest is deferred and paid at a later date. Loan re-ageing enables customers who have been unable to make a small number of payments to have their loan delinquency status reset to current so that their credit score is not affected by the overdue balances. Re-aging may be offered to customers either without any modification of original loan terms, or as part of a loan modification transaction.

All renegotiation transactions described above with the exception of first time re-ages on accounts that are less than 60 days past due are classified as impaired. These remain classified as impaired until they have demonstrated a history of payment performance against their original contracted terms for at least 12 months, with the exception of permanent modifications. All modified loans with terms over two years are considered to be permanently impaired.

Collateral and other credit enhancements held

(Audited)

The tables below provide a quantification of the value of fixed charges we hold over specific assets where we have a history of enforcing, and are able to enforce, collateral in satisfying a debt in the event of the borrower failing to meet its contractual obligations, and where the collateral is cash or can be realised by sale in an established market. The collateral valuation excludes any adjustments for obtaining and selling the collateral and, in particular, loans shown as not collateralised or partially collateralised may also benefit from other forms of credit mitigants. UK and Hong Kong are shown, both within regional figures and separately, due to the size of their portfolios.

Residential mortgage loans including loan commitments by level of collateral

(Audited)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m	UK $m	Hong Kong $m
Non-impaired loans and advances								
Fully collateralised	128,113	100,102	2,144	41,567	1,869	273,795	122,221	61,784
LTV ratio:								
– less than 50%	70,851	59,212	595	12,369	710	143,737	68,362	42,589
– 51% to 75%	47,933	33,237	985	22,071	903	105,129	45,762	15,961
– 76% to 90%	8,322	6,522	535	5,502	222	21,103	7,584	2,254
– 91% to 100%	1,007	1,131	29	1,625	34	3,826	513	980
Partially collateralised:								
– greater than 100% LTV (A)	540	168	46	1,208	13	1,975	321	97
– collateral value on A	434	155	37	1,147	11	1,784	221	95
	128,653	100,270	2,190	42,775	1,882	275,770	122,542	61,881
Impaired loans and advances								
Fully collateralised	1,407	222	44	6,713	109	8,495	1,191	46
LTV ratio:								
– less than 50%	518	105	18	1,247	90	1,978	469	42
– 51% to 75%	619	76	13	2,819	14	3,541	540	3
– 76% to 90%	183	34	8	1,811	4	2,040	133	1
– 91% to 100%	87	7	5	836	1	936	49	–
Partially collateralised:								
– greater than 100% LTV (B)	178	8	18	628	1	833	49	–
– collateral value on B	160	6	13	547	–	726	36	–
	1,585	230	62	7,341	110	9,328	1,240	46
At 31 December 2015	130,238	100,500	2,252	50,116	1,992	285,098	123,782	61,927

Strategic Report

Financial Review

Corporate Governance

Financial Statements

Shareholder Information

Residential mortgage loans including loan commitments by level of collateral (continued)

	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m	UK $m	Hong Kong $m
Non-impaired loans and advances								
Fully collateralised	135,875	99,257	2,431	43,317	3,759	284,639	130,333	57,703
LTV ratio:								
– less than 50%	66,075	60,315	1,324	14,003	1,454	143,171	63,533	42,894
– 51% to 75%	56,178	31,142	856	20,872	1,777	110,825	54,095	12,135
– 76% to 90%	11,856	6,906	212	5,994	480	25,448	11,141	2,298
– 91% to 100%	1,766	894	39	2,448	48	5,195	1,564	376
Partially collateralised:								
– greater than 100% LTV (C)	537	99	60	2,209	167	3,072	388	–
– collateral value on C	532	81	44	1,999	24	2,680	415	–
	136,412	99,356	2,491	45,526	3,926	287,711	130,721	57,703
Impaired loans and advances								
Fully collateralised	906	256	122	8,618	154	10,056	781	48
LTV ratio:								
– less than 50%	232	130	53	1,291	103	1,809	197	45
– 51% to 75%	417	90	29	3,462	35	4,033	376	3
– 76% to 90%	163	32	19	2,471	10	2,695	131	–
– 91% to 100%	94	4	21	1,394	6	1,519	77	–
Partially collateralised:								
– greater than 100% LTV (D)	55	7	31	1,395	2	1,490	44	–
– collateral value on D	40	5	23	1,181	1	1,250	30	–
	961	263	153	10,013	156	11,546	825	48
At 31 December 2014	137,373	99,619	2,644	55,539	4,082	299,257	131,546	57,751

Supplementary information

Gross loans and advances by industry sector over five years

	2015 $m	Currency translation adjustment[18] $m	Movement $m	2014 $m	2013 $m	2012 $m	2011 $m
Personal	**374,082**	**(20,232)**	**760**	393,554	410,728	415,093	393,625
– first lien residential mortgages	**274,511**	**(13,697)**	**1,684**	286,524	299,875	301,862	278,963
– other personal[3]	**99,571**	**(6,535)**	**(924)**	107,030	110,853	113,231	114,662
Corporate and commercial	**499,513**	**(30,496)**	**(12,616)**	542,625	545,981	517,120	478,064
– manufacturing	**95,858**	**(8,043)**	**(3,085)**	106,986	113,850	112,149	96,054
– international trade and services	**159,019**	**(10,148)**	**(11,624)**	180,791	184,668	169,389	152,709
– commercial real estate	**67,926**	**(3,483)**	**(1,884)**	73,293	74,846	76,760	73,941
– other property-related	**53,464**	**(1,256)**	**2,333**	52,387	44,832	40,532	39,539
– government	**7,455**	**(354)**	**1,666**	6,143	7,277	10,785	11,079
– other commercial[4]	**115,791**	**(7,212)**	**(22)**	123,025	120,508	107,505	104,742
Financial	**150,833**	**(9,577)**	**(2,606)**	163,016	170,627	164,013	184,035
– non-bank financial institutions	**60,414**	**(2,210)**	**11,806**	50,818	50,523	46,871	44,832
– banks	**90,419**	**(7,367)**	**(14,412)**	112,198	120,104	117,142	139,203
Total gross loans and advances	**1,024,428**	**(60,305)**	**(14,462)**	1,099,195	1,127,336	1,096,226	1,055,724
Impaired loans and advances to customers	**23,758**	**(1,868)**	**(3,657)**	29,283	36,428	38,671	41,584
Impairment allowances on loans and advances to customers	**9,555**	**(1,189)**	**(1,593)**	12,337	15,143	16,112	17,511
Loan impairment charge	**3,592**	**(682)**	**219**	4,055	6,048	8,160	11,505
– new allowances net of allowance releases	**4,400**	**(821)**	**211**	5,010	7,344	9,306	12,931
– recoveries	**(808)**	**139**	**8**	(955)	(1,296)	(1,146)	(1,426)

For footnotes, see page 191.

The personal lending currency effect on gross loans and advances of $20bn was made up as follows: Europe $10bn, Asia $4.2bn, Latin America $2.5bn and North America $3.3bn. The wholesale lending currency effect on gross loans and advances of $40bn was made up as follows: Europe $17bn, Asia $8.7bn, Latin America $11bn, North America $2.7bn and Middle East and North Africa $0.7bn.

In the following two tables, negative percentage numbers are favourable, positive numbers are unfavourable.

Reconciliation of reported and constant currency impaired loans, allowances and charges by geographical region

	31 December 2014 as reported $m	Currency translation adjustment[18] $m	31 December 2014 at 31 December 2015 exchange rates $m	Movement – constant currency basis $m	**31 December 2015 as reported $m**	**Reported change %**	**Constant currency change %**
Impaired loans							
Europe	10,242	(748)	9,494	183	**9,677**	**(5.5)**	**1.9**
Asia	2,048	(118)	1,930	445	**2,375**	**16.0**	**23.1**
Middle East and North Africa	1,981	(19)	1,962	(196)	**1,766**	**(10.9)**	**(10.0)**
North America	11,694	(71)	11,623	(2,693)	**8,930**	**(23.6)**	**(23.2)**
Latin America	3,365	(913)	2,452	(1,422)	**1,030**	**(69.4)**	**(58.0)**
	29,330	(1,869)	27,461	(3,683)	**23,778**	**(18.9)**	**(13.4)**
Impairment allowances							
Europe	4,455	(364)	4,091	(222)	**3,869**	**(13.2)**	**(5.4)**
Asia	1,356	(64)	1,292	233	**1,525**	**12.5**	**18.0**
Middle East and North Africa	1,406	(11)	1,395	23	**1,418**	**0.9**	**1.6**
North America	2,640	(51)	2,589	(548)	**2,041**	**(22.7)**	**(21.2)**
Latin America	2,529	(702)	1,827	(1,107)	**720**	**(71.5)**	**(60.6)**
	12,386	(1,192)	11,194	(1,621)	**9,573**	**(22.7)**	**(14.5)**
Loan impairment charge							
Europe	1,079	(134)	945	(236)	**709**	**(34.3)**	**(25.0)**
Asia	644	(27)	617	64	**681**	**5.7**	**10.4**
Middle East and North Africa	(1)	(1)	(2)	301	**299**	**–**	**–**
North America	300	(10)	290	179	**469**	**56.3**	**61.7**
Latin America	2,033	(510)	1,523	(89)	**1,434**	**(29.5)**	**(5.8)**
	4,055	(682)	3,373	219	**3,592**	**(11.4)**	**6.5**

For footnote, see page 191.

Reconciliation of reported and constant currency loan impairment charges to the income statement

	31 December 2014 as reported $m	Currency translation adjustment[18] $m	31 December 2014 at 31 December 2015 exchange rates $m	Movement – constant currency basis $m	**31 December 2015 as reported $m**	**Reported change %**	**Constant currency change %**
Loan impairment charge							
Europe	1,079	(134)	945	(236)	**709**	**(34.3)**	**(25.0)**
– new allowances	2,445	(303)	2,142	(97)	**2,045**	**(16.4)**	**(4.5)**
– releases	(1,062)	140	(922)	(26)	**(948)**	**(10.7)**	**2.8**
– recoveries	(304)	29	(275)	(113)	**(388)**	**27.6**	**41.1**
Asia	644	(27)	617	64	**681**	**5.7**	**10.4**
– new allowances	1,115	(61)	1,054	224	**1,278**	**14.6**	**21.3**
– releases	(318)	21	(297)	(135)	**(432)**	**35.8**	**45.5**
– recoveries	(153)	13	(140)	(25)	**(165)**	**7.8**	**17.9**
Middle East and North Africa	(1)	(1)	(2)	301	**299**	**–**	**–**
– new allowances	355	(7)	348	144	**492**	**38.6**	**41.4**
– releases	(314)	6	(308)	148	**(160)**	**(49.0)**	**(48.1)**
– recoveries	(42)	–	(42)	9	**(33)**	**(21.4)**	**(21.4)**
North America	300	(10)	290	179	**469**	**56.3**	**61.7**
– new allowances	908	(20)	888	(157)	**731**	**(19.5)**	**(17.7)**
– releases	(493)	8	(485)	299	**(186)**	**(62.3)**	**(61.6)**
– recoveries	(115)	2	(113)	37	**(76)**	**(33.9)**	**(32.7)**
Latin America	2,033	(510)	1,523	(89)	**1,434**	**(29.5)**	**(5.8)**
– new allowances	2,707	(674)	2,033	(239)	**1,794**	**(33.7)**	**(11.8)**
– releases	(333)	69	(264)	50	**(214)**	**(35.7)**	**(18.9)**
– recoveries	(341)	95	(246)	100	**(146)**	**(57.2)**	**(40.7)**
Total	4,055	(682)	3,373	219	**3,592**	**(11.4)**	**6.5**
– new allowances	7,530	(1,065)	6,465	(125)	**6,340**	**(15.8)**	**(1.9)**
– releases	(2,520)	244	(2,276)	336	**(1,940)**	**(23.0)**	**(14.8)**
– recoveries	(955)	139	(816)	8	**(808)**	**(15.4)**	**(1.0)**

For footnote, see page 191.

Loan impairment charges by industry sector over five years

	2015 $m	2014 $m	2013 $m	2012 $m	2011 $m
Loan impairment charge/(release)					
Personal	**1,834**	1,803	3,196	5,362	9,318
Corporate and commercial	**1,769**	2,256	2,974	2,802	2,114
Financial	**(11)**	(4)	(122)	(4)	73
Year ended 31 December	**3,592**	4,055	6,048	8,160	11,505

Charge for impairment losses as a percentage of average gross loans and advances to customers

	2015 %	2014 %	2013 %	2012 %	2011 %
New allowances net of allowance releases	**0.48**	0.53	0.81	1.00	1.34
Recoveries	**(0.09)**	(0.10)	(0.14)	(0.12)	(0.15)
Total charge for impairment losses	**0.39**	0.43	0.67	0.88	1.19
Amount written off net of recoveries	**0.37**	0.58	0.59	0.93	1.14

Movement in impairment allowances over five years

	2015 $m	2014 $m	2013 $m	2012 $m	2011 $m
Impairment allowances at 1 January	**12,386**	15,201	16,169	17,636	20,241
Amounts written off	**(4,194)**	(6,379)	(6,655)	(9,812)	(12,480)
– personal	**(2,707)**	(3,733)	(4,367)	(6,905)	(10,431)
– corporate and commercial	**(1,473)**	(2,425)	(2,229)	(2,677)	(2,009)
– financial	**(14)**	(221)	(59)	(230)	(40)
Recoveries of amounts written off in previous years	**808**	955	1,296	1,146	1,426
– personal	**681**	818	1,097	966	1,175
– corporate and commercial	**124**	128	198	172	242
– financial	**3**	9	1	8	9
Loan impairment charge	**3,592**	4,055	6,048	8,160	11,505
Exchange and other movements[11]	**(3,019)**	(1,446)	(1,657)	(961)	(3,056)
Impairment allowances at 31 December	**9,573**	12,386	15,201	16,169	17,636
Impairment allowances					
– individually assessed	**5,420**	6,244	7,130	6,629	6,662
– collectively assessed	**4,153**	6,142	8,071	9,540	10,974
Impairment allowances at 31 December	**9,573**	12,386	15,201	16,169	17,636
	%	%	%	%	%
Amount written off net of recoveries as a percentage of average gross loans and advances to customers	**0.4**	0.6	0.6	1.0	1.2

For footnote, see page 191.

Gross loans and advances to customers by country

	First lien residential mortgages $m	Other personal[3] $m	Property-related $m	Commercial, international trade and other $m	Total $m
Europe	125,544	44,982	33,579	191,807	395,912
UK	117,346	20,797	25,700	149,327	313,170
France	3,606	12,130	6,070	20,380	42,186
Germany	4	203	347	7,941	8,495
Switzerland	511	8,045	224	834	9,614
Other	4,077	3,807	1,238	13,325	22,447
Asia	94,606	38,101	67,577	157,616	357,900
Hong Kong	60,943	24,389	50,825	80,609	216,766
Australia	9,297	726	1,592	6,448	18,063
India	1,248	431	637	5,728	8,044
Indonesia	56	346	71	4,965	5,438
Mainland China	5,716	1,645	6,185	23,703	37,249
Malaysia	2,792	3,113	1,993	4,947	12,845
Singapore	7,743	5,392	3,334	11,021	27,490
Taiwan	3,866	629	126	5,291	9,912
Other	2,945	1,430	2,814	14,904	22,093
Middle East and North Africa (excluding Saudi Arabia)	2,258	4,447	2,598	21,991	31,294
Egypt	1	549	104	2,097	2,751
UAE	1,854	2,286	1,833	14,199	20,172
Other	403	1,612	661	5,695	8,371
North America	50,117	8,069	16,014	56,690	130,890
US	34,382	4,813	11,435	42,439	93,069
Canada	14,418	3,029	4,315	13,490	35,252
Other	1,317	227	264	761	2,569
Latin America	1,986	3,972	1,622	10,433	18,013
Mexico	1,881	2,828	1,498	7,844	14,051
Other	105	1,144	124	2,589	3,962
At 31 December 2015	**274,511**	**99,571**	**121,390**	**438,537**	**934,009**
Europe	131,000	47,531	35,313	200,313	414,157
UK	123,239	21,023	25,927	156,577	326,766
France	2,914	12,820	7,341	21,834	44,909
Germany	6	212	304	7,275	7,797
Switzerland	298	8,149	225	614	9,286
Other	4,543	5,327	1,516	14,013	25,399
Asia	93,147	36,368	70,057	164,739	364,311
Hong Kong	56,656	22,891	52,208	82,362	214,117
Australia	9,154	815	2,130	6,360	18,459
India	1,235	285	613	5,099	7,232
Indonesia	64	469	202	5,476	6,211
Mainland China	4,238	1,981	6,606	24,875	37,700
Malaysia	5,201	1,750	1,988	5,217	14,156
Singapore	9,521	5,878	4,210	11,951	31,560
Taiwan	3,920	626	118	7,057	11,721
Other	3,158	1,673	1,982	16,342	23,155
Middle East and North Africa (excluding Saudi Arabia)	2,647	3,924	2,246	21,633	30,450
Egypt	1	510	98	2,272	2,881
UAE	2,263	1,782	1,545	13,814	19,404
Other	383	1,632	603	5,547	8,165
North America	55,577	9,823	15,492	51,535	132,427
US	37,937	5,482	11,461	38,632	93,512
Canada	16,236	4,085	3,708	11,825	35,854
Other	1,404	256	323	1,078	3,061
Latin America	4,153	9,384	2,572	29,543	45,652
Mexico	1,967	2,642	1,336	9,503	15,448
Other	2,186	6,742	1,236	20,040	30,204
Included in Other: Brazil	2,067	5,531	1,077	16,814	25,489
At 31 December 2014	286,524	107,030	125,680	467,763	986,997

For footnote, see page 191.

The above tables analyse loans and advances by industry sector and by the location of the principal operations of the lending subsidiary or, in the case of the operations of The Hongkong and Shanghai Banking Corporation, HSBC Bank, HSBC Bank Middle East and HSBC Bank USA, by the location of the lending branch.

HSBC Holdings

(Audited)

Risk in HSBC Holdings is overseen by the HSBC Holdings Asset and Liability Management Committee ('HALCO'). The major risks faced by HSBC Holdings are credit risk, liquidity risk and market risk (in the form of interest rate risk and foreign exchange risk), of which the most significant is credit risk.

Credit risk in HSBC Holdings primarily arises from transactions with Group subsidiaries and from guarantees issued in support of obligations assumed by certain Group operations in the normal conduct of their business. It is reviewed and managed within regulatory and internal limits for exposures by our Global Risk function, which provides high-level centralised oversight and management of credit risks worldwide.

HSBC Holdings' maximum exposure to credit risk at 31 December 2015 is shown below. Its financial assets principally represent claims on Group subsidiaries in Europe and North America.

All the derivative transactions are with HSBC undertakings that are banking counterparties (2014: 100%) and for which HSBC Holdings has in place master netting arrangements. Since 2012, the credit risk exposure has been managed on a net basis and the remaining net exposure is specifically collateralised in the form of cash.

HSBC Holdings – maximum exposure to credit risk

(Audited)

	2015			2014		
	Maximum exposure $m	Offset $m	Exposure to credit risk (net) $m	Maximum exposure $m	Offset $m	Exposure to credit risk (net) $m
Cash at bank and in hand:						
– balances with HSBC undertakings	242	–	242	249	–	249
Derivatives	2,467	(2,467)	–	2,771	(2,610)	161
Loans and advances to HSBC undertakings	44,350	–	44,350	43,910	–	43,910
Financial investments in HSBC undertakings	4,285	–	4,285	4,073	–	4,073
Other assets	109	–	109			
Financial guarantees and similar contracts	68,333	–	68,333	52,023	–	52,023
Loan and other credit-related commitments	–	–	–	16	–	16
At 31 December	119,786	(2,467)	117,319	103,042	(2,610)	100,432

The credit quality of loans and advances and financial investments, both of which consist of intra-Group lending, is assessed as 'strong' or 'good', with 100% of the exposure being neither past due nor impaired (2014: 100%).

Securitisation exposures and other structured products

The following table summarises the carrying amount of our ABS exposure by categories of collateral and includes assets held in the GB&M legacy credit portfolio with a carrying value of $15bn (2014: $23bn).

At 31 December 2015, the available-for-sale reserve in respect of ABSs was a deficit of $1,021m (2014: deficit of $777m). For 2015, the impairment write-back in respect of ABSs was $85m (2014: write-back of $276m).

Carrying amount of HSBC's consolidated holdings of ABSs

	Trading $m	Available for sale $m	Held to maturity $m	Designated at fair value through profit or loss $m	Loans and receivables $m	Total $m	Of which held through consolidated SEs $m
Mortgage-related assets:							
Sub-prime residential	**73**	**2,247**	**–**	**1**	**132**	**2,453**	**1,075**
US Alt-A residential	**–**	**1,989**	**7**	**–**	**55**	**2,051**	**1,796**
US Government agency and sponsored enterprises: MBSs	**166**	**15,082**	**13,997**	**–**	**–**	**29,245**	**–**
Other residential	**812**	**780**	**–**	**–**	**108**	**1,700**	**253**
Commercial property	**590**	**2,308**	**–**	**–**	**201**	**3,099**	**1,656**
Leveraged finance-related assets	**240**	**2,294**	**–**	**–**	**149**	**2,683**	**1,310**
Student loan-related assets	**236**	**2,991**	**–**	**–**	**25**	**3,252**	**2,679**
Other assets	**1,184**	**880**	**–**	**23**	**128**	**2,215**	**565**
At 31 December 2015	**3,301**	**28,571**	**14,004**	**24**	**798**	**46,698**	**9,334**
Mortgage-related assets:							
Sub-prime residential	122	3,081	–	–	308	3,511	2,075
US Alt-A residential	96	3,022	11	–	110	3,239	2,411
US Government agency and sponsored enterprises: MBSs	82	10,401	13,436	–	–	23,919	–
Other residential	928	1,220	–	–	330	2,478	652
Commercial property	654	3,627	–	–	516	4,797	2,854
Leveraged finance-related assets	172	3,660	–	–	218	4,050	2,526
Student loan-related assets	242	3,545	–	–	119	3,906	3,284
Other assets	1,264	1,114	–	19	646	3,043	758
At 31 December 2014	3,560	29,670	13,447	19	2,247	48,943	14,560

Liquidity and funding

1 *Appendix to Risk – risk policies and practices.*

Liquidity and funding

Liquidity risk is the risk that the Group will not have sufficient financial resources to meet its obligations as they fall due, or will have to do so at an excessive cost. The risk arises from mismatches in the timing of cash flows.

The risk arises when the funding needed for illiquid asset positions cannot be obtained at the expected terms and when required.

A summary of our current policies and practices regarding liquidity and funding is provided in the Appendix to Risk on page 204.

Liquidity and funding risk management framework

The objective of our liquidity framework is to allow us to withstand very severe liquidity stresses. It is designed to be adaptable to changing business models, markets and regulations.

Our Liquidity and Funding Risk Management Framework ('LFRF') requires:

- liquidity to be managed by operating entities on a stand-alone basis with no implicit reliance on the Group or central banks;
- all operating entities to comply with their limits for the advances to core funding ratio; and
- all operating entities to maintain a positive stressed cash flow position out to three months under prescribed Group stress scenarios.

Liquidity and funding in 2015

The liquidity position of the Group remained strong in 2015. Our ratio of customer advances to customer deposits was 72% (2014: 72%). Both customer loans and customer accounts fell on a reported basis with these movements including:

- the transfer to 'Assets held for sale' and 'Liabilities of disposal groups held for sale' of balances relating to the planned disposal of our operations in Brazil;
- a reduction in corporate overdraft and current account balances relating to a small number of clients in our Payments and Cash Management business in the UK who settled their overdraft and deposit balances on a net basis, with customers increasing the frequency with which they settled their positions; and
- movements in currency markets, which changed the value of our customer loans and customer accounts when translated from their local currency into US dollars.

The HSBC UK liquidity group recorded an increase in its advances to core funding ('ACF') ratio to 101% at 31 December 2015 (2014: 97%), mainly because of higher wholesale lending while core funding remained unchanged.

The Hongkong and Shanghai Banking Corporation recorded a decrease in its ACF ratio to 69% at 31 December 2015 (2014: 75%), mainly because of an increase in core deposits coupled with a decrease in corporate loans.

HSBC USA recorded a decrease in its ACF ratio to 89% at 31 December 2015 (2014: 100%), mainly because of growth in core funding, which was partially offset by higher loans to customers.

The HSBC UK liquidity group, The Hongkong and Shanghai Banking Corporation and HSBC USA are defined in footnotes 19 to 21 on page 191. The ACF ratio is discussed on page 205.

Wholesale senior funding markets

Conditions in the bank wholesale debt markets were generally positive in 2015. Periods of volatility remained, however, particularly during the latter months of the year when concerns over the decline in oil prices and economic growth in Europe and mainland China combined with a variety of other factors to leave the outlook uncertain, affecting market confidence.

In 2015, a number of Group entities issued the equivalent of $22bn (2014: $20bn) of long-term debt securities in the public capital markets in a range of currencies and maturities.

Liquidity regulation

Under European Commission ('EC') Delegated Regulation 2015/61, the consolidated liquidity coverage ratio ('LCR') became a minimum regulatory standard from 1 October 2015.

The European calibration of the net stable funding ratio ('NSFR') is still pending following the Basel Committee's final recommendation in October 2014, and therefore external disclosure of this metric is currently on hold.

Non-EU regulators are expected to apply the LCR and NSFR reporting requirement locally and there is the potential for local requirements to diverge from the rules applicable to the Group.

Liquidity coverage ratio – EC LCR Delegated Regulation

The calculation of the EC LCR metric involves two key assumptions: the definition of operational deposits and the ability to transfer liquidity from non-EU legal entities.

- We define operational deposits as transactional (current) accounts arising from the provision of custody services by HSBC Security Services or Payments and Cash Management services, where the operational component is assessed to be the lower of the current balance and the separate notional values of debits and credits across the account in the previous calculation period.
- No transferability of liquidity from non-EU entities is assumed other than to the extent currently permitted. This results in $94bn of high-quality liquid assets ('HQLA') being excluded from the Group's LCR.

On the basis of these assumptions, we reported to the PRA a Group EC LCR at 31 December 2015 (on the basis of the Delegated Regulation) of 116%.

The ratio of total consolidated HQLAs to the EC LCR denominator at 31 December 2015 was 142%, reflecting the additional $94bn of HQLAs excluded from the Group LCR.

The liquidity position of the Group can also be represented by the stand-alone ratios of each of our principal operating entities. The table below displays the individual LCR levels for the principal HSBC operating entities on an EC LCR Delegated Regulation basis. The ratios shown for operating entities in non-EU jurisdictions can vary from their local LCR measures due to differences in the way non-EU regulators have implemented the Basel III recommendations.

Operating entities' LCRs

	At 31 December 2015 %
HSBC UK liquidity group[19]	107
The Hongkong and Shanghai Banking Corporation – Hong Kong Branch[20]	150
The Hongkong and Shanghai Banking Corporation – Singapore Branch[20]	189
HSBC Bank USA[21]	116
HSBC France[22]	127
Hang Seng Bank	199
HSBC Canada[22]	142
HSBC Bank China	183

For footnotes, see page 191.

At 31 December 2015, all the Group's operating entities were individually within the risk tolerance level established by the Board and applicable under the new internal framework which took effect from 1 January 2016.

Management of liquidity and funding risk

Forward-looking framework

From 1 January 2016, the Group implemented a new internal LFRF, using the external LCR and NSFR regulatory framework as a foundation, but adding extra metrics/limits and overlays to address the risks that we consider are not adequately reflected by the external regulatory framework.

The key aspects of the new internal LFRF are:

i. stand-alone management of liquidity and funding by operating entity;
ii. operating entity classification by inherent liquidity risk ('ILR') categorisation;
iii. minimum operating entity EC LCR requirement depending on ILR categorisation (EC LCR Delegated Regulation basis);
iv. minimum operating entity NSFR requirement depending on ILR categorisation (on the basis of the Basel 295 publication, pending finalisation of the EC NSFR delegated regulation);
v. legal entity depositor concentration limit;
vi. operating entity three-month and twelve-month cumulative rolling term contractual maturity limits covering deposits from banks, deposits from non-bank financials and securities issued;
vii. annual individual liquidity adequacy assessment ('ILAA') by operating entity; and
viii. during 2016, we will also introduce a minimum operating entity LCR requirement by currency.

The new internal LFRF and the risk tolerance (limits) were approved by the RMM and the Board on the basis of recommendations made by the Group Risk Committee.

Our ILAA process has been designed to identify risks that are not reflected in the Group framework and where additional limits are assessed to be required locally, and to validate the risk tolerance at the operating entity level.

The decision to create an internal framework modelled around the external regulatory framework was driven by the need to ensure that the external and internal frameworks are directionally aligned and that the Group's internal funds transfer pricing framework incentivises the global businesses within each operating entity to collectively comply with both the external (regulatory) and the internal risk tolerance.

Current framework

The 2015, LFRF employed two key measures to define, monitor and control the liquidity and funding risk of each of our operating entities. The ACF ratio was used to monitor the structural long-term funding position, and the stressed coverage ratio, incorporating Group-defined stress scenarios, was used to monitor the resilience to severe liquidity stresses. Although in place before and during 2015, this framework and its accompanying metrics will be demised as the new framework outlined above is implemented.

The three principal entities listed in the tables below represented 65% (2014: 66%) of the Group's customer accounts. Including the other principal entities, the percentage was 88% (2014: 88%).

Advances to core funding ratio

The table overleaf shows the extent to which loans and advances to customers in our principal banking entities were financed by reliable and stable sources of funding.

ACF limits set for principal operating entities at 31 December 2015 ranged between 80% and 120%.

Core funding represents the core component of customer deposits and any term professional funding with a residual contractual maturity beyond one year. Capital is excluded from our definition of core funding.

Advances to core funding ratios[23]

	At 31 December	
	2015	2014
	%	%
HSBC UK liquidity group[19]		
Year-end	**101**	97
Maximum	**101**	102
Minimum	**96**	97
Average	**98**	100
The Hongkong and Shanghai Banking Corporation[20]		
Year-end	**69**	75
Maximum	**75**	75
Minimum	**69**	72
Average	**72**	74
HSBC USA[21]		
Year-end	**89**	100
Maximum	**100**	100
Minimum	**89**	85
Average	**94**	95
Total of HSBC's other principal entities[24]		
Year-end	**91**	92
Maximum	**95**	94
Minimum	**91**	92
Average	**93**	93

For footnotes, see page 191.

Stressed coverage ratios

The ratios tabulated below express stressed cash inflows as a percentage of stressed cash outflows over both one-month and three-month time horizons. Operating entities are required to maintain a ratio of 100% or more out to three months.

Inflows included in the numerator of the stressed coverage ratio are generated from liquid assets (net of assumed haircuts) and cash inflows relating to assets contractually maturing within the time period.

In general, customer loans and advances are assumed to be renewed on maturity and as a result do not generate a cash inflow.

The stressed coverage ratios for The Hongkong and Shanghai Banking Corporation increased due to higher deposits and lower advances year-on-year. The ratios for HSBC USA increased due to a growth in core funding.

The stressed coverage ratios for the other entities remained broadly unchanged.

Stressed one-month and three-month coverage ratios[23]

	Stressed one-month coverage ratios at 31 December		Stressed three-month coverage ratios at 31 December	
	2015	2014	**2015**	2014
	%	%	**%**	%
HSBC UK liquidity group[19]				
Year-end	**113**	117	**105**	109
Maximum	**127**	117	**114**	109
Minimum	**112**	102	**105**	103
Average	**117**	107	**108**	104
The Hongkong and Shanghai Banking Corporation[20]				
Year-end	**129**	117	**120**	112
Maximum	**129**	119	**120**	114
Minimum	**113**	114	**111**	111
Average	**119**	116	**115**	112
HSBC USA[21]				
Year-end	**126**	111	**116**	104
Maximum	**126**	122	**116**	111
Minimum	**109**	108	**101**	104
Average	**117**	115	**108**	107
Total of HSBC's other principal entities[24]				
Year-end	**126**	122	**111**	108
Maximum	**126**	126	**111**	120
Minimum	**110**	114	**105**	108
Average	**116**	118	**108**	111

For footnotes, see page 191.

Liquid assets of HSBC's principal operating entities

The table below shows the estimated liquidity value (before assumed haircuts) of assets categorised as liquid and used for the purposes of calculating the three-month stressed coverage ratios, as defined under the LFRF.

The level of liquid assets reported reflects the stock of unencumbered liquid assets at the reporting date adjusted for the effect of reverse repo, repo and collateral swaps maturing within three months as the liquidity value of these transactions is reflected as a contractual cash flow reported in the net contractual cash flow table. Repos are sale and repurchase transactions while reverse repos are transactions under which securities are purchased under commitments to sell.

Like reverse repo transactions with residual contractual maturities within three months, unsecured interbank loans maturing within three months are not included in liquid assets, but are treated as contractual cash inflows.

Liquid assets are held and managed on a stand-alone operating entity basis. Most of the liquid assets shown are held directly by each operating entity's Balance Sheet Management ('BSM') department, primarily for the purpose of managing liquidity risk, in line with the LFRF.

The liquid asset buffer may also include securities held in held-to-maturity portfolios. In order to qualify as part of the liquid asset buffer, all held-to-maturity portfolios must have a deep and liquid repo market in the underlying security.

Liquid assets also include any unencumbered liquid assets held outside BSM for any other purpose. The LFRF gives ultimate control of all unencumbered assets and sources of liquidity to BSM.

For a summary of our liquid asset policy and definitions of the classifications shown in the table below, see the Appendix to Risk on page 206.

Liquid assets of HSBC's principal entities

	Estimated liquidity value[25]	
	31 December 2015 $m	31 December 2014 $m
HSBC UK liquidity group[19]		
Level 1	**118,193**	131,756
Level 2	**4,722**	4,688
Level 3	**59,378**	66,011
	182,293	202,455
The Hongkong and Shanghai Banking Corporation[20]		
Level 1	**132,870**	109,683
Level 2	**6,029**	4,854
Level 3	**7,346**	7,043
	146,245	121,580
HSBC USA[21]		
Level 1	**42,596**	51,969
Level 2	**11,798**	15,184
Level 3	**9**	197
Other	**5,557**	9,492
	59,960	76,842
Total of HSBC's other principal entities[24]		
Level 1	**108,789**	115,770
Level 2	**10,764**	7,940
Level 3	**5,486**	9,360
	125,039	133,070

For footnotes, see page 191.

All assets held within the liquid asset portfolio are unencumbered.

- The quantum of liquid assets held by the HSBC UK liquidity group on a constant currency basis was broadly unchanged.
- Liquid assets held by The Hongkong and Shanghai Banking Corporation increased due to added holdings of government securities and higher regulatory reserves. This was driven by the investment of surplus deposits.
- Liquid assets held by HSBC USA decreased, mainly due to a switch from regulatory reserves to reverse repo placements. A corresponding improvement can be seen in HSBC USA's net repo cash flow shown in the net contractual cash flow table.

Net contractual cash flows

The following table quantifies the contractual cash flows from interbank and intra-Group loans and deposits, and reverse repo, repo (including intra-Group transactions) and short positions for the principal entities shown. These contractual cash inflows and outflows are reflected gross in the numerator and denominator, respectively, of the one and three-month stressed coverage ratios and should be considered alongside the level of liquid assets.

Outflows included in the denominator of the stressed coverage ratios include the principal outflows associated with the contractual maturity of wholesale debt securities reported in the table headed 'Wholesale funding cash flows payable by HSBC under financial liabilities by remaining contractual maturities' on page 161.

For a summary of our policy and definitions of the classifications shown in the table on page 159, see the Appendix to Risk on page 206.

Net cash inflows/(outflows) for interbank and intra-Group loans and deposits and reverse repo, repo and short positions

	At 31 December 2015		At 31 December 2014	
	Cash flows within 1 month	**Cash flows from 1 to 3 months**	Cash flows within 1 month	Cash flows from 1 to 3 months
	$m	**$m**	$m	$m
Interbank and intra-Group loans and deposits				
HSBC UK liquidity group[19]	**(18,534)**	**(3,712)**	(14,110)	(2,846)
The Hongkong and Shanghai Banking Corporation[20]	**3,702**	**6,027**	(1,277)	6,862
HSBC USA[21]	**(12,432)**	**937**	(18,353)	1,648
Total of HSBC's other principal entities[24]	**2,875**	**6,123**	(1,522)	7,310
Reverse repo, repo, stock borrowing, stock lending and outright short positions (including intra-Group)				
HSBC UK liquidity group[19]	**(16,861)**	**1,313**	(16,070)	11,551
The Hongkong and Shanghai Banking Corporation[20]	**15,068**	**12,326**	8,139	8,189
HSBC USA[21]	**19,431**	**–**	(4,928)	–
Total of HSBC's other principal entities[24]	**(22,571)**	**5,240**	(33,235)	(11,528)

For footnotes, see page 191.

Contingent liquidity risk arising from committed lending facilities

The Group's operating entities provide commitments to various counterparties. The most significant liquidity risk relates to committed lending facilities which, whilst undrawn, give rise to contingent liquidity risk as they could be drawn during a period of liquidity stress. Commitments are given to customers and committed lending facilities are provided to consolidated multi-seller conduits established to enable clients to access flexible market-based sources of finance (see page 442), consolidated securities investment conduits and third-party sponsored conduits.

The consolidated securities investment conduits include Solitaire Funding Limited ('Solitaire') and Mazarin Funding Limited ('Mazarin'). They issue asset-backed commercial paper secured against the portfolio of securities held by them. At 31 December 2015, the HSBC UK liquidity group had undrawn committed lending facilities to these conduits of $8.2bn (2014: $11bn), of which Solitaire represented $7.7bn (2014: $9.5bn) and the remaining $0.5bn (2014: $1.6bn) pertained to Mazarin. Although the HSBC UK liquidity group provides a liquidity facility, Solitaire and Mazarin have no need to draw on it so long as HSBC purchases the commercial paper issued, which it intends to do for the foreseeable future. At 31 December 2015, the commercial paper issued by Solitaire and Mazarin was entirely held by the HSBC UK liquidity group. Since HSBC controls the size of the portfolio of securities held by these conduits, no contingent liquidity risk exposure arises as a result of these undrawn committed lending facilities.

The table below shows the level of undrawn commitments to customers outstanding for the five largest single facilities and the largest market sector, and the extent to which they are undrawn.

The Group's contractual undrawn exposures at 31 December monitored under the contingent liquidity risk limit structure
(Audited)

	HSBC UK liquidity group[19]		HSBC USA[21]		HSBC Canada[22]		The Hongkong and Shanghai Banking Corporation[20]	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014
	$bn	$bn	**$bn**	$bn	**$bn**	$bn	**$bn**	$bn
Commitments to conduits								
Consolidated multi-seller conduits								
– total lines	**13.4**	9.8	**3.3**	2.3	**0.2**	0.2	**–**	–
– largest individual lines	**0.4**	0.9	**0.5**	0.5	**0.1**	0.2	**–**	–
Consolidated securities investment conduits – total lines	**8.2**	11.1	**–**	–	**–**	–	**–**	–
Third-party conduits – total lines	**–**	–	**0.1**	0.1	**–**	–	**–**	–
Commitments to customers								
– five largest[26]	**4.9**	2.6	**6.4**	7.1	**1.4**	1.7	**1.7**	1.5
– largest market sector[27]	**17.9**	16.6	**9.7**	10.0	**3.4**	3.5	**3.4**	3.2

For footnotes, see page 191.

Sources of funding

(Audited)

Our primary sources of funding are customer current accounts and customer savings deposits payable on demand or at short notice. We issue wholesale securities (secured and unsecured) to supplement our customer deposits and change the currency mix, maturity profile or location of our liabilities.

The 'Funding sources and uses' table below, which provides a consolidated view of how our balance sheet is funded, should be read in light of the LFRF, which requires operating entities to manage liquidity and funding risk on a stand-alone basis.

The table analyses our consolidated balance sheet according to the assets that primarily arise from operating activities and the sources of funding primarily supporting these activities. The assets and liabilities that do not arise from operating activities are presented as a net balancing source or deployment of funds.

The level of customer accounts continued to exceed the level of loans and advances to customers. The positive funding gap was predominantly deployed in liquid assets (cash and balances with central banks and financial investments) as required by the LFRF.

Loans and other receivables due from banks continued to exceed deposits taken from banks. The Group remained a net unsecured lender to the banking sector.

For a summary of sources and utilisation of repos and stock lending, see the Appendix to Risk on page 208.

Funding sources and uses[28]

	2015 $m	2014 $m
Sources		
Customer accounts	**1,289,586**	1,350,642
Deposits by banks	**54,371**	77,426
Repurchase agreements – non-trading	**80,400**	107,432
Debt securities issued	**88,949**	95,947
Liabilities of disposal groups held for sale	**36,840**	6,934
Subordinated liabilities	**22,702**	26,664
Financial liabilities designated at fair value	**66,408**	76,153
Liabilities under insurance contracts	**69,938**	73,861
Trading liabilities	**141,614**	190,572
– repos	**442**	3,798
– stock lending	**8,859**	12,032
– settlement accounts	**10,530**	17,454
– other trading liabilities	**121,783**	157,288
Total equity	**197,518**	199,978
At 31 December	**2,048,326**	2,205,609
Uses		
Loans and advances to customers	**924,454**	974,660
Loans and advances to banks	**90,401**	112,149
Repurchase agreements – non-trading	**146,255**	161,713
Assets held for sale	**43,900**	7,647
Trading assets	**224,837**	304,193
– reverse repos	**438**	1,297
– stock borrowing	**7,118**	7,969
– settlement accounts	**12,127**	21,327
– other trading assets	**205,154**	273,600
Financial investments	**428,955**	415,467
Cash and balances with central banks	**98,934**	129,957
Net deployment in other balance sheet assets and liabilities	**90,590**	99,823
At 31 December	**2,048,326**	2,205,609

For footnote, see page 191.

Cross-border, intra-Group and cross-currency liquidity and funding risk

The stand-alone operating entity approach to liquidity and funding mandated by the LFRF restricts the exposure of our operating entities to the risks that can arise from extensive reliance on cross-border funding. Operating entities manage their funding sources locally, focusing predominantly on the local customer deposit base. The RBWM, CMB and GPB customer relationships that give rise to core deposits within an operating entity generally reflect a local customer relationship with that operating entity. Access to public debt markets is coordinated globally by the Global Head of Balance Sheet Management and the Group Treasurer with Group ALCO monitoring all planned public debt issuance on a monthly basis. As a general principle, operating entities are only permitted to issue in their local currency and are encouraged to focus on local private placements. The public issuance of debt instruments in foreign currency is tightly controlled and generally restricted to HSBC Holdings plc and HSBC Bank plc.

A central principle of our stand-alone approach to LFRF is that operating entities place no future reliance on other Group entities. However, operating entities may, at their discretion, utilise their respective committed facilities from other Group entities if necessary. In addition, intra-Group large exposure limits are applied by national regulators to individual legal entities locally, which restrict the unsecured exposures of legal entities to the rest of the Group to a percentage of the lender's regulatory capital.

Our LFRF also considers the ability of each entity to continue to access foreign exchange markets under stress when a surplus in one currency is used to meet a deficit in another currency, for example, by using the foreign currency swap markets. Where appropriate, operating entities are required to monitor stressed coverage ratios and ACF ratios for non-local currencies and set limits for them. Foreign currency swap markets in currency pairs settled through the Continuous Link Settlement Bank are considered to be extremely deep and liquid and it is assumed that capacity to access these markets is not exposed to idiosyncratic risks. The table below shows the ACF ratios by material currencies for the year ended 31 December 2015.

Advances to core funding ratios by material currency[23]

	At 31 December 2015 %
HSBC UK liquidity group[19]	
Local currency (sterling)	**98**
US dollars	**128**
Euros	**111**
Consolidated	**101**
The Hongkong and Shanghai Banking Corporation[20]	
Local currency (Hong Kong dollars)	**76**
US dollars	**60**
Consolidated	**69**
HSBC USA[21]	
Local currency (US dollars)	**89**
Consolidated	**89**
Total of HSBC's other principal entities[24]	
Local currency	**96**
US dollars	**89**
Consolidated	**91**

For footnotes, see page 191.

For all HSBC's operating entities, the only material currencies (those that exceed 5% of Group balance sheet liabilities) are the Hong Kong dollar, euro, sterling and US dollar.

Wholesale funding cash flows payable by HSBC under financial liabilities by remaining contractual maturities

	Due not more than 1 month $m	Due over 1 month but not more than 3 months $m	Due over 3 months but not more than 6 months $m	Due over 6 months but not more than 9 months $m	Due over 9 months but not more than 1 year $m	Due over 1 year but not more than 2 years $m	Due over 2 years but not more than 5 years $m	Due over 5 years $m	Total $m
Debt securities issued	19,447	11,803	20,565	6,712	5,274	20,150	43,463	27,398	154,812
– unsecured CDs and CP	5,830	8,426	11,250	2,944	1,224	955	108	10	30,747
– unsecured senior MTNs	4,229	2,240	7,130	2,687	1,711	10,850	27,239	18,407	74,493
– unsecured senior structured notes	883	964	1,544	875	2,166	4,158	9,741	5,262	25,593
– secured covered bonds	–	–	–	–	–	2,074	1,619	2,577	6,270
– secured asset-backed commercial paper	8,414	–	–	–	–	–	–	–	8,414
– secured ABS	20	173	195	206	173	313	1,554	114	2,748
– others	71	–	446	–	–	1,800	3,202	1,028	6,547
Subordinated liabilities	–	816	–	–	34	648	6,826	34,423	42,747
– subordinated debt securities	–	–	–	–	34	648	6,338	32,494	39,514
– preferred securities	–	816	–	–	–	–	488	1,929	3,233
At 31 December 2015	**19,447**	**12,619**	**20,565**	**6,712**	**5,308**	**20,798**	**50,289**	**61,821**	**197,559**
Debt securities issued	17,336	17,161	19,030	9,352	9,055	27,312	40,855	31,928	172,029
– unsecured CDs and CP	5,637	9,337	9,237	4,793	3,010	3,506	4,158	185	39,863
– unsecured senior MTNs	1,300	5,679	7,684	2,922	4,794	17,676	23,523	20,715	84,293
– unsecured senior structured notes	1,363	1,082	2,049	1,149	979	4,757	8,444	6,789	26,612
– secured covered bonds	–	–	–	205	–	–	2,765	2,942	5,912
– secured asset-backed commercial paper	8,602	–	–	–	–	–	–	–	8,602
– secured ABS	212	1,063	60	283	272	915	1,562	–	4,367
– others	222	–	–	–	–	458	403	1,297	2,380
Subordinated liabilities	–	150	–	3	185	113	5,556	40,487	46,494
– subordinated debt securities	–	150	–	3	185	113	5,556	34,750	40,757
– preferred securities	–	–	–	–	–	–	–	5,737	5,737
At 31 December 2014	17,336	17,311	19,030	9,355	9,240	27,425	46,411	72,415	218,523

Wholesale term debt maturity profile

The maturity profile of our wholesale term debt obligations is set out in the table on page 161, 'Wholesale funding principal cash flows payable by HSBC under financial liabilities by remaining contractual maturities'.

The balances in the table do not agree directly with those in the consolidated balance sheet as the table presents gross cash flows relating to principal payments and not the balance sheet carrying value, which includes debt securities and subordinated liabilities measured at fair value.

Analysis of on-balance sheet encumbered and unencumbered assets and off-balance sheet collateral

On-balance sheet encumbered and unencumbered assets

The table on page 163, 'Analysis of on-balance sheet encumbered and unencumbered assets', summarises the total on-balance sheet assets that are capable of supporting future funding and collateral needs and shows the extent to which these assets are currently pledged for this purpose. The objective of this disclosure is to facilitate an understanding of available and unrestricted assets that could be used to support potential future funding and collateral needs.

Under 'Off-balance sheet collateral' below we discuss the off-balance sheet collateral received and re-pledged, and the level of available unencumbered off-balance sheet collateral.

The disclosure is not designed to identify assets which would be available to meet the claims of creditors or to predict assets that would be available to creditors in the event of a resolution or bankruptcy.

The table has been significantly updated since 2014 following the issuance of a 'Dear CFO' letter by the PRA, and acknowledgement by the Enhanced Disclosure Task Force that its Recommendation 19 and Figure 5 could be met without providing disclosure that has the potential to reveal the use or non-use of emergency liquidity assistance provided by central banks on a confidential basis. There are two key changes. The first is to segregate out any assets positioned with central banks for the specific purpose of emergency liquidity provision irrespective of whether any liquidity has actually been drawn and assets encumbered. The second is to include an analysis of the source of encumbrance for those assets reported as encumbered.

An asset is defined as encumbered if it has been pledged as collateral against an existing liability and, as a result, is no longer available to the Group to secure funding, satisfy collateral needs or be sold to reduce our funding requirement. An asset is therefore categorised as unencumbered if it has not been pledged against an existing liability. Unencumbered assets are further analysed into four separate sub-categories: 'Readily realisable assets', 'Other realisable assets', 'Reverse repo/stock borrowing receivables and derivative assets' and 'Cannot be pledged as collateral'.

For a summary of our policy on collateral management and definition of encumbrance, see the Appendix to Risk on page 209.

Off-balance sheet collateral

Off-balance sheet collateral received and pledged for reverse repo, stock borrowing and derivative transactions

The fair value of assets accepted as collateral that we are permitted to sell or repledge in the absence of default was $228bn at 31 December 2015 (2014: $257bn). The fair value of any such collateral actually sold or repledged was $150bn (2014: $176bn). We are obliged to return equivalent securities. These transactions are conducted under terms that are usual and customary to standard reverse repo, stock borrowing and derivative transactions.

The fair value of collateral received and repledged in relation to reverse repos, stock borrowing and derivatives is reported on a gross basis. The related balance sheet receivables and payables are reported on a net basis where required under IFRSs offset criteria.

As a consequence of reverse repo, stock borrowing and derivative transactions where the collateral received could be but had not been sold or repledged, we held $78bn (2014: $81bn) of unencumbered collateral available to support potential future funding and collateral needs at 31 December 2015.

Analysis of on-balance sheet encumbered and unencumbered assets

	Assets encumbered as a result of transactions with counterparties other than central banks				Unencumbered assets not positioned at central banks				
	As a result of covered bonds $m	As a result of securitisations $m	Other $m	Assets positioned at central banks (i.e. pre-positioned plus encumbered) $m	Assets readily available for encumbrance $m	Other assets capable of being encumbered $m	Reverse repos/stock borrowing receivables and derivative assets $m	Assets that cannot be encumbered $m	Total $m
Cash and balances at central banks	–	–	–	98	95,545	350	–	2,941	98,934
Items in the course of collection from other banks	–	–	–	–	–	–	–	5,768	5,768
Hong Kong Government certificates of indebtedness	–	–	–	–	–	–	–	28,410	28,410
Trading assets	–	–	31,605	1,573	138,070	8,269	7,520	37,800	224,837
– Treasury and other eligible bills	–	–	1,099	984	5,618	128	–	–	7,829
– Debt securities	–	–	25,890	492	72,377	233	–	46	99,038
– Equity securities	–	–	4,616	–	59,430	2,445	–	–	66,491
– Loans and advances to banks	–	–	–	–	456	2,890	2,763	16,194	22,303
– Loans and advances to customers	–	–	–	97	189	2,573	4,757	21,560	29,176
Financial assets designated at fair value	–	–	–	–	1,775	1,244	–	20,833	23,852
– Treasury and other eligible bills	–	–	–	–	258	–	–	138	396
– Debt securities	–	–	–	–	1,327	265	–	2,749	4,341
– Equity securities	–	–	–	–	178	979	–	17,838	18,995
– Loans and advances to banks and customers	–	–	–	–	12	–	–	108	120
Derivatives	–	–	–	–	–	–	288,476	–	288,476
Loans and advances to banks	–	1,329	–	1,702	2,054	61,992	815	22,509	90,401
Loans and advances to customers	6,947	15,288	6,848	20,683	60,031	792,650	1,531	20,476	924,454
Reverse repurchase agreements - non-trading	–	–	–	–	–	–	146,255	–	146,255
Financial investments	–	–	25,078	8,150	325,101	14,753	–	55,873	428,955
– Treasury and other eligible bills	–	–	509	3,675	98,866	1,177	–	324	104,551
– Debt securities	–	–	24,561	4,475	224,355	11,124	–	54,054	318,569
– Equity securities	–	–	8	–	1,880	2,452	–	1,495	5,835
Prepayments, accrued income and other assets	–	–	63	–	4,685	65,190	–	28,360	98,298
Current tax assets	–	–	–	–	–	–	–	1,221	1,221
Interest in associates and joint ventures	–	–	–	–	51	18,794	–	294	19,139
Goodwill and intangible assets	–	–	–	–	–	–	–	24,605	24,605
Deferred tax	–	–	–	–	–	–	–	6,051	6,051
At 31 December 2015	6,947	16,617	63,594	32,206	627,312	963,242	444,597	255,141	2,409,656

Additional contractual obligations

Under the terms of our current collateral obligations under derivative contracts (which are ISDA compliant CSA contracts and contracts entered into for pension obligations and exclude the contracts entered for special purpose vehicles and additional termination events), and based on the positions at 31 December 2015, we estimate that we could be required to post additional collateral of up to $0.4bn (2014: $0.5bn) in the event of a one-notch downgrade in credit ratings, which would increase to $0.7bn (2014: $1.2bn) in the event of a two-notch downgrade.

Contractual maturity of financial liabilities

The balances in the table below do not agree directly with those in our consolidated balance sheet as the table incorporates, on an undiscounted basis, all cash flows relating to principal and future coupon payments (except for trading liabilities and derivatives not treated as hedging derivatives). Undiscounted cash flows payable in relation to hedging derivative liabilities are classified according to their contractual maturities. Trading liabilities and derivatives not treated as hedging derivatives are included in the 'On demand' time bucket and not by contractual maturity.

A maturity analysis of repos and debt securities in issue included in trading liabilities is presented in Note 31 on the Financial Statements.

In addition, loans and other credit-related commitments and financial guarantees and similar contracts are generally not recognised on our balance sheet. The undiscounted cash flows potentially payable under financial guarantees and similar contracts are classified on the basis of the earliest date they can be called.

Cash flows payable by HSBC under financial liabilities by remaining contractual maturities
(Audited)

	On demand $m	Due within 3 months $m	Due between 3 and 12 months $m	Due between 1 and 5 years $m	Due after 5 years $m
Deposits by banks	**42,182**	**6,643**	**1,452**	**4,029**	**107**
Customer accounts	**1,076,595**	**160,368**	**43,289**	**10,964**	**263**
Repurchase agreements – non-trading	**13,181**	**64,109**	**2,144**	**535**	**543**
Trading liabilities	**141,614**	**–**	**–**	**–**	**–**
Financial liabilities designated at fair value	**327**	**4,077**	**6,149**	**24,642**	**41,365**
Derivatives	**276,141**	**255**	**970**	**1,721**	**1,652**
Debt securities in issue	**377**	**25,910**	**23,886**	**35,499**	**6,993**
Subordinated liabilities	**–**	**803**	**971**	**10,151**	**28,132**
Other financial liabilities	**59,298**	**17,476**	**7,226**	**10,188**	**1,014**
	1,609,715	**279,641**	**86,087**	**97,729**	**80,069**
Loan and other credit-related commitments	**425,000**	**93,149**	**73,115**	**60,078**	**15,089**
Financial guarantees and similar contracts	**12,579**	**5,727**	**15,091**	**9,915**	**2,805**
At 31 December 2015	**2,047,294**	**378,517**	**174,293**	**167,722**	**97,963**
Deposits by banks	52,682	17,337	3,600	3,580	390
Customer accounts	1,088,769	187,207	61,687	15,826	390
Repurchase agreements – non-trading	8,727	91,542	6,180	23	1,057
Trading liabilities	190,572	–	–	–	–
Financial liabilities designated at fair value	365	2,201	9,192	28,260	39,397
Derivatives	335,168	375	1,257	4,231	1,517
Debt securities in issue	9	32,513	30,194	37,842	7,710
Subordinated liabilities	–	737	1,256	10,003	42,328
Other financial liabilities	41,517	23,228	4,740	1,893	988
	1,717,809	355,140	118,106	101,658	93,777
Loan and other credit-related commitments	406,561	101,156	64,582	62,312	16,769
Financial guarantees and similar contracts	13,166	6,306	13,753	9,575	4,278
At 31 December 2014	2,137,536	462,602	196,441	173,545	114,824

HSBC Holdings

Liquidity risk in HSBC Holdings is overseen by Holdings ALCO ('HALCO'). Liquidity risk arises because of HSBC Holdings' obligation to make payments to debt holders as they fall due. The liquidity risk related to these cash flows is managed by matching external debt obligations with internal loan cash flows and by maintaining an appropriate liquidity buffer that is monitored by HALCO.

At 31 December 2015, the Group had new issuance of $6.8bn of CRD IV compliant non-common equity capital instruments, of which $3.2bn were classified as tier 2 and $3.6bn were classified as additional tier 1 (for details on tier 2 and additional tier 1 instruments see Notes 30 and 35 on the Financial Statements).

The balances in the table below do not agree directly with those on the balance sheet of HSBC Holdings as the table incorporates, on an undiscounted basis, all cash flows relating to principal and future coupon payments (except for derivatives not treated as hedging derivatives). Undiscounted cash flows payable in relation to hedging derivative liabilities are classified according to their contractual maturities. Derivatives not treated as hedging derivatives are included in the 'On demand' time bucket.

In addition, loan commitments and financial guarantees and similar contracts are generally not recognised on our balance sheet. The undiscounted cash flows potentially payable under financial guarantees and similar contracts are classified on the basis of the earliest date on which they can be called.

Cash flows payable by HSBC Holdings under financial liabilities by remaining contractual maturities

(Audited)

	On demand $m	Due within 3 months $m	Due between 3 and 12 months $m	Due between 1 and 5 years $m	Due after 5 years $m
Amounts owed to HSBC undertakings	**257**	**1,375**	**424**	**110**	**–**
Financial liabilities designated at fair value	**–**	**1,145**	**655**	**5,202**	**20,779**
Derivatives	**2,065**	**–**	**–**	**213**	**–**
Debt securities in issue	**–**	**15**	**47**	**250**	**1,176**
Subordinated liabilities	**–**	**229**	**699**	**5,149**	**25,474**
Other financial liabilities	**–**	**1,426**	**152**	**–**	**–**
	2,322	**4,190**	**1,977**	**10,924**	**47,429**
Loan commitments	**–**	**–**	**–**	**–**	**–**
Financial guarantees and similar contracts	**68,333**	**–**	**–**	**–**	**–**
At 31 December 2015	**70,655**	**4,190**	**1,977**	**10,924**	**47,429**
Amounts owed to HSBC undertakings	1,441	985	42	449	–
Financial liabilities designated at fair value	–	210	642	6,345	19,005
Derivatives	1,066	–	–	103	–
Debt securities in issue	–	16	50	263	1,303
Subordinated liabilities	–	252	770	5,815	28,961
Other financial liabilities	–	1,132	158	–	–
	2,507	2,595	1,662	12,975	49,269
Loan commitments	16	–	–	–	–
Financial guarantees and similar contracts	52,023	–	–	–	–
At 31 December 2014	54,546	2,595	1,662	12,975	49,269

Market risk

1 *Appendix to Risk – risk policies and practices.*

Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.

There were no material changes to our policies and practices for the management of market risk in 2015.

Exposure to market risk

Exposure to market risk is separated into two portfolios:

- *Trading portfolios* comprise positions arising from market-making and warehousing of customer-derived positions. The interest rate risk on fixed-rate securities issued by HSBC Holdings is not included in Group VaR. The management of this risk is described on page 171.
- *Non-trading portfolios* comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities, financial investments designated as available for sale and held to maturity, and exposures arising from our insurance operations (see page 180).

Monitoring and limiting market risk exposures

Our objective is to manage and control market risk exposures while maintaining a market profile consistent with our risk appetite.

We use a range of tools to monitor and limit market risk exposures, including:

- *Sensitivity analysis* includes the sensitivity of net interest income and the sensitivity of structural foreign exchange, which are used to monitor the market risk positions within each risk type;
- *Value at risk* ('VaR') is a technique that estimates the potential losses that could occur on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence; and
- *Stress testing*: in recognition of VaR's limitations we augment VaR with stress testing to evaluate the potential impact on portfolio values of more extreme, though plausible, events or movements in a set of financial variables. Examples of scenarios reflecting current market concerns are the slowdown in mainland China and the potential effects of a sovereign debt default, including its wider contagion effects.

A summary of our market risk management framework including current policies is provided in the Appendix to Risk on page 210.

Market risk in 2015

Global economic growth remained subdued in 2015, with a number of headwinds present. The slowdown of the mainland Chinese economy dampened global trade flows and caused volatility in currency and global stock markets. Market concerns persist as to the scale of the slowdown and the potential for further depreciation of the renminbi.

Performance among developed markets was uneven, with the US and UK performing better than the eurozone, where the risk of a Greek exit faded in the second half of the year and ECB monetary policy remained supportive. Emerging market economies were affected by falling commodity prices as mainland Chinese demand slowed along with the prospect of monetary policy normalisation in the US. This led to capital outflows from emerging markets and a significant depreciation in several key currencies against the US dollar.

Against this backdrop, we maintained an overall defensive risk profile in our trading businesses. Defensive positions are characterised by low net open positions or the purchase of volatility protection via options trades. Non-trading VaR increased during the year as higher interest rates, especially in US dollars, caused the duration of non-trading assets to increase.

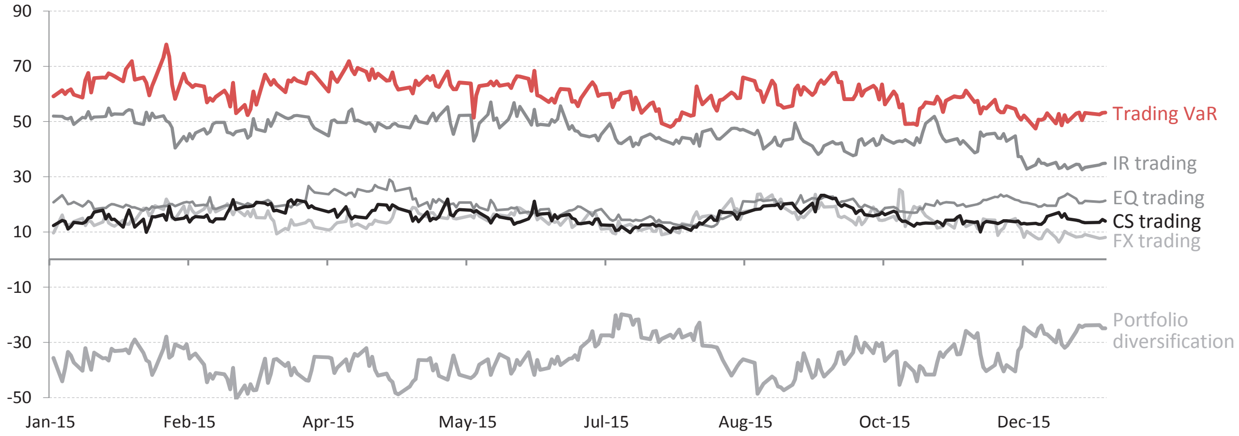
Trading portfolios

Value at risk of the trading portfolios

Trading VaR predominantly resides within Global Markets. This was lower at 31 December 2015 than at 31 December 2014 due to a decrease in interest rate trading VaR. During the year, trading VaR remained relatively stable trading in a tight range, with the effects of increased market volatility on VaR offset by reduced positions.

The daily levels of total trading VaR over the last year are set out in the graph below.

Daily VaR (trading portfolios), 99% 1 day ($m)



The Group trading VaR for the year is shown in the table below.

Trading VaR, 99% 1 day[29]
(Audited)

	Foreign exchange (FX) and commodity $m	Interest rate (IR) $m	Equity (EQ) $m	Credit spread (CS) $m	Portfolio diversification[30] $m	Total[31] $m
At 31 December 2015	**8.0**	**34.9**	**21.4**	**13.9**	**(24.9)**	**53.3**
Average	**14.7**	**46.0**	**19.6**	**15.5**	**(35.7)**	**60.1**
Maximum	**25.4**	**57.0**	**29.0**	**23.3**		**77.9**
Minimum	**6.3**	**32.6**	**11.9**	**9.8**		**47.5**
At 31 December 2014	9.8	45.4	7.3	12.5	(14.3)	60.7
Average	16.9	39.5	6.9	13.7	(17.8)	59.2
Maximum	34.2	50.6	15.6	20.9		77.8
Minimum	8.7	26.9	3.2	8.8		38.5

For footnotes, see page 192.

The Risk not in VaR ('RNIV') framework captures risks from exposures in the HSBC trading book which are not captured well by the VaR model. For 2015, the VaR-based RNIVs are included within metrics for each asset class whereas in 2014 they were included within portfolio diversification. Adjusting for the impact of the RNIV reclassification, portfolio diversification reduced in comparison to 2014.

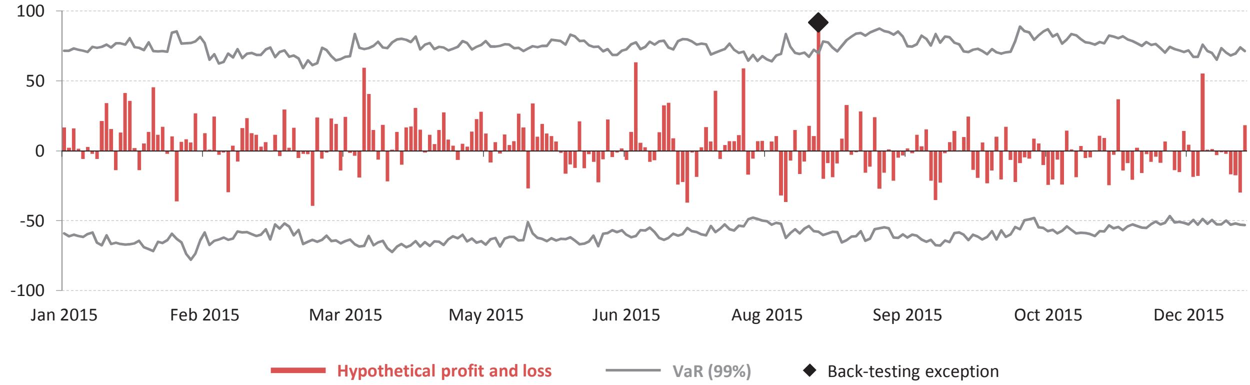
Back-testing

In 2015, the Group experienced one profit exception, due primarily to profits from increased volatility in foreign exchange currencies arising from the sharp fall in the Chinese stock market and its effect on global markets.

There was no evidence of model errors or control failures.

The graph below shows the daily trading VaR against hypothetical profit and loss for the Group during 2015. The back-testing result excludes exceptions due from changes in fair value adjustments.

Back-testing of trading VaR against hypothetical profit and loss for the Group ($m)



Non-trading portfolios

Value at risk of the non-trading portfolios

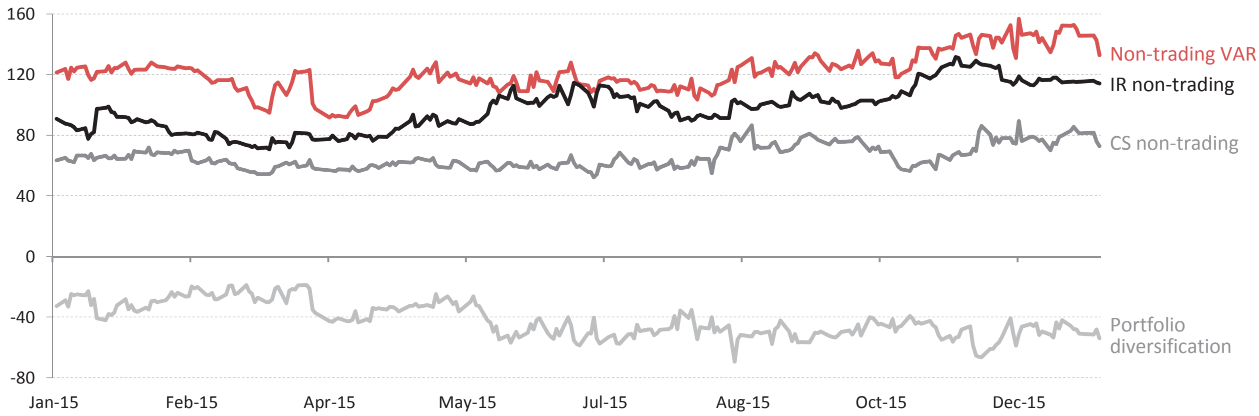
Non-trading VaR of the Group includes contributions from all global businesses. There is no commodity risk in the non-trading portfolios. The increase of non-trading VaR during 2015 was due primarily to the lengthening of the duration in the non-trading book from higher interest rates, especially US rates. There was no overall trend in the non-trading VaR during the year and no significant movements. The increase in non-trading interest rate and credit spread VaR components were offset by an increase in portfolio diversification effects.

Non-trading VaR also includes the interest rate risk of non-trading financial instruments held in portfolios managed by Balance Sheet Management ('BSM'). The management of interest rate risk in the banking book is described further in 'Non-trading interest rate risk' below, including the role of BSM.

Non-trading VaR excludes the insurance operations which are discussed further on page 180.

The daily levels of total non-trading VaR over the last year are set out in the graph below.

Daily VaR (non-trading portfolios), 99% 1 day ($m)



The Group non-trading VaR for the year is shown in the table below.

Non-trading VaR, 99% 1 day
(Audited)

	Interest Rate (IR) $m	Credit Spread (CS) $m	Portfolio diversification $m	Total $m
At 31 December 2015	**114.1**	**72.7**	**(54.0)**	**132.8**
Average	**97.5**	**65.7**	**(42.0)**	**121.2**
Maximum	**131.5**	**89.4**		**156.8**
Minimum	**70.5**	**52.1**		**91.5**
At 31 December 2014	88.2	62.5	(28.5)	122.2
Average	103.3	73.3	(37.4)	139.2
Maximum	147.7	91.9		189.0
Minimum	83.3	49.6		92.3

Non-trading VaR excludes equity risk on available-for-sale securities, structural foreign exchange risk and interest rate risk on fixed-rate securities issued by HSBC Holdings. This section and the sections below describe the scope of HSBC's management of market risks in non-trading books.

Equity securities classified as available for sale

Fair value of equity securities
(Audited)

	2015 $bn	2014 $bn
Private equity holdings[32]	**1.9**	2.0
Investment to facilitate ongoing business[33]	**1.9**	1.2
Other strategic investments	**2.1**	7.5
At 31 December	**5.9**	10.7

For footnotes, see page 192.

The table above sets out the maximum possible loss on shareholders' equity from available-for-sale equity securities. The fair value of equity securities classified as available for sale reduced from $10.7bn to $5.9bn. The decrease in Other strategic investments was largely due to the disposal of the Industrial Bank investment.

Market risk balance sheet linkages

The information below and on page 171 aims to facilitate an understanding of linkages between line items in the balance sheet and positions included in our market risk disclosures, in line with recommendations made by the Enhanced Disclosure Task Force.

Balances included and not included in trading VaR

	Balance sheet $m	Balances included in trading VaR $m	Balances not included in trading VaR $m	Primary market risk sensitivities
At 31 December 2015				
Assets				
Cash and balances at central banks	98,934		98,934	B
Trading assets	224,837	203,194	21,643	A
Financial assets designated at fair value	23,852		23,852	A
Derivatives	288,476	282,972	5,504	A
Loans and advances to banks	90,401		90,401	B
Loans and advances to customers	924,454		924,454	B
Reverse repurchase agreements – non-trading	146,255		146,255	C
Financial investments	428,955		428,955	A
Liabilities				
Deposits by banks	54,371		54,371	B
Customer accounts	1,289,586		1,289,586	B
Repurchase agreements – non-trading	80,400		80,400	C
Trading liabilities	141,614	130,427	11,187	A
Financial liabilities designated at fair value	66,408		66,408	A
Derivatives	281,071	275,007	6,064	A
Debt securities in issue	88,949		88,949	C

The table represents account lines where there is some exposure to market risk according to the following asset classes:
A *Foreign exchange, interest rate, equity and credit spread.*
B *Foreign exchange and interest rate.*
C *Foreign exchange, interest rate and credit spread.*

The table above splits the assets and liabilities into two categories:

- those that are included in the trading book and are measured by VaR; and
- those that are not in the trading book and/or are not measured by VaR.

The breakdown of financial instruments included and not included in trading VaR provides a linkage with market risk to the extent that it is reflected in our risk framework.

However, it is important to highlight that the table does not reflect how we manage market risk, since we do not discriminate between assets and liabilities in our VaR model.

The assets and liabilities included in trading VaR give rise to a large proportion of the income included in net trading income. As set out on page 54, HSBC's net trading income in 2015 was $8,723m (2014: $6,760m). Adjustments to trading income such as valuation adjustments do not feed the trading VaR model.

Market risk linkages to the accounting balance sheet

Trading assets and liabilities

The Group's trading assets and liabilities are in almost all cases originated by GB&M. The assets and liabilities are classified as held for trading if they have been acquired or incurred principally for the purpose of selling or repurchasing in the near term, or form part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent pattern of short-term profit-taking. These assets and liabilities are treated as traded risk for the purposes of market risk management, other than a limited number of exceptions, primarily in Global Banking where the short-term acquisition and disposal of the assets are linked to other non-trading related activities such as loan origination.

Financial assets designated at fair value

Financial assets designated at fair value within HSBC are predominantly held within the Insurance entities. The majority of these assets are linked to policyholder liabilities for either unit-linked or insurance and investment contracts with DPF. The risks of these assets largely offset the market risk on the liabilities under the policyholder contracts, and are risk managed on a non-trading basis.

Financial liabilities designated at fair value

Financial liabilities designated at fair value within HSBC are primarily fixed-rate securities issued by HSBC entities for funding purposes. An accounting mismatch would arise if the debt securities were accounted for at amortised cost because the derivatives which economically hedge market risks on the securities would be accounted for at fair value with changes recognised in the income statement. The market risks of these liabilities are treated as non-traded risk, the principal risks being interest rate and/or foreign exchange risks. We also incur liabilities to customers under investment contracts, where the liabilities on unit-linked contracts are based on the fair value of assets within the unit-linked funds. The exposures on these funds are treated as non-traded risk and the principal risks are those of the underlying assets in the funds.

Derivative assets and liabilities

We undertake derivative activity for three primary purposes; to create risk management solutions for clients, to manage the portfolio risks arising from client business and to manage and hedge our own risks. Most of our derivative exposures arise from sales and trading activities within GB&M and are treated as traded risk for market risk management purposes.

Within derivative assets and liabilities there are portfolios of derivatives which are not risk managed on a trading intent basis and are treated as non-traded risk for VaR measurement purposes. These arise when the derivative was entered into in order to manage risk arising from non-traded exposures. They include non-qualifying hedging derivatives and derivatives qualifying for fair value and cash flow hedge accounting. The use of non-qualifying hedges whose primary risks relate to interest rate and foreign exchange exposure is described on page 171. Details of derivatives in fair value and cash flow hedge accounting relationships are given in Note 16 on the Financial Statements. Our primary risks in respect of these instruments relate to interest rate and foreign exchange risks.

Loans and advances to customers

The primary risk on assets within loans and advances to customers is the credit risk of the borrower. The risk of these assets is treated as non-trading risk for market risk management purposes.

Financial investments

Financial investments include assets held on an available-for-sale and held-to-maturity basis. An analysis of the Group's holdings of these securities by accounting classification and issuer type is provided in Note 17 on the Financial Statements and by business activity on page 398. The majority of these securities are mainly held within Balance Sheet Management in GB&M. The positions which are originated in order to manage structural interest rate and liquidity risk are treated as non-trading risk for the purposes of market risk management. Available-for-sale security holdings within insurance entities are treated as non-trading risk and are largely held to back non-linked insurance policyholder liabilities.

The other main holdings of available-for-sale assets are the ABSs within GB&M's legacy credit business, which are treated as non-trading risk for market risk management purposes, the principal risk being the credit risk of the obligor.

The Group's held-to-maturity securities are principally held within the Insurance business. Risks of held-to-maturity assets are treated as non-trading for risk management purposes.

Repurchase (repo) and reverse repurchase (reverse repo) agreements non-trading

Reverse repo agreements, classified as assets, are a form of collateralised lending. HSBC lends cash for the term of the reverse repo in exchange for receiving collateral (normally in the form of bonds).

Repo agreements, classified as liabilities, are the opposite of reverse repos, allowing HSBC to obtain funding by providing collateral to the lender.

Both transaction types are treated as non-trading risk for market risk management and the primary risk is counterparty credit risk.

For information on the accounting policies applied to financial instruments at fair value, see Note 13 on the Financial Statements.

Structural foreign exchange exposures

For our policies and procedures for managing structural foreign exchange exposures, see page 215 of the Appendix to Risk.

For details of structural foreign exchange exposures see Note 33 on the Financial Statements.

Non-trading interest rate risk

For our policies regarding the funds transfer pricing process for non-trading interest rate risk and liquidity and funding risk, see page 207 of the Appendix to Risk.

Asset, Liability and Capital Management ('ALCM') is responsible for measuring and controlling non-trading interest rate risk under the supervision of the RMM. Its primary responsibilities are:

- to define the rules governing the transfer of non-trading interest rate risk from the global businesses to BSM;
- to define the rules governing the interest rate risk behaviouralisation applied to non-trading assets/ liabilities (see below);
- to ensure that all market interest rate risk that can be neutralised is transferred from the global businesses to BSM; and

- to define the rules and metrics for monitoring the residual interest rate risk in the global businesses, including any market risk that cannot be neutralised.

The different types of non-trading interest rate risk and the controls which we use to quantify and limit exposure to these risks can be categorised as follows:

- risk which is transferred to BSM and managed by BSM within a defined market risk mandate, predominantly through the use of fixed-rate liquid assets (government bonds) held in held to maturity or available-for-sale portfolios and/or interest rate derivatives which are part of fair value hedging or cash flow hedging relationships. This non-trading interest rate risk is reflected in non-trading VaR, as well as in our net interest income (see below) or economic value of equity ('EVE') sensitivity;
- risk which remains outside BSM because it cannot be hedged or which arises due to our behaviouralised transfer pricing assumptions. This risk is not reflected in non-trading VaR, but is captured by our net interest income or EVE sensitivity and corresponding limits are part of our global and regional risk appetite statements for non-trading interest rate risk. A typical example would be margin compression created by unusually low rates in key currencies;
- basis risk which is transferred to BSM when it can be hedged. Any residual basis risk remaining in the global businesses is reported to ALCO. This risk is not reflected in non-trading VaR, but is captured by our net interest income or EVE sensitivity. A typical example would be a managed rate savings product transfer-priced using a Libor-based interest rate curve; and
- model risks which cannot be captured by non-trading VaR, net interest income or EVE sensitivity, but are controlled by our stress testing framework. A typical example would be prepayment risk on residential mortgages or pipeline risk.

Interest rate risk behaviouralisation

For our policies regarding interest risk behaviouralisation, see page 215 of the Appendix to Risk.

Third-party assets in Balance Sheet Management

For our BSM governance framework, see page 216 of the Appendix to Risk.

Third-party assets in BSM decreased by 9% during 2015. Deposits with central banks reduced by $32bn, predominantly in North America and Europe, in line with reduced repo and reverse repo activity. This reduced activity is also reflected in a reduction of $29bn in non-trading reverse repurchase agreements. Financial investments increased by $29bn mainly due to increased deployment of funds into securities in Asia.

Third-party assets in Balance Sheet Management

	2015	2014
	$m	$m
Cash and balances at central banks	**71,116**	103,008
Trading assets	**639**	4,610
Loans and advances:		
– to banks	**42,059**	53,842
– to customers	**2,773**	1,931
Reverse repurchase agreements	**29,760**	59,172
Financial investments	**335,543**	306,763
Other	**4,277**	2,470
At 31 December	**486,167**	531,796

Sensitivity of net interest income

The table on the next page sets out the effect on our accounting net interest income (excluding insurance) projections of a series of four quarterly parallel shocks of 25 basis points to the current market-implied path of interest rates worldwide at the beginning of each quarter from 1 January 2016. The sensitivities shown represent the change in the expected base case net interest income that would be expected under the two rate scenarios assuming that all other non-interest rate risk variables remain constant, and there are no management actions. In deriving our base case net interest income projections, the re-pricing rates of assets and liabilities used are derived from current yield curves, thereby reflecting current market expectations of the future path of interest rates. The scenarios therefore represent interest rate shocks which occur to the current market implied path of rates. The interest rate sensitivities are indicative and based on simplified scenarios. The limitations of this analysis are discussed in the Appendix to Risk on page 216.

Assuming no management response, a sequence of such rises ('up-shock') would increase expected net interest income for 2016 by $1,251m (2015: $885m), while a sequence of such falls ('down-shock') would decrease planned net interest income by $2,258m (2015: $2,089m).

The net interest income ('NII') sensitivity of the Group can be split into three key components; the structural sensitivity arising from the four global businesses excluding BSM and Markets, the sensitivity of the funding of the trading book (Markets) and the sensitivity of BSM.

The structural sensitivity is positive in a rising rate environment and negative in a falling rate environment. The sensitivity of the funding of the trading book is negative in a rising rate environment and positive in a falling rate environment, and in terms of the impact on profit the change in NII would be expected to be offset by a similar change in net trading income. The sensitivity of BSM will depend on its position. Typically, assuming no management response, the sensitivity of BSM is negative in a rising rate environment and positive in a falling rate environment.

The NII sensitivity figures on the next page also incorporate the effect of any interest rate behaviouralisation applied and the effect of any assumed repricing across products under the specific interest rate scenario. They do not incorporate the effect of any management decision to change the HSBC balance sheet composition.

See page 215 in the Risk Appendix for more information about interest rate behaviouralisation and the role of BSM.

The NII sensitivity in BSM arises from a combination of the techniques that BSM use to mitigate the transferred interest rate risk and the methods they use to optimise net revenues in line with their defined risk mandate. The figures in the table below do not incorporate the effect of any management decisions within BSM, but in reality it is likely that there would be some short-term adjustment in BSM positioning to offset the NII effects of the specific interest rate scenario where necessary.

The NII sensitivity arising from the funding of the trading book is comprised of the expense of funding trading assets, while the revenue from these trading assets is reported in net trading income. This leads to an asymmetry in the NII sensitivity figures which is cancelled out in our global business results, where we include both net interest income and net trading income. It is likely, therefore, that the overall effect on profit before tax of the funding of the trading book will be much less pronounced than shown in the figures below.

Sensitivity of net interest income[34]

(Audited)

	US dollar bloc $m	Rest of Americas bloc $m	Hong Kong dollar bloc $m	Rest of Asia bloc $m	Sterling bloc $m	Euro bloc $m	Total $m
Change in 2015 net interest income arising from a shift in yield curves of:							
+25 basis points at the beginning of each quarter	**410**	**72**	**217**	**369**	**135**	**49**	**1,251**
–25 basis points at the beginning of each quarter	**(691)**	**(74)**	**(645)**	**(290)**	**(528)**	**(30)**	**(2,258)**
Change in 2014 net interest income arising from a shift in yield curves of:							
+25 basis points at the beginning of each quarter	209	(9)	245	265	321	(146)	885
–25 basis points at the beginning of each quarter	(521)	(1)	(494)	(259)	(783)	(31)	(2,089)

For footnote, see page 191.

These estimates are based on certain assumptions, principally:

- all non-interest rate risk variables remain constant; and
- the size and composition of HSBC's balance sheet remains as it was at 31 December 2015.

We expect NII to rise in the rising rate scenario and fall in the falling rate scenario. This is due to a structural mismatch between our assets and liabilities (on balance we would expect our assets to reprice more quickly, and to a greater extent, than our liabilities).

We are more sensitive to both up and down shocks relative to 31 December 2014. In the up-shock we benefit from BSM positioning in US dollars. In the down-shock we lose due to larger rate decreases on deployment of US and HK dollar deposits given the higher rate environment.

Sensitivity of capital and reserves

Under CRD IV, available-for-sale ('AFS') reserves are included as part of CET1 capital. We measure the potential downside risk to the CET1 ratio due to interest rate and credit spread risk in the AFS portfolio by the portfolio's stressed VaR, using a 99% confidence level and an assumed holding period of one quarter. At December 2015, the stressed VaR of the portfolio was $2.8bn.

We monitor the sensitivity of reported cash flow hedging reserves to interest rate movements on a monthly basis by assessing the expected reduction in valuation of cash flow hedges due to parallel movements of plus or minus 100bps in all yield curves. These particular exposures form only a part of our overall interest rate exposures.

The table below describes the sensitivity of our cash flow hedge reported reserves to the stipulated movements in yield curves and the maximum and minimum month-end figures during the year. The sensitivities are indicative and based on simplified scenarios.

Sensitivity of cash flow hedging reported reserves to interest rate movements

	$m	Maximum impact $m	Minimum impact $m
At 31 December 2015			
+ 100 basis point parallel move in all yield curves	**(1,235)**	**(1,259)**	**(1,137)**
As a percentage of total shareholders' equity	**(0.66%)**	**(0.67%)**	**(0.60%)**
– 100 basis point parallel move in all yield curves	**1,224**	**1,232**	**1,133**
As a percentage of total shareholders' equity	**0.65%**	**0.65%**	**0.60%**
At 31 December 2014			
+ 100 basis point parallel move in all yield curves	(1,260)	(1,478)	(1,131)
As a percentage of total shareholders' equity	(0.66%)	(0.78%)	(0.60%)
– 100 basis point parallel move in all yield curves	1,232	1,463	1,126
As a percentage of total shareholders' equity	0.65%	0.77%	0.59%

Defined benefit pension schemes

Market risk arises within our defined benefit pension schemes to the extent that the obligations of the schemes are not fully matched by assets with determinable cash flows.

For details of our defined benefit schemes, including asset allocation, see Note 6 on the Financial Statements, and for pension risk management see page 189.

Additional market risk measures applicable only to the parent company

The principal tools used in the management of market risk are VaR for foreign exchange rate risk and the projected sensitivity of HSBC Holdings' net interest income to future changes in yield curves and interest rate gap repricing tables for interest rate risk.

Foreign exchange risk

Total foreign exchange VaR arising within HSBC Holdings in 2015 was as follows:

HSBC Holdings – foreign exchange VaR

	2015 $m	2014 $m
At 31 December	**45.6**	29.3
Average	**42.3**	42.1
Minimum	**32.9**	29.3
Maximum	**47.1**	50.0

The foreign exchange risk largely arises from loans to subsidiaries of a capital nature that are not denominated in the functional currency of either the provider or the recipient and which are accounted for as financial assets. Changes in the carrying amount of these loans due to foreign exchange rate differences are taken directly to HSBC Holdings' income statement. These loans, and most of the associated foreign exchange exposures, are eliminated on consolidation.

Sensitivity of net interest income

HSBC Holdings monitors NII sensitivity over a five-year time horizon reflecting the longer-term perspective on interest rate risk management appropriate to a financial services holding company. These sensitivities assume that any issuance where HSBC Holdings has an option to reimburse at a future call date is called at this date. The table below sets out the effect on HSBC Holdings' future NII over a five-year time horizon of incremental 25 basis point parallel falls or rises in all yield curves worldwide at the beginning of each quarter during the 12 months from 1 January 2015.

Assuming no management actions, a sequence of such rises would increase planned NII for the next five years by $247m (2014: increase of $600m), while a sequence of such falls would decrease planned NII by $266m (2014: decrease of $539m).

Sensitivity of HSBC Holdings' net interest income to interest rate movements[34]

	US dollar bloc $m	Sterling bloc $m	Euro bloc $m	Total $m
Change in projected net interest income as at 31 December arising from a shift in yield curves				
2015				
of + 25 basis points at the beginning of each quarter				
0-1 year	**57**	**15**	**–**	**72**
2-3 years	**118**	**43**	**7**	**168**
4-5 years	**(23)**	**43**	**(12)**	**8**
of – 25 basis points at the beginning of each quarter				
0-1 year	**(57)**	**(14)**	**(6)**	**(77)**
2-3 years	**(118)**	**(43)**	**(22)**	**(183)**
4-5 years	**23**	**(43)**	**15**	**(5)**
2014				
of + 25 basis points at the beginning of each quarter				
0-1 year	78	9	2	89
2-3 years	281	17	34	332
4-5 years	138	17	24	179
of – 25 basis points at the beginning of each quarter				
0-1 year	(58)	(9)	(1)	(68)
2-3 years	(276)	(16)	(12)	(304)
4-5 years	(138)	(17)	(12)	(167)

For footnote, see page 191.

The interest rate sensitivities tabulated above are indicative and based on simplified scenarios. The figures represent hypothetical movements in NII based on our projected yield curve scenarios, HSBC Holdings' current interest rate risk profile and assumed changes to that profile during the next five years. Changes to assumptions concerning the risk profile over the next five years can have a significant impact on the NII sensitivity for that period. However, the figures do not take into account the effect of actions that could be taken to mitigate this interest rate risk.

Interest rate repricing gap table

The interest rate risk on the fixed-rate securities issued by HSBC Holdings is not included within the Group VaR but is managed on a re-pricing gap basis. The interest rate re-pricing gap table below analyses the full-term structure of interest rate mismatches within HSBC Holdings' balance sheet.

Repricing gap analysis of HSBC Holdings

	Total $m	Up to 1 year $m	From over 1 to 5 years $m	From over 5 to 10 years $m	More than 10 years $m	Non-interest bearing $m
Cash at bank and in hand:						
– balances with HSBC undertakings	**242**	**242**	**–**	**–**	**–**	**–**
Derivatives	**2,467**	**–**	**–**	**–**	**–**	**2,467**
Loans and advances to HSBC undertakings	**44,350**	**42,661**	**279**	**405**	**–**	**1,005**
Financial investments in HSBC undertakings	**4,285**	**2,985**	**–**	**731**	**–**	**569**
Investments in subsidiaries	**97,770**	**–**	**–**	**–**	**–**	**97,770**
Other assets	**1,080**	**–**	**109**	**–**	**–**	**971**
Total assets	**150,194**	**45,888**	**388**	**1,136**		**102,782**
Amounts owed to HSBC undertakings	**(2,152)**	**(781)**	**–**	**–**	**–**	**(1,371)**
Financial liabilities designated at fair values	**(19,853)**	**(1,741)**	**(3,239)**	**(7,032)**	**(4,312)**	**(3,628)**
Derivatives	**(2,278)**	**–**	**–**	**–**	**–**	**(2,278)**
Debt securities in issue	**(960)**	**–**	**–**	**(963)**	**–**	**3**
Other liabilities	**(15,895)**	**–**	**(3,374)**	**(3,500)**	**(9,119)**	**98**
Subordinated liabilities	**(1,642)**	**–**	**–**	**–**	**–**	**(1,642)**
Total equity	**(107,414)**	**–**	**–**	**–**	**–**	**(107,414)**
Total liabilities and equity	**(150,194)**	**(2,522)**	**(6,613)**	**(11,495)**	**(13,332)**	**(116,232)**
Off-balance sheet items attracting interest rate sensitivity	**–**	**(22,748)**	**5,351**	**10,722**	**5,763**	**912**
Net interest rate risk gap at 31 December 2015	**–**	**20,618**	**(874)**	**363**	**(7,569)**	**(12,538)**
Cumulative interest rate gap	**–**	**20,618**	**19,744**	**20,107**	**12,538**	**–**
Cash at bank and in hand:						
– balances with HSBC undertakings	249	–	–	–	–	249
Derivatives	2,771	–	–	–	–	2,771
Loans and advances to HSBC undertakings	43,910	41,603	290	1,093	–	924
Financial investments in HSBC undertakings	4,073	3,010	–	731	–	332
Investments in subsidiaries	96,264	–	–	–	–	96,264
Other assets	597	–	–	–	–	597
Total assets	147,864	44,613	290	1,824	–	101,137
Amounts owed to HSBC undertakings	(2,892)	(1,877)	–	–	–	(1,015)
Financial liabilities designated at fair values	(18,679)	(850)	(5,472)	(5,400)	(4,263)	(2,694)
Derivatives	(1,169)	–	–	–	–	(1,169)
Debt securities in issue	(1,009)	–	–	(1,013)	–	4
Other liabilities	(1,415)	–	–	–	–	(1,415)
Subordinated liabilities	(17,255)	(779)	(3,766)	(2,000)	(10,195)	(515)
Total equity	(105,445)	–	–	–	–	(105,445)
Total liabilities and equity	(147,864)	(3,506)	(9,238)	(8,413)	(14,458)	(112,249)
Off-balance sheet items attracting interest rate sensitivity	–	(21,525)	7,295	7,400	5,763	1,067
Net interest rate risk gap at 31 December 2014	–	19,582	(1,653)	811	(8,695)	(10,045)
Cumulative interest rate gap	–	19,582	17,929	18,740	10,045	–

Operational risk

Operational risk is the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems or from external events.

Responsibility for minimising operational risk lies with HSBC's management and staff. All regional, global business, country, and functional staff are required to manage the operational risks of the business and operational activities for which they are responsible.

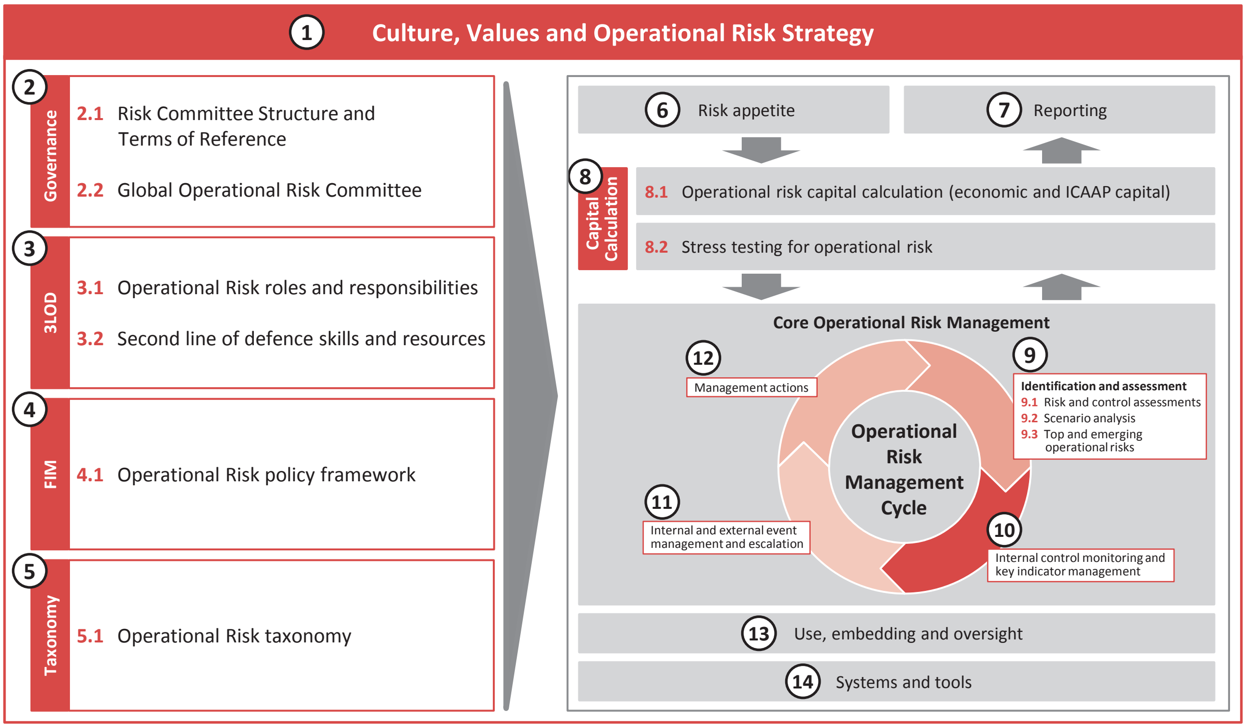
A summary of our current policies and practices regarding operational risk is provided in the Appendix to Risk on page 217.

Operational risk management framework

HSBC's Operational Risk Management Framework ('ORMF') is our overarching approach for managing operational risk. The purpose of the ORMF is to make sure we fully identify and manage our operational risks in an effective manner and remain within our targeted levels of operational risk within the Group's risk appetite, as defined by the Board. Articulating our risk appetite for material operational risks helps the organisation understand the level of risk HSBC is willing to accept. Monitoring operational risk exposure against risk appetite on a regular basis and implementing our risk acceptance process drives risk awareness in a forward-looking manner and assists management in determining whether further action is required.

Activities to strengthen our risk culture and better embed the use of the ORMF continued in 2015. In particular, we continued to streamline our operational risk management processes, procedures and tool sets to provide more forward-looking risk insights and more effective operation of the ORMF. The ORMF comprises the 14 key components set below.

Key components of HSBC's ORMF



Three lines of defence

HSBC has implemented an activity-based 'three lines of defence' model (an industry best practice approach) to underpin our approach to managing operational risk using the ORMF. It makes clear who does what within HSBC to manage operational risks on a daily basis.

- The first line of defence owns the risks and is responsible for identifying, recording, reporting and managing them and ensuring that the right controls and assessments are in pace to mitigate these risks.
- The second line of defence sets the policy and guidelines for managing the risks and provides advice, guidance and challenge to the first line of defence on effective risk management.
- The third line of defence is Internal Audit which helps the Board and Executive Management to protect the assets, reputation and sustainability of the Group.

Operational risk in 2015

During 2015, our operational risk profile continued to be dominated by compliance risk (mainly conduct-related) and we continued to incur losses relating to events from previous years. Conduct-related costs included in significant items are outlined on page 97. A range of mitigating actions are being taken to prevent future conduct-related incidents.

For further information see 'Compliance risk' on page 178 and for details of the investigations and legal proceedings see Note 40 on the Financial Statements.

Other operational risks included:

- *compliance with regulatory agreements and orders*: failure to implement our obligations under the US DPA could have a material adverse effect on our results and operations. The work of the Monitor is discussed on page 116, with compliance risk described below;
- *level of change creating operational complexity*: the Global Risk function is engaged with business management in business transformation initiatives to ensure robust internal controls are maintained as we execute our change agenda;
- *fraud risks*: our loss prevention performance remains strong in most markets, but the introduction of new technologies and ways of banking mean that we continue to be subject to fraud attacks as new attack vectors are developed. We continue to increase monitoring and enhance detective controls to mitigate these risks in accordance with our risk appetite;
- *information security*: the security of our information and technology infrastructure is crucial for maintaining our banking services and protecting our customers and the HSBC brand. As with other financial institutions and multinational organisations, we continue to be exposed to cyber threats, and the focus of attacks such as 'distribution of denial of service' which can affect the availability of customer-facing websites. Programmes of work are ongoing to strengthen internal security controls to prevent unauthorised access to our systems and network, as well as improvements to the controls and security applied to protect our customers utilising digital channels. Strong engagement and support within the industry, government agencies and intelligence providers helps to ensure we keep abreast of the current developments; and
- *third-party risk management*: we are strengthening our core third-party risk management capability particularly related to the management of vendor risks. A supplier performance management programme has been implemented with our most material suppliers and screening of suppliers is in place to help enable us to identify if any are on a sanctions list and if we should therefore exit the relationship.

Other operational risks are also monitored and managed through the use of the ORMF.

Further information on the nature of these risks is provided in 'Top and emerging risks' on page 110.

Frequency and amount of operational risk losses

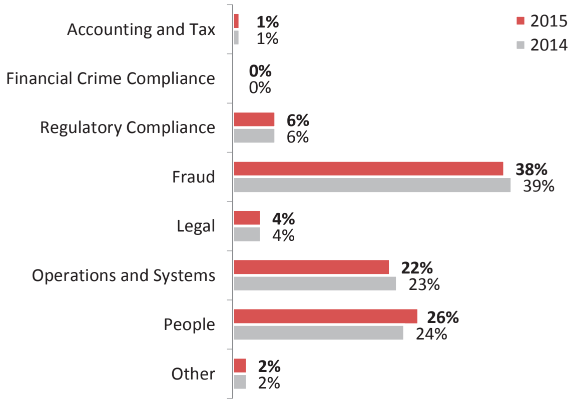
The profile of operational risk incidents and associated losses is summarised below, showing the distribution of operational incidents in terms of their frequency of occurrence and total loss amount in US dollars.

Operational losses were lower in 2015 than in 2014, reflecting a reduction in losses incurred relating to large legacy conduct-related events. Our total loss was driven primarily by provisions raised in respect of the mis-selling of the PPI policies, foreign exchange rate investigations and litigation.

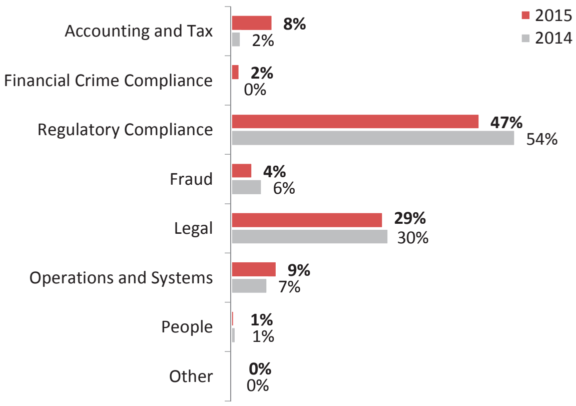
As in previous years, the operational risk incident profile in 2015 comprised high frequency low impact events and high impact events that occurred much less frequently.

Losses due to external fraud, such as card fraud, occurred more often than other types of incident, but the amounts involved were often small in value. The value of fraud incidents in 2015 was lower than in 2014, due to the strengthened control environment.

Frequency of operational risk incidents by risk category (individual loss ≥$10k)



Distribution of operational risk losses in US dollars by risk category



Compliance risk

Compliance risk arises from activities subject to rules, regulations, Group policies and other formal standards, including those relating to AML, counter-terrorist and proliferation financing, sanctions compliance, anti-bribery and corruption, conduct of business and other regulations.

Anti-money laundering and sanctions

Revised global AML and sanctions policies were approved in 2014. During 2015, global businesses and countries introduced new AML and sanctions procedures arising from the new policies and focused on embedding the procedures required to effect these policies in our day to day business operations globally. This supported our ongoing effort to address the US DPA requirements. These actions were in line with our strategic target to implement the highest or most effective standards globally. The work of the Monitor, who was appointed to assess the effectiveness of our AML and sanctions compliance programme is discussed on page 116 and our progress on implementing Global Standards is detailed on page 21.

Anti-bribery and corruption

It is unethical, illegal, and contrary to good corporate governance to bribe or corrupt others. The Group is committed to preventing bribery and corruption, and to consistently applying the letter and spirit of applicable anti-bribery legislation in all markets and jurisdictions in which we operate. We have implemented a strategic programme to address bribery and corruption risks and are embedding a new global suite of policies that make it clear to all staff that Group members, employees or other associated persons or entities must not engage in, or otherwise facilitate, any form of bribery, whether direct or indirect.

The anti-bribery and corruption programme, from training to risk assessment, emphasises the importance of consistent and standardised procedures to drive the principles of 'detect, deter and protect' and ensure that they are incorporated into every aspect of business-as-usual activities.

Conduct of business

We recognise that delivering fair outcomes for our customers and upholding financial market integrity is critical to a sustainable business model. We have taken a number of steps to raise our standards and deal with historical incidents, including the following:

- we published a new Global Conduct Policy in 2015 (following the approval and implementation of the global conduct approach and framework in 2014) for the management of conduct designed to ensure that we meet our strategic commitment to deliver fair outcomes for our customers, and not disrupt the orderly and transparent operation of financial markets;
- we launched communications programmes and global mandatory training in respect of conduct and the Group's required values and behaviours;
- we enhanced the product governance process to further ensure products are designed to meet customers' needs and are sold to suitable customer groupings. Post implementation and regular reviews are undertaken to help ensure products remain appropriate;
- we reviewed sales processes and sales incentive schemes, focusing on activity and rewards linked to values-based behaviour and good conduct;
- we enhanced our surveillance capabilities and tested new technologies to strengthen our capabilities to detect suspicious trading activity and misconduct;
- we undertook proactive reviews of our involvement in the benchmarking processes for rates and commodities; and
- we reviewed our insights into customer experience, our analysis of the root cause of complaints and our complaint handling to ensure we continually improve and deliver better outcomes for our customers.

The global businesses use a broad range of measures appropriate to their specific customer base and markets to assess ongoing effectiveness of the management of conduct, and enable action to be taken where potential conduct issues arise. The measures include information relating to sales quality, customer experience and market behaviour.

The CVC provides Board oversight of the Group's multiple efforts to raise standards of conduct and embed the behavioural values the Group stands for.

For further information on the CVC, see page 272.

Further information on our conduct is provided in the Strategic Report on page 40 and for conduct-related costs relating to significant items, see page 97.

Whistleblowing

We actively encourage our employees to raise concerns and escalate issues so they can be dealt with effectively. In most cases, individuals will raise their concerns with line management or Global Human Resources. However, where an individual believes that their normal reporting channels are unavailable or inappropriate, it is important that they have alternative channels available to them to raise concerns confidentially without fear of personal repercussions. This is referred to as 'whistleblowing'.

To make whistleblowing simpler for our employees, we launched HSBC Confidential across the Group in August 2015 to provide a global platform offering telephone, email, web and mail options for whistleblowers to bring together all our existing whistleblowing channels. We also maintain an external email address for complaints regarding accounting and internal financial controls or auditing matters (accountingdisclosures@hsbc.com). Matters raised are independently investigated by appropriate subject matter teams and details of investigations and outcomes including remedial action taken are reported to the CVC. Matters raised in respect of audit, accounting and internal control over financial reporting are reported to the Group Audit Committee.

Risk management of insurance operations

1 *Appendix to Risk – policies and practices.*

The majority of the risk in our insurance business derives from manufacturing activities and can be categorised as financial risk and insurance risk. Financial risks include market risk, credit risk and liquidity risk. Insurance risk is the risk, other than financial risk, of loss transferred from the holder of the insurance contract to the issuer (HSBC).

There were no material changes to our policies and practices for the management of risks arising in the insurance operations in 2015.

A summary of HSBC's policies and practice regarding the risk management of insurance operations and the main contracts we manufacture is provided in the Appendix to Risk on page 219.

HSBC's bancassurance model

We operate an integrated bancassurance model which provides insurance products principally for customers with whom we have a banking relationship. Insurance products are sold through all global businesses, but predominantly by RBWM and CMB through our branches and direct channels worldwide.

The insurance contracts we sell relate to the underlying needs of our banking customers, which we can identify from our point-of-sale contacts and customer knowledge. The majority of sales are of savings and investment products and term and credit life contracts.

By focusing largely on personal and SME lines of business we are able to optimise volumes and diversify individual insurance risks.

We choose to manufacture these insurance products in HSBC subsidiaries based on an assessment of operational scale and risk appetite. Manufacturing insurance allows us to retain the risks and rewards associated with writing insurance contracts by keeping part of the underwriting profit and investment income within the Group.

Where we do not have the risk appetite or operational scale to be an effective insurance manufacturer, we engage with a handful of leading external insurance companies in order to provide insurance products to our customers through our banking network and direct channels. These arrangements are generally structured with our exclusive strategic partners and earn the Group a combination of commissions, fees and a share of profits.

We distribute insurance products in all of our geographical regions. We have life insurance manufacturing subsidiaries in nine countries (Argentina, mainland China, France, Hong Kong, Malaysia, Malta, Mexico, Singapore and the UK). We also have a life insurance manufacturing associate in Saudi Arabia and a joint venture in India.

The life insurance manufacturing entities in Brazil were classified as held for sale during the period, following the announcement of our plan to sell our operations in the country.

The disposal of HSBC Life (UK)'s pensions business, which was agreed during 2014, was completed in August 2015.

Risk management of insurance manufacturing operations in 2015

We measure the risk profile of our insurance manufacturing businesses using an economic capital approach, where assets and liabilities are measured on a market value basis and a capital requirement is held to ensure that there is less than a 1 in 200 chance of insolvency over the next year, given the risks that the businesses are exposed to. The methodology for the economic capital calculation is largely aligned to the new pan-European Solvency II insurance capital regulations, which are applicable from 2016.

The risk profile of our life insurance manufacturing businesses did not change materially during 2015, however there was a decrease in liabilities under insurance contracts to $70bn (2014: $74bn) arising from the transfer to 'Liabilities of disposal groups held for sale' in respect of the planned disposal of our operations in Brazil.

Asset and liability matching

(Audited)

A principal tool used to manage exposures to both financial and insurance risk, in particular for life insurance contracts, is asset and liability matching. In many markets in which we operate it is neither possible nor appropriate to follow a close asset and liability matching strategy. For long-dated non-linked contracts, in particular, this results in a duration mismatch between assets and liabilities. Portfolios are structured to support these projected liabilities, with limits set to control the duration mismatch.

The tables below show the composition of assets and liabilities by contract and by geographical region and demonstrate that there were sufficient assets to cover the liabilities to policyholders in each case at the end of 2015.

The Brazilian insurance operations are reported as a disposal group held for sale at 31 December 2015. The assets and liabilities of this disposal group are included within 'Other assets and liabilities' in the table below. The UK pensions business was reported as a disposal group held for sale at 31 December 2014 and the sale of this business was completed during August 2015. As a result, $6.8bn of total assets and $6.7bn of total liabilities were derecognised.

Our most significant life insurance products are investment contracts with DPF issued in France and insurance contracts with DPF issued in Hong Kong.

Our exposure to financial risks arising in the balance sheet below varies depending on the type of contract issued. For unit-linked contracts, the policyholder bears the majority of the exposure to financial risks whereas for contracts with DPF, the shareholder (i.e. HSBC) is exposed to financial risks to the extent that the exposure cannot be managed by utilising any discretionary participation.

The majority of financial risks are borne by the shareholder for all other contract types.

Balance sheet of insurance manufacturing subsidiaries by type of contract

(Audited)

	Insurance contracts				Investment contracts				
	With DPF $m	Unit-linked $m	Annuities $m	Other[35] $m	With DPF[36] $m	Unit-linked $m	Other $m	Other assets and liabilities[37] $m	Total $m
Financial assets	31,801	6,569	1,138	6,618	21,720	2,271	3,935	5,531	79,583
– trading assets	–	–	2	–	–	–	–	–	2
– financial assets designated at fair value	4,698	6,435	296	563	6,421	2,000	1,859	1,015	23,287
– derivatives	49	–	–	4	111	1	29	62	256
– financial investments – HTM[38]	22,840	–	468	2,334	–	–	1,387	3,050	30,079
– financial investments – AFS[38]	1,743	–	312	3,685	13,334	–	23	1,233	20,330
– other financial assets[39]	2,471	134	60	32	1,854	270	637	171	5,629
Reinsurance assets	202	264	–	951	–	–	–	–	1,417
PVIF[40]	–	–	–	–	–	–	–	5,685	5,685
Other assets and investment properties	838	1	11	105	888	6	23	4,576	6,448
Total assets	**32,841**	**6,834**	**1,149**	**7,674**	**22,608**	**2,277**	**3,958**	**15,792**	**93,133**
Liabilities under investment contracts	–	–	–	–	–	2,256	3,771	–	6,027
– designated at fair value	–	–	–	–	–	2,256	3,771	–	6,027
– carried at amortised cost	–	–	–	–	–	–	–	–	–
Liabilities under insurance contracts	32,414	6,791	1,082	7,042	22,609	–	–	–	69,938
Deferred tax[41]	11	–	11	3	–	–	–	1,056	1,081
Other liabilities	–	–	–	–	–	–	–	5,553	5,553
Total liabilities	**32,425**	**6,791**	**1,093**	**7,045**	**22,609**	**2,256**	**3,771**	**6,609**	**82,599**
Total equity	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**10,534**	**10,534**
Total liabilities and equity at 31 December 2015[42]	**32,425**	**6,791**	**1,093**	**7,045**	**22,609**	**2,256**	**3,771**	**17,143**	**93,133**

Balance sheet of insurance manufacturing subsidiaries by type of contract (continued)

	Insurance contracts				Investment contracts				
	With DPF $m	Unit-linked $m	Annuities $m	Other[35] $m	With DPF[36] $m	Unit-linked $m	Other $m	Other assets and liabilities[37] $m	Total $m
Financial assets	29,040	11,278	1,517	6,253	24,238	2,561	4,322	5,732	84,941
– trading assets	–	–	3	–	–	–	–	–	3
– financial assets designated at fair value	4,304	11,111	533	782	6,346	2,223	1,684	1,713	28,696
– derivatives	12	1	–	1	101	1	10	73	199
– financial investments – HTM[38]	18,784	–	542	1,019	–	–	1,444	2,494	24,283
– financial investments – AFS[38]	2,368	–	344	4,148	15,677	–	363	1,318	24,218
– other financial assets[39]	3,572	166	95	303	2,114	337	821	134	7,542
Reinsurance assets	190	262	–	617	–	–	–	2	1,071
PVIF[40]	–	–	–	–	–	–	–	5,307	5,307
Other assets and investment properties	698	328	23	107	831	7	26	7,383	9,403
Total assets	29,928	11,868	1,540	6,977	25,069	2,568	4,348	18,424	100,722
Liabilities under investment contracts	–	–	–	–	–	2,542	4,155	–	6,697
– designated at fair value	–	–	–	–	–	2,542	3,770	–	6,312
– carried at amortised cost	–	–	–	–	–	–	385	–	385
Liabilities under insurance contracts	29,479	11,820	1,473	6,021	25,068	–	–	–	73,861
Deferred tax[41]	12	–	11	18	–	–	–	1,180	1,221
Other liabilities	–	–	–	–	–	–	–	8,577	8,577
Total liabilities	29,491	11,820	1,484	6,039	25,068	2,542	4,155	9,757	90,356
Total equity	–	–	–	–	–	–	–	10,366	10,366
Total liabilities and equity at 31 December 2014[42]	29,491	11,820	1,484	6,039	25,068	2,542	4,155	20,123	100,722

For footnotes, see page 191.

Balance sheet of insurance manufacturing subsidiaries by geographical region[43]
(Audited)

	Europe $m	Asia $m	Latin America $m	Total $m
Financial assets	**26,897**	**51,087**	**1,599**	**79,583**
– trading assets	**–**	**–**	**2**	**2**
– financial assets designated at fair value	**9,987**	**12,668**	**632**	**23,287**
– derivatives	**163**	**93**	**–**	**256**
– financial investments – HTM[38]	**–**	**29,496**	**583**	**30,079**
– financial investments – AFS[38]	**14,525**	**5,503**	**302**	**20,330**
– other financial assets[39]	**2,222**	**3,327**	**80**	**5,629**
Reinsurance assets	**287**	**1,122**	**8**	**1,417**
PVIF[40]	**807**	**4,761**	**117**	**5,685**
Other assets and investment properties	**919**	**1,358**	**4,171**	**6,448**
Total assets	**28,910**	**58,328**	**5,895**	**93,133**
Liabilities under investment contracts:				
– designated at fair value	**1,376**	**4,651**	**–**	**6,027**
– carried at amortised cost	**–**	**–**	**–**	**–**
Liabilities under insurance contracts	**24,699**	**43,975**	**1,264**	**69,938**
Deferred tax[41]	**274**	**767**	**40**	**1,081**
Other liabilities	**832**	**974**	**3,747**	**5,553**
Total liabilities	**27,181**	**50,367**	**5,051**	**82,599**
Total equity	**1,729**	**7,961**	**844**	**10,534**
Total liabilities and equity at 31 December 2015[42]	**28,910**	**58,328**	**5,895**	**93,133**

	Europe $m	Asia $m	Latin America $m	Total $m
Financial assets	30,178	47,443	7,320	84,941
– trading assets	–	–	3	3
– financial assets designated at fair value	10,610	12,497	5,589	28,696
– derivatives	172	27	–	199
– financial investments – HTM[38]	–	23,546	737	24,283
– financial investments – AFS[38]	16,947	6,464	807	24,218
– other financial assets[39]	2,449	4,909	184	7,542
Reinsurance assets	308	748	15	1,071
PVIF[40]	711	4,175	421	5,307
Other assets and investment properties	7,650	1,145	608	9,403
Total assets	38,847	53,511	8,364	100,722
Liabilities under investment contracts:				
– designated at fair value	1,585	4,727	–	6,312
– carried at amortised cost	–	–	385	385
Liabilities under insurance contracts	27,312	39,990	6,559	73,861
Deferred tax[41]	273	806	142	1,221
Other liabilities	7,932	460	185	8,577
Total liabilities	37,102	45,983	7,271	90,356
Total equity	1,745	7,528	1,093	10,366
Total liabilities and equity at 31 December 2014[42]	38,847	53,511	8,364	100,722

For footnotes, see page 191.

Movement in total equity of insurance operations

(Audited)

	Total equity	
	2015 $m	2014 $m
At 1 January	**10,366**	9,700
Movements in PVIF[40]	**799**	261
Return on net assets	**410**	1,835
Capital transactions	**(468)**	(673)
Disposals of subsidiaries/portfolios	**(13)**	1
Exchange differences and other	**(560)**	(758)
At 31 December	**10,534**	10,366

For footnotes, see page 191.

Financial risks

(Audited)

Details on the nature of financial risks and how they are managed are provided in the Appendix to Risk on page 220.

Financial risks can be categorised into:

- *market risk* – risk arising from changes in the fair values of financial assets or their future cash flows from fluctuations in variables such as interest rates, credit spreads, foreign exchange rates and equity prices;
- *credit risk* – the risk of financial loss following the failure of third parties to meet their obligations; and
- *liquidity risk* – the risk of not being able to make payments to policyholders as they fall due as there are insufficient assets that can be realised as cash.

The following table analyses the assets held in our insurance manufacturing subsidiaries at 31 December 2015 by type of contract, and provides a view of the exposure to financial risk. For unit-linked contracts, which pay benefits to policyholders determined by reference to the value of the investments supporting the policies, we typically designate assets at fair value; for non-linked contracts, the classification of the assets is driven by the nature of the underlying contract.

Financial assets held by insurance manufacturing subsidiaries

(Audited)

	Unit-linked contracts[44] $m	Non-linked contracts[45] $m	Other assets[39] $m	Total $m
Trading assets				
Debt securities	–	2	–	2
Financial assets designated at fair value	8,435	13,837	1,015	23,287
Treasury bills	–	146	56	202
Debt securities	448	3,547	228	4,223
Equity securities	7,987	10,144	731	18,862
Financial investments				
Held-to-maturity: debt securities	–	27,029	3,050	30,079
Available-for-sale:	–	19,097	1,233	20,330
– debt securities	–	19,097	1,177	20,274
– equity securities	–	–	56	56
Derivatives	1	193	62	256
Other financial assets[39]	404	5,054	171	5,629
Total financial assets at 31 December 2015[42]	**8,840**	**65,212**	**5,531**	**79,583**
Trading assets				
Debt securities	–	3	–	3
Financial assets designated at fair value	13,334	13,649	1,713	28,696
Treasury bills	–	40	16	56
Debt securities	4,589	3,507	618	8,714
Equity securities	8,745	10,102	1,079	19,926
Financial investments				
Held-to-maturity: debt securities	–	21,789	2,494	24,283
Available-for-sale:	–	22,899	1,319	24,218
– debt securities	–	22,899	1,290	24,189
– equity securities	–	–	29	29
Derivatives	2	124	73	199
Other financial assets[39]	503	6,905	134	7,542
Total financial assets at 31 December 2014[42]	13,839	65,369	5,733	84,941

For footnotes, see page 191.

Approximately 69% of financial assets were invested in debt securities at 31 December 2015 (2014: 67%) with 24% (2014: 24%) invested in equity securities.

Under unit-linked contracts, premium income less charges levied is invested in a portfolio of assets. We manage the financial risks of this product on behalf of the policyholders by holding appropriate assets in segregated funds or portfolios to which the liabilities are linked. These assets represented 11% (2014: 16%) of the total financial assets of our insurance manufacturing subsidiaries at the end of 2015.

The remaining assets of $71bn (2014: $71bn) are where financial risks are managed either solely on behalf of the shareholder, or jointly on behalf of the shareholder and policyholders where DPF exist. These assets relate primarily to operations in Asia and France.

Market risk

(Audited)

Market risk arises when mismatches occur between product liabilities and the investment assets which back them. For example, mismatches between asset and liability yields and maturities give rise to interest rate risk.

The proceeds from insurance and investment products are primarily invested in bonds. A proportion is also allocated to other asset classes, such as equities, property, private equity and hedge funds to provide customers with the potential for enhanced returns. Portfolios of such assets are exposed to the risk of changes in market prices and where not fully reflected in bonuses paid to policyholders, will affect shareholder funds.

Long-term insurance or investment products may incorporate benefits that are guaranteed. Fixed guaranteed benefits, for example for annuities in payment, are reserved for as part of the calculation of liabilities under insurance contracts.

The risk of shareholder capital being required to meet liabilities to policyholders increases in products that offer guaranteed financial returns where current yields fall below guaranteed levels for a prolonged period. Reserves are held against the cost of guarantees, calculated by stochastic modelling. Where local rules require, these reserves are held as part of liabilities under insurance contracts. Any remainder is accounted for as a deduction to PVIF on the relevant product. The table below shows the total reserve held for the cost of guarantees, the range of investment returns on assets supporting these products and the implied investment return that would enable the business to meet the guarantees.

The financial guarantees offered on some portfolios exceeded the current yield on the assets that back them. The cost of guarantees decreased to $748m (2014: $777m) primarily because of rising yields and updates to interest rate parameters in France during 2015. Following these changes, the cost of guarantees on closed portfolios reported in the 2.0% to 4.0% and 4.1% to 5.0% categories decreased, driven principally by the increased reinvestment yield assumptions. In addition, there was a closed portfolio in Hong Kong with a guaranteed rate of 5.0% compared with the current yield of 4.1%.

Financial return guarantees[42]
(Audited)

	2015			2014		
	Investment returns implied by guarantee %	**Current yields %**	**Cost of guarantees $m**	Investment returns implied by guarantee %	Current yields %	Cost of guarantees $m
Capital	**0.0**	**0.0 – 3.8**	**85**	0.0	0.0 – 3.5	81
Nominal annual return	**0.1 – 1.9**	**3.9 – 3.9**	**4**	0.1 – 2.0	3.6 – 3.6	6
Nominal annual return[46]	**2.0 – 4.0**	**3.8 – 4.0**	**603**	2.1 – 4.0	3.5 – 4.1	646
Nominal annual return	**4.1 – 5.0**	**3.8 – 4.1**	**28**	4.1 – 5.0	3.5 – 4.1	30
Real annual return[47]	**0.0 – 6.0**	**5.9 – 6.1**	**28**	0.0 – 6.0	4.7 – 7.5	14
At 31 December			**748**			777

For footnotes, see page 191.

The following table illustrates the effects of selected interest rate, equity price and foreign exchange rate scenarios on our profit for the year and the total equity of our insurance manufacturing subsidiaries.

Where appropriate, the effects of the sensitivity tests on profit after tax and equity incorporate the impact of the stress on the PVIF. The relationship between the profit and total equity and the risk factors is non-linear and, therefore, the results disclosed should not be extrapolated to measure sensitivities to different levels of stress. For the same reason, the impact of the stress is not symmetrical on the upside and downside. The sensitivities are stated before allowance for management actions which may mitigate the effect of changes in the market environment. The sensitivities presented allow for adverse changes in policyholder behaviour that may arise in response to changes in market rates.

The effects on profit after tax of +/–100 basis points parallel shifts in yield curves have decreased from 2014 to 2015, driven mainly by rising yields and updates to interest rate parameters in France. In a low yield environment the projected cost of options and guarantees described above is particularly sensitive to yield curve movements. The market value of available-for-sale bonds is also sensitive to yield curve movements hence the larger opposite stresses on equity.

Sensitivity of HSBC's insurance manufacturing subsidiaries to market risk factors
(Audited)

	2015		2014	
	Effect on profit after tax $m	**Effect on total equity $m**	Effect on profit after tax $m	Effect on total equity $m
+100 basis points parallel shift in yield curves	**39**	**(474)**	290	(345)
–100 basis points parallel shift in yield curves[48]	**(213)**	**404**	(549)	214
10% increase in equity prices	**176**	**176**	180	180
10% decrease in equity prices	**(158)**	**(158)**	(153)	(153)
10% increase in US dollar exchange rate compared to all currencies	**16**	**16**	54	54
10% decrease in US dollar exchange rate compared to all currencies	**(16)**	**(16)**	(54)	(54)

Credit risk
(Audited)

Credit risk can give rise to losses through default and can lead to volatility in our income statement and balance sheet figures through movements in credit spreads, principally on the $54bn (2014: $53bn) bond portfolio supporting non-linked contracts and shareholders' funds.

The sensitivity of the profit after tax of our insurance subsidiaries to the effects on asset values of increases in credit spreads (as modelled in line with the methodology described below) was a reduction of $2m (2014: $7m). The sensitivity of total equity was a reduction of $10m (2014: $9m). The sensitivities are relatively small because the vast majority of the debt securities held by our insurance subsidiaries are classified as either held to maturity or available for sale, and consequently any changes in the fair value of these financial investments, absent impairment, would have no effect on the profit after tax (or to total equity in the case of the held-to-maturity securities). We calculate the sensitivity based on a one-day movement in credit spreads over a two-year period. A confidence level of 99%, consistent with our Group VaR, is applied.

Credit quality
(Audited)

The following table presents an analysis of treasury bills, other eligible bills and debt securities within our insurance business by internal measures of credit quality.

Only assets supporting liabilities under non-linked insurance and investment contracts and shareholders' funds are included in the table as financial risk on assets supporting unit-linked liabilities is predominantly borne by the policyholder. 85.4% (2014: 84.8%) of the assets included in the table are invested in investments rated as 'strong'.

For a definition of the five credit quality classifications, see page 197.

Treasury bills, other eligible bills and debt securities in HSBC's insurance manufacturing subsidiaries
(Audited)

	Neither past due nor impaired				
	Strong $m	Good $m	Satisfactory $m	Sub-standard $m	Total $m
Supporting liabilities under non-linked insurance and investment contracts					
Trading assets – debt securities	**–**	**–**	**2**	**–**	**2**
Financial assets designated at fair value	**2,719**	**406**	**300**	**268**	**3,693**
– treasury and other eligible bills	**130**	**–**	**–**	**16**	**146**
– debt securities	**2,589**	**406**	**300**	**252**	**3,547**
Financial investments – debt securities	**39,741**	**4,333**	**1,886**	**166**	**46,126**
	42,460	**4,739**	**2,188**	**434**	**49,821**
Supporting shareholders' funds[49]					
Financial assets designated at fair value	**138**	**22**	**20**	**104**	**284**
– treasury and other eligible bills	**8**	**–**	**–**	**48**	**56**
– debt securities	**130**	**22**	**20**	**56**	**228**
Financial investments – debt securities	**3,827**	**201**	**199**	**–**	**4,227**
	3,965	**223**	**219**	**104**	**4,511**
Total[42]					
Trading assets – debt securities	**–**	**–**	**2**	**–**	**2**
Financial assets designated at fair value	**2,857**	**428**	**320**	**372**	**3,977**
– treasury and other eligible bills	**138**	**–**	**–**	**64**	**202**
– debt securities	**2,719**	**428**	**320**	**308**	**3,775**
Financial investments – debt securities	**43,568**	**4,534**	**2,085**	**166**	**50,353**
At 31 December 2015	**46,425**	**4,962**	**2,407**	**538**	**54,332**
Supporting liabilities under non-linked insurance and investment contracts					
Trading assets – debt securities	3	–	–	–	3
Financial assets designated at fair value	2,550	530	214	255	3,549
– treasury and other eligible bills	5	–	–	35	40
– debt securities	2,545	530	214	220	3,509
Financial investments – debt securities	38,515	4,312	1,662	200	44,689
	41,068	4,842	1,876	455	48,241
Supporting shareholders' funds[49]					
Financial assets designated at fair value	214	322	30	69	635
– treasury and other eligible bills	–	–	–	16	16
– debt securities	214	322	30	53	619
Financial investments – debt securities	3,378	196	154	54	3,782
	3,592	518	184	123	4,417
Total[42]					
Trading assets – debt securities	3	–	–	–	3
Financial assets designated at fair value	2,764	852	244	324	4,184
– treasury and other eligible bills	5	–	–	51	56
– debt securities	2,759	852	244	273	4,128
Financial investments – debt securities	41,893	4,508	1,816	254	48,471
At 31 December 2014	44,660	5,360	2,060	578	52,658

For footnotes, see page 191.

Credit risk also arises when assumed insurance risk is ceded to reinsurers. The split of liabilities ceded to reinsurers and outstanding reinsurance recoveries, analysed by credit quality, is shown below. Our exposure to third parties under the reinsurance agreements described in the Appendix to Risk on page 223 is included in this table.

Reinsurers' share of liabilities under insurance contracts[42]
(Audited)

	Neither past due nor impaired				Past due but	
	Strong $m	Good $m	Satisfactory $m	Sub-standard $m	not impaired $m	Total $m
Unit-linked insurance	**84**	**179**	**–**	**–**	**–**	**263**
Non-linked insurance[50]	**1,102**	**4**	**9**	**–**	**–**	**1,115**
At 31 December 2015	**1,186**	**183**	**9**	**–**	**–**	**1,378**
Reinsurance debtors	**19**	**3**	**–**	**–**	**17**	**39**
Unit-linked insurance	75	185	–	–	–	260
Non-linked insurance[50]	751	11	10	–	–	772
At 31 December 2014	826	196	10	–	–	1,032
Reinsurance debtors	11	6	–	–	21	38

For footnotes, see page 191.

Liquidity risk
(Audited)

The following tables show the expected undiscounted cash flows for insurance contract liabilities and the remaining contractual maturity of investment contract liabilities at 31 December 2015. The liquidity risk exposure is borne in conjunction with policyholders for the majority of our business, and wholly borne by the policyholder in the case of unit-linked business.

The classification of Brazilian insurance operations as held for sale has reduced the undiscounted expected cash flows relating to insurance liabilities by $(5.1)bn. However, the profile of the expected maturity of the insurance contracts at 31 December 2015 remained comparable with 2014.

Expected maturity of insurance contract liabilities[42]
(Audited)

	Expected cash flows (undiscounted)				
	Within 1 year $m	1-5 years $m	5-15 years $m	Over 15 years $m	Total $m
Unit-linked insurance	**549**	**2,164**	**5,945**	**11,080**	**19,738**
Non-linked insurance[50]	**3,715**	**15,131**	**30,596**	**32,336**	**81,778**
At 31 December 2015	**4,264**	**17,295**	**36,541**	**43,416**	**101,516**
Unit-linked insurance	709	3,280	9,243	14,544	27,776
Non-linked insurance[50]	3,504	12,718	29,905	33,108	79,235
At 31 December 2014	4,213	15,998	39,148	47,652	107,011

For footnotes, see page 191.

Remaining contractual maturity of investment contract liabilities
(Audited)

	Liabilities under investment contracts issued by insurance manufacturing subsidiaries			
	Unit-linked investment contracts $m	Investment contracts with DPF $m	Other investment contracts $m	Total $m
Remaining contractual maturity:				
– undated[51]	**1,160**	**22,609**	**3,747**	**27,516**
– due within 1 year	**136**	**–**	**24**	**160**
– due over 1 year to 5 years	**117**	**–**	**–**	**117**
– due over 5 years to 10 years	**170**	**–**	**–**	**170**
– due after 10 years	**673**	**–**	**–**	**673**
At 31 December 2015	**2,256**	**22,609**	**3,771**	**28,636**
Remaining contractual maturity:				
– undated[51]	1,298	25,068	3,765	30,131
– due within 1 year	151	–	389	540
– due over 1 year to 5 years	133	–	–	133
– due over 5 years to 10 years	194	–	–	194
– due after 10 years	766	–	–	766
At 31 December 2014	2,542	25,068	4,154	31,764

In most cases, policyholders have the option to terminate their contracts at any time and receive the surrender values of their policies. These may be significantly lower than the amounts shown.

Insurance risk

Insurance risk is the risk, other than financial risk, of loss transferred from the holder of the insurance contract to the issuer (i.e. HSBC). It is principally measured in terms of liabilities under the contracts in force.

The principal risk we face is that, over time, the cost of the contract, including claims and benefits may exceed the total amount of premiums and investment income received. The cost of claims and benefits can be influenced by many factors, including mortality and morbidity experience, lapse and surrender rates. The following table analyses our life insurance risk exposures by geographical region and by type of business. The insurance risk profile and related exposures remain largely consistent with those observed at 31 December 2014.

Analysis of insurance risk – liabilities under insurance contracts[43]
(Audited)

	Europe $m	Asia $m	Latin America $m	Total $m
Non-linked insurance[50]	**749**	**38,525**	**1,264**	**40,538**
– insurance contracts with DPF[52]	**343**	**32,071**	**–**	**32,414**
– credit life	**49**	**80**	**–**	**129**
– annuities	**69**	**108**	**905**	**1,082**
– other[53]	**288**	**6,266**	**359**	**6,913**
Unit-linked insurance	**1,341**	**5,450**	**–**	**6,791**
Investment contracts with DPF[36,52]	**22,609**	**–**	**–**	**22,609**
Liabilities under insurance contracts at 31 December 2015	**24,699**	**43,975**	**1,264**	**69,938**
Non-linked insurance[50]	829	34,261	1,883	36,973
– insurance contracts with DPF[52]	367	29,112	–	29,479
– credit life	56	87	–	143
– annuities	71	127	1,275	1,473
– other[53]	335	4,935	608	5,878
Unit-linked insurance	1,415	5,729	4,676	11,820
Investment contracts with DPF[36,52]	25,068	–	–	25,068
Liabilities under insurance contracts at 31 December 2014	27,312	39,990	6,559	73,861

For footnotes, see page 191.

Our most significant life insurance products are insurance contracts with DPF issued in Hong Kong, investment contracts with DPF issued in France and unit-linked contracts issued in Latin America, Hong Kong and the UK.

Sensitivities to non-economic assumptions

(Audited)

Policyholder liabilities and PVIF for life manufacturers are determined by reference to non-economic assumptions including mortality and/or morbidity, lapse rates and expense rates. The table below shows the sensitivity of profit and total equity to reasonably possible changes in these non-economic assumptions at that date across all our insurance manufacturing subsidiaries.

Mortality and morbidity risk is typically associated with life insurance contracts. The effect on profit of an increase in mortality or morbidity depends on the type of business being written. Our largest exposures to mortality and morbidity risk exist in France and Hong Kong.

Sensitivity to lapse rates depends on the type of contracts being written. For insurance contracts, claims are funded by premiums received and income earned on the investment portfolio supporting the liabilities. For a portfolio of term assurance, an increase in lapse rates typically has a negative effect on profit due to the loss of future income on the lapsed policies. However, some contract lapses have a positive effect on profit due to the existence of policy surrender charges. France, Hong Kong and Singapore are where we are most sensitive to a change in lapse rates.

Expense rate risk is the exposure to a change in the cost of administering insurance contracts. To the extent that increased expenses cannot be passed on to policyholders, an increase in expense rates will have a negative effect on our profits.

Sensitivity analysis
(Audited)

	2015 $m	2014 $m
Effect on profit after tax and total equity at 31 December		
10% increase in mortality and/or morbidity rates	**(70)**	(65)
10% decrease in mortality and/or morbidity rates	**75**	72
10% increase in lapse rates	**(90)**	(108)
10% decrease in lapse rates	**102**	122
10% increase in expense rates	**(85)**	(106)
10% decrease in expense rates	**83**	106

For footnote, see page 191.

Other material risks

A summary of our current policies and practices regarding reputational risk, fiduciary risk, pension risk and sustainability risk is provided in the Appendix to Risk on pages 224 to 226.

Reputational risk

Reputational risk is the risk of failure to meet stakeholder expectations as a result of any event, behaviour, action or inaction, either by HSBC itself, our employees or those with whom we are associated, that might cause stakeholders to form a negative view of the Group. This may have financial or non-financial effects, resulting in a loss of confidence, or have other consequences.

Reputational risk relates to stakeholders' perceptions, whether based on fact or otherwise. Stakeholders' expectations are constantly changing and thus reputational risk is dynamic and varies between geographical regions, groups and individuals. As a global bank, HSBC has an unwavering commitment to operating to the high standards we have set for ourselves in every jurisdiction. Any lapse in standards of integrity, compliance, customer service or operating efficiency represents a potential reputational risk.

A number of measures to address the requirements of the US DPA and otherwise to enhance our AML, sanctions and other regulatory compliance frameworks have been taken and/or are ongoing. These measures should also serve over time to enhance our reputational risk management. For further details on the implementation of the Global Standards, see Strategic Report on page 21 and 'Compliance risk' on page 178.

We have a zero tolerance for knowingly engaging in any business, activity or association where foreseeable reputational risk or damage has not been considered and mitigated. There must be no barriers to open discussion and the escalation of issues that could affect the Group negatively. While there is a level of risk in every aspect of business activity, appropriate consideration of potential harm to HSBC's good name must be a part of all business decisions.

In 2015, we restructured our Reputational Risk sub-function to increase our focus on the management of reputational risk. With an expanded mandate, the unit is better positioned to provide bespoke advisory services to the business on reputational risks to the Group and to work with the Financial Crime and Regulatory Compliance teams to mitigate such risks where possible.

Fiduciary risk

Fiduciary risk is the risk to the Group of breaching our fiduciary duties when we act in a fiduciary capacity as trustee or investment manager or as mandated by law or regulation.

A fiduciary duty is one where HSBC holds, manages, oversees or has responsibility for assets on behalf of a third party that involves a legal and/or regulatory duty to act with a high standard of care and with good faith. A fiduciary must make decisions and act in the interests of the third party and must place the wants and needs of the client first, above the needs of the Group.

We may be held liable for damages or other penalties caused by failure to act in accordance with these duties. Fiduciary duties may also arise in other circumstances, such as when we act as an agent for a principal, unless the fiduciary duties are specifically excluded (e.g. under the agency appointment contract).

Our principal fiduciary businesses (the 'designated businesses') have developed fiduciary limits, key risk indicators and key performance indicators to monitor their related risks.

Pension risk

We operate a number of defined benefit and defined contribution pension plans throughout the world. Most of our pension risk arises from defined benefit plans. The largest of these is the HSBC Bank (UK) Pension Scheme ('the principal plan').

At 31 December 2015, the Group's aggregate defined benefit pension obligation was $38bn and the net asset on the balance sheet was $3.1bn (2014: $42bn and $2.7bn, respectively). The principal plan is the largest contributor to pension risk in the Group: it contributed $28bn to the Group's defined benefit obligation and $5.0bn to the Group's net asset.

The principal plan

The principal plan has a defined benefit section and a defined contribution section and is overseen by a corporate trustee. This trustee has a fiduciary responsibility to run the plan. Unless stated otherwise, this section relates to the defined benefit section.

The investment strategy of the principal plan is to hold the majority of assets in bonds, with the remainder in a diverse range of investments. It also includes some interest rate and inflation swaps to reduce the level of interest rate risk and inflation risk (see Note 41 in the Financial Statements). The target asset allocation of the principal plan at the year-end is shown in the table below.

The principal plan – target asset allocation

	2015 %	2014 %
Equities[54]	19.4	19.4
Bonds	64.5	64.5
Alternative assets[55]	10.6	10.6
Property	5.5	5.5
Cash[56]	–	–
At 31 December	**100.0**	100.0

For footnotes, see page 191.

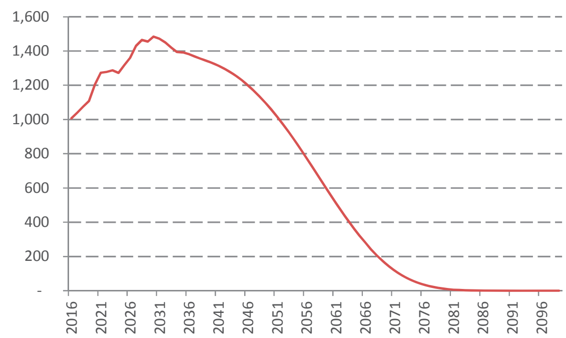
The latest actuarial valuation of the principal plan was made as at 31 December 2011 by C G Singer, Fellow of the Institute and Faculty of Actuaries, of Willis Towers Watson Limited. At that date, the market value of the plan's assets was £18bn ($28bn) (including assets relating to both the defined benefit and defined contribution sections, and additional voluntary contributions). This asset value was the same amount as the actuary said was needed to meet all future expected benefit payments, based on pensions earned to that date and allowing for expected future salary increases. As there was no resulting surplus or deficit, there was no need for the Bank to pay any additional contributions.

In carrying out this assessment, the future expected pension payments out of the plan were valued with the following assumptions:

- future inflation was assumed to be in line with the Retail Price Index ('RPI') swap break-even curve at 31 December 2011;
- salary increases were assumed to be 0.5% above the RPI each year;
- pensions were assumed to increase in line with the RPI;
- the projected cash flows were discounted at the Libor swap curve at 31 December 2011 plus a margin for the expected return on the investment strategy of 1.6% a year;
- the mortality assumptions were set based on the SAPS S1 series of tables adjusted to reflect the plan's actual mortality experience over the prior six years (2006 to 2011); and
- mortality rates were also assumed to improve further in the future in line with standard tables of improvements, the Continuous Mortality Investigation core projections, but with the additional assumption that the long run improvement rate would not fall below 2% a year for men and 1.5% a year for women.

The benefits expected to be paid from the defined benefit section from 2016 are shown in the chart below.

Future benefit payments ($m)



As part of the 31 December 2011 valuation, the actuary also assessed the amount needed to meet the obligations of the principal plan if the plan was stopped and an insurance company was asked to guarantee all future payments. Because the plan is large, it is unlikely that an insurance company would be able to do this for the whole plan, so in practice the Trustee would continue to manage the plan without further support from HSBC. The amount of assets needed under this approach was estimated to be £26bn ($41bn). This is larger than the previous amount because it assumes that people will live for even longer and that the Trustee would adopt a much less risky investment strategy, investing mainly in UK government bonds, which would have a lower expected investment return. It also included an explicit allowance for the future administrative expenses of the plan.

HSBC and the Trustee have developed a general framework which will see the principal plan's investment strategy become less risky over time. This is referred to as the Target Matching Portfolio ('TMP'), as it would contain investments that closely match the expected benefit payment profile. Progress towards the TMP can be achieved by investment returns or additional funding from HSBC. In 2013, HSBC agreed to make general framework contributions of £64m ($95m) in each of the calendar years 2013, 2014 and 2015 and £128m ($190m) in 2016. Further contributions had been agreed to be made in future years, which were linked to the continued implementation of the general framework.

The 31 December 2014 valuation has been agreed in principle with the Trustee, and is expected to be finalised by its statutory deadline of 31 March 2016. The final agreement should result in a surplus of circa £500m ($741m) as at the valuation date of 31 December 2014 and on the Trustee's prudent actuarial assumptions. The general framework implementation has also continued such that the conditions on the future contributions would be removed. As a result the following payments would be payable in the future: £64m ($95m) in each of 2017, 2018, 2019, and £160m ($237m) in each of 2020 and 2021, which in addition to the amounts agreed before would give a total of £640m ($949m) payable from 2016 to 2021.

The principal plan changed in 2015 and from 30 June members stopped accruing future defined benefits. Defined benefit pensions accrued up to 30 June 2015 will retain their link to employee salaries, underpinned by the Consumer Price Index ('CPI'), while members are still employees of the bank. To support the establishment of the ServCo group and to ensure that employees transferred retained existing pension benefits, a new section of the principal plan was created with segregated assets and liabilities. The new section provides ServCo group employees with their defined contribution pension and, where relevant, defined benefit pension benefits arising from future salary increases above CPI.

Defined contribution plans

Our global strategy is to move from defined benefit to defined contribution plans, where local law allows and it is considered competitive to do so. In defined contribution pension plans, the sponsor contributions are known, while the ultimate pension benefit will vary, typically with investment returns achieved by investment choices made by the employee. While the market risk of defined contribution plans is significantly less than that of defined benefit plans, the Bank is still exposed to operational and reputational risk.

Sustainability risk

Assessing the environmental and social impacts of providing finance to our customers is integral to our overall risk management processes.

In 2015, we continued to implement all of our sustainability risk policies. Our training for risk and relationship managers during the year focused on the new policies on agricultural commodities, forestry and World Heritage Sites and Ramsar Wetlands, issued in 2014. Following a recommendation by Internal Audit in 2015, we took steps to integrate the management of sustainability risk more fully into the Risk

Function. For example, we raised standards of risk analysis and policy implementation; updated internal instruction manuals; and improved the way sustainability risk is recorded in our information management system.

Footnotes to Risk

Managing risk

1 *The sum of balances presented does not agree to consolidated amounts because inter-company eliminations are not presented here.*

Credit risk

2 *The amount of the loan commitments reflects, where relevant, the expected level of take-up of pre-approved loan offers made by mailshots to personal customers. In addition to those amounts, there is a further maximum possible exposure to credit risk of $59bn (2014: $71bn), reflecting the full take-up of loan commitments. The take-up of such offers is generally at low levels. At 31 December 2015, the credit quality of loan and other credit-related commitments was: $348bn strong, $180bn good, $129bn satisfactory, $9bn sub-standard and $1bn impaired.*
3 *'Other personal lending' includes second lien mortgages and other property-related lending.*
4 *'Other commercial loans and advances' includes advances in respect of agriculture, transport, energy utilities and ABS reclassified to 'Loans and advances'.*
5 *Impairment allowances are not reported for financial instruments, for which the carrying amount is reduced directly for impairment and not through the use of an allowance account.*
6 *Impairment is not measured for assets held in trading portfolios or designated at fair value as assets in such portfolios are managed according to movements in fair value, and the fair value movement is taken directly to the income statement. Consequently, we report all such balances under 'Neither past due nor impaired'.*
7 *Loans and advances to customers' includes asset-backed securities that have been externally rated as strong (2015: $504m; 2014: $1.2bn), good (2015: $95m; 2014: $256m), satisfactory (2015: $107m; 2014: $332m), sub-standard (2015: $19m; 2014: $94m) and impaired (2015: $73m; 2014: $128m).*
8 *'Collection re-age' includes loans that are reset to 'current' and any arrears are reset but does not involve any changes to the original terms and conditions of the loan, where the account is brought up-to-date without fully paying the outstanding arrears but after the demonstration of ongoing payment ability.*
9 *'Modification re-age' includes loans where there are changes to the original terms and conditions of the loan, either temporarily or permanently, and also resets the contractual delinquency status of an account to current.*
10 *'Collectively assessed impairment allowances' are allocated to geographical segments based on the location of the office booking the allowances or provisions.*
11 *Included within 'Exchange and other movements' is $2.1bn of impairment allowances reclassified to held for sale (2014: $0.4bn).*
12 *Of the $2,134m (2014: $2,724m) of renegotiated loans, $477m (2014: $608m) were neither past due nor impaired, $1m (2014: $1m) was past due but not impaired and $1,656m (2014: $2,115m) were impaired.*
13 *Includes balances in Middle East and North Africa that are impaired and past due and therefore considered due on demand.*
14 *French Banking Federation Master Agreement Relating to Transactions on Forward Financial Instruments plus CSA equivalent.*
15 *The German Master Agreement for Financial Derivative Transactions.*
16 *HSBC Finance lending is on a management basis and includes loans transferred to HSBC USA Inc. which are managed by HSBC Finance.*
17 *Included in this category are loans of $1.2bn (2014: $1.5bn) that have been re-aged once and were less than 60 days past due at the point of re-age. These loans are not classified as impaired following re-age due to the overall expectation that these customers will perform on the original contractual terms of their borrowing in the future.*
18 *'Currency translation' is the effect of translating the results of subsidiaries and associates for the previous year at the average rates of exchange applicable in the current year.*

Liquidity and funding

19 *The HSBC UK Liquidity Group shown comprises four legal entities; HSBC Bank plc (including all overseas branches, and SPEs consolidated by HSBC Bank plc for Financial Statement purposes), Marks and Spencer Financial Services plc, HSBC Private Bank (UK) Ltd and HSBC Trust Company (UK) Limited, managed as a single operating entity, in line with the application of UK liquidity regulation as agreed with the UK PRA.*
20 *The Hongkong and Shanghai Banking Corporation – Hong Kong branch and The Hongkong and Shanghai Banking Corporation – Singapore branch represent the material activities of the Hongkong and Shanghai Banking Corporation. Each branch is monitored and controlled for liquidity and funding risk purposes as a stand-alone operating entity.*
21 *The HSBC USA principal entity shown represents the HSBC USA Inc consolidated group; predominantly HSBC USA Inc and HSBC Bank USA, NA. The HSBC USA Inc consolidated group is managed as a single operating entity.*
22 *HSBC France and HSBC Canada represent the consolidated banking operations of the Group in France and Canada respectively. HSBC France and HSBC Canada are each managed as single distinct operating entities for liquidity purposes.*
23 *The most favourable metrics are smaller advances to core funding and larger stressed one-month and three-month coverage ratios.*
24 *The total shown for other principal HSBC operating entities represents the combined position of all the other operating entities overseen directly by the Risk Management Meeting of the GMB. This coverage changed during 2015 and so comparative figures for 2014 have been re-stated to enable a like-for-like comparison.*
25 *Estimated liquidity value represents the expected realisable value of assets prior to management assumed haircuts.*
26 *The undrawn balance for the five largest committed liquidity facilities provided to customers other than facilities to conduits.*
27 *The undrawn balance for the total of all committed liquidity facilities provided to the largest market sector, other than facilities to conduits.*
28 *The residual contractual maturity profile of the balance sheet is set out on in Note 31 on the Financial Statements.*

Market risk

29 *Trading portfolios comprise positions arising from the market-making and warehousing of customer-derived positions.*
30 *Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types, for example, interest rate, equity and foreign exchange, together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occurs on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.*
31 *The total VaR is non-additive across risk types due to diversification effects.*
32 *Investments in private equity are primarily made through managed funds that are subject to limits on the amount of investment. Potential new commitments are subject to risk appraisal to ensure that industry and geographical concentrations remain within acceptable levels for the portfolio as a whole. Regular reviews are performed to substantiate the valuation of the investments within the portfolio.*
33 *Investments held to facilitate ongoing business include holdings in government-sponsored enterprises and local stock exchanges.*
34 *Instead of assuming that all interest rates move together, we group our interest rate exposures into currency blocs whose rates are considered likely to move together. See 'Cautionary statement regarding forward-looking statements'.*

Risk management of insurance operations

35 *'Other' includes term assurance, credit life insurance, universal life insurance and remaining non-life insurance.*
36 *Although investment contracts with discretionary participation features ('DPF') are financial investments, HSBC continues to account for them as insurance contracts as required by IFRS 4 'Insurance Contracts'. The corresponding liabilities are therefore recorded as 'liabilities under insurance contracts'.*
37 *'Other assets and liabilities' shows shareholder assets as well as assets and liabilities classified as held for sale. The majority of the assets for insurance businesses classified as held for sale are reported as 'Other assets and investment properties' and totalled $4.1bn at 31 December 2015 (2014: $6.8bn). The majority of these assets were debt and equity securities and PVIF. All liabilities for insurance businesses classified as held for sale are reported in 'Other liabilities' and totalled $3.7bn at 31 December 2015 (2014: $6.8bn). The majority of these liabilities were liabilities under insurance contracts and liabilities under investment contracts.*
38 *Financial investments held to maturity (HTM) and available for sale (AFS).*
39 *Comprise mainly loans and advances to banks, cash and intercompany balances with other non-insurance legal entities.*
40 *Present value of in-force long-term insurance contracts and investment contracts with DPF.*
41 *'Deferred tax' includes the deferred tax liabilities arising on recognition of PVIF.*
42 *Does not include associated insurance company SABB Takaful Company or joint venture insurance company Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited.*
43 *HSBC has no insurance manufacturing subsidiaries in Middle East and North Africa or North America.*
44 *Comprise unit-linked life insurance contracts and linked long-term investment contracts.*
45 *Comprise all insurance and long-term investment contracts other than those classified as unit-linked.*
46 *A block of contracts in France with guaranteed nominal annual returns in the range 1.25%-3.72% are reported entirely in the 2.0%-4.0% category in line with the average guaranteed return of 2.7% offered to policyholders by these contracts.*
47 *Real annual return guarantees provide the policyholder a guaranteed return in excess of the rate of inflation, and are supported by inflation-linked debt securities with yields that are also expressed in real terms.*
48 *Where a –100 basis point parallel shift in the yield curve would result in a negative interest rate, the effects on profit after tax and total equity have been calculated using a minimum rate of 0%.*
49 *Shareholders' funds comprise solvency and unencumbered assets.*
50 *'Non-linked insurance' comprises all insurance contracts other than unit-linked, including remaining non-life business.*
51 *In most cases, policyholders have the option to terminate their contracts at any time and receive the surrender values of their policies. These may be significantly lower than the amounts shown.*
52 *Insurance contracts and investment contracts with DPF can give policyholders the contractual right to receive, as a supplement to their guaranteed benefits, additional benefits that may be a significant portion of the total contractual benefits, but whose amount and timing are determined by HSBC. These additional benefits are contractually based on the performance of a specified pool of contracts or assets, or the profit of the company issuing the contracts.*
53 *'Other' includes term assurance, universal life assurance and remaining non-life insurance.*

Pension risk

54 *In 2014, option overlay strategies which are expected to improve the risk/return profile of the equity allocation were implemented.*
55 *Alternative assets include ABSs, MBSs and infrastructure assets.*
56 *Whilst there is no target cash allocation, the amount of cash is expected to vary between 0%-5% depending upon the liquidity requirements of the scheme, which will affect the actual allocation of bonds correspondingly.*

Appendix to Risk
Risk policies and practices

This appendix describes the significant policies and practices employed by HSBC in managing our credit risk, liquidity and funding, market risk, operational risk (including compliance risk, legal risk and fiduciary risk), insurance risk, reputational risk, pension risk and sustainability risk.

Risk governance

Our strong risk governance reflects the importance placed by the Board and the Group Risk Committee ('GRC') on shaping the Group's risk strategy and managing risks effectively. It is supported by a clear policy framework of risk ownership, a risk appetite process through which the types and levels of risk that we are prepared to accept in executing our strategy are articulated and monitored, performance scorecards cascaded from the Group Management Board ('GMB') that align business and risk objectives, and the accountability of all staff for identifying, assessing and managing risks within the scope of their assigned responsibilities. This personal accountability, reinforced by the governance structure, mandatory learning and our approach to remuneration, helps to foster a disciplined and constructive culture of risk management and control throughout HSBC.

The executive and non-executive risk governance structures and their interactions are set out in the following table. Each major operating subsidiary has established a board committee with non-executive responsibility for oversight of risk-related matters and an executive meeting with responsibility for risk-related matters.

Governance structure for the management of risk

Authority	Membership	Responsibilities include:
Board	Executive and non-executive Directors	• Approving risk appetite, strategy and performance targets for the Group • Approving appointment of chief risk officers of subsidiary companies • Encouraging a strong risk governance culture which shapes the Group's attitude to risk
Group Risk Committee ('GRC')	Independent non-executive Directors	• Advising the Board on: – risk appetite and alignment with strategy – alignment of remuneration with risk appetite (through advice to the Group Remuneration Committee) – risks associated with proposed strategic acquisitions and disposals • Overseeing high-level risk related matters • Reviewing the effectiveness of the Group's systems of risk management and internal controls (other than over financial reporting) • Overseeing the maintenance and development of a supportive culture in relation to the management of risk
Financial System Vulnerabilities Committee	Non-executive Directors, including the Chairman of the Group Remuneration Committee, and co-opted non-director members	• Overseeing controls and procedures designed to identify areas of exposure to financial crime or system abuse • Overseeing matters relating to anti-money laundering, sanctions, terrorist financing and proliferation financing • Reviewing policies and procedures to ensure continuing obligations to regulatory and law enforcement agencies are met
Conduct & Values Committee	Independent non-executive Directors	• Ensuring that in the conduct of its business, HSBC treats all stakeholders fairly • Advising the Board on HSBC policies, procedures and standards to ensure that the Group conducts business responsibly and consistently adheres to the HSBC Values

Authority	Membership	Responsibilities include:
Risk Management Meeting of the GMB ('RMM')	Group Chief Risk Officer Chief Legal Officer Group Chief Executive Group Finance Director All other Group Managing Directors	• Formulating high-level global risk policy • Supporting the Group Chief Risk Officer in exercising delegated risk management authority • Overseeing implementation of risk appetite and controls • Monitoring all categories of risk and determining appropriate mitigating action • Promoting a supportive Group culture in relation to risk management and conduct • Implementing Global Standards throughout the Group
Global Risk Management Board	Group Chief Risk Officer Chief Risk Officers of HSBC's global businesses and regions Heads of Global Risk sub-functions	• Supporting the RMM and the Group Chief Risk Officer in providing strategic direction for the Global Risk function, setting priorities and overseeing their execution • Overseeing consistent approach to accountability for, and mitigation of, risk across the Global Risk function
Global Business Risk Management Committees	Global Business Chief Risk Officer Global Business Chief Executive Global Business Chief Financial Officer Heads of Global Risk sub-functions, as appropriate	• Forward looking assessment of changes in global business activities or the markets in which it operates, analysing the possible risk impact and taking appropriate action • Overseeing the implementation of global business risk appetite and controls • Monitoring all categories of risk and determining appropriate mitigating actions • Promoting a strong risk culture
Regional Risk Management Committees	Regional Chief Risk Officer Regional Chief Executive Officer Regional Chief Financial Officer Regional Global Business Chief Heads of Global Risk sub-functions, as appropriate	• Formulating regional specific risk policy • Overseeing the implementation of regional risk appetite and controls • Monitoring all categories of risk and determining appropriate mitigating actions • Promoting a strong risk culture
Subsidiary board committees responsible for risk-related matters and global business risk committees	Independent non-executive directors and/or HSBC employees with no line or functional responsibility for the activities of the relevant subsidiary or global business, as appropriate	• Providing reports to the GRC or intermediate risk committee on risk-related matters and internal controls (other than over financial reporting) of relevant subsidiaries or businesses, as requested

The governance framework also defines the required structure for Risk sub-functions, stress testing and other key areas at Group, global business, regional and country level.

Risk appetite

The Group's Qualitative Risk Appetite Statement ('RAS') formally articulates our overarching risk appetite principles, serves as a guide in embedding our risk appetite framework and supports strategic and operational decision-making across the Group.

- **Strong capital position**: we are to have a strong capital position defined by robust regulatory and internal capital ratios. The progression of dividends should be consistent with the growth of the Group's profitability and is predicated on the ability to meet all capital requirements in a timely manner. Both the Group and its individual legal entities must self-capitalise with capital generation, net of dividends, exceeding the capital needed to support organic growth in the entity's risk-weighted assets;
- **Liquidity and funding management**: operating entities are required to manage liquidity risk on a stand-alone basis with no implicit reliance on the Group or central banks and be able to withstand a Group-defined remote liquidity stress scenario. Customer assets and other illiquid assets must be funded with reliable and stable sources of funding;
- **Risk return relationship:** we aim to generate returns in line with the risk taken and in alignment with strategic plans, strategic business outlooks and risk management policies;

- **Sustainable and diversified earnings mix:** global businesses and regions must support sustainable, well diversified and non-volatile earning streams, delivering consistent returns for shareholders;
- **Reputation risk:** we tolerate a limited degree of reputational risk arising from business activities or associations where the risk has been escalated to the appropriate level of management. We have zero tolerance for knowingly engaging in any business, activity or association where foreseeable reputational risk/damage has not been considered and/or mitigated;
- **Financial crime compliance:** we will operate with integrity to the most effective financial crime risk management standards, address financial system vulnerability through a robust financial crime risk management framework, and ensure appropriate mitigating systems and controls are in place to prevent and detect financial crime. We have no appetite for deliberately or knowingly facilitating business that gives rise to illicit activity; and
- **Regulatory compliance:** we have no appetite for deliberately or knowingly causing detriment to consumers arising from our products and services, or incurring a breach of the letter or spirit of regulatory requirements. We have no appetite for inappropriate market conduct by a member of staff or by any Group business.

Credit risk

Credit risk management

(Audited)

The role of independent credit control unit is fulfilled by the Global Risk function. Credit approval authorities are delegated by the Board to the Chief Executive Officer of HSBC Holdings together with the authority to sub-delegate them. Similar credit approval authorities are delegated by the boards of subsidiary companies to their respective executive officers. In each major subsidiary, a Chief Risk Officer reports to the local Chief Executive Officer on credit-related issues, while maintaining a direct functional reporting line to the Group Chief Risk Officer in Global Risk. Details of the roles and responsibilities of the credit risk management function and the policies and procedures for managing credit risk are set out below. There were no significant changes in 2015.

The high-level oversight and management of credit risk provided globally by the Credit Risk sub-function in Global Risk

- to formulate Group credit policy. Compliance, subject to approved dispensations, is mandatory for all operating companies which must develop local credit policies consistent with Group policies;
- to guide operating companies on the Group's appetite for credit risk exposure to specified market sectors, activities and banking products and controlling exposures to certain higher-risk sectors;
- to undertake an independent review and objective assessment of risk. Global Risk assesses all commercial non-bank credit facilities and exposures over designated limits, prior to the facilities being committed to customers or transactions being undertaken;
- to monitor the performance and management of portfolios across the Group;
- to control exposure to sovereign entities, banks and other financial institutions, and debt securities which are not held solely for the purpose of trading;
- to set Group policy on large credit exposures, ensuring that concentrations of exposure by counterparty, sector or geography do not become excessive in relation to our capital base, and remain within internal and regulatory limits;
- to control our cross-border exposures;
- to maintain and develop our risk rating framework and systems, the governance of which is under the general oversight of the Group Model Oversight Committee ('MOC'). The Group MOC meets bi-monthly and reports to the RMM. It is chaired by the Global Risk function and its membership is drawn from Global Risk and relevant global functions or businesses;
- to report to the RMM, the GRC and the Board on high risk portfolios, risk concentrations, country limits and cross-border exposures, large impaired accounts, impairment allowances, stress testing results and recommendations and retail portfolio performance; and
- to act on behalf of HSBC Holdings as the primary interface, for credit-related issues, with the Bank of England, the PRA, local regulators, rating agencies, analysts and counterparts in major banks and non-bank financial institutions.

Principal objectives of our credit risk management

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

Concentration of exposure

(Audited)

Concentrations of credit risk arise when a number of counterparties or exposures have comparable economic characteristics or such counterparties are engaged in similar activities or operate in the same geographical areas or industry sectors so that their collective ability to meet contractual obligations is uniformly affected by changes in economic, political or other conditions. We use a number of controls and measures to minimise undue concentration of exposure in our portfolios across industry, country and global business. These include portfolio and counterparty limits, approval and review controls, and stress testing.

Wrong-way risk occurs when a counterparty's exposures are adversely correlated with its credit quality. There are two types of wrong-way risk:

- general wrong-way risk occurs when the probability of counterparty default is positively correlated with general risk factors such as, for example, where the counterparty is resident and/or incorporated in a higher-risk country and seeks to sell a non-domestic currency in exchange for its home currency; and
- specific wrong-way risk occurs when the exposure to a particular counterparty is positively correlated with the probability of counterparty default, such as a reverse repo on the counterparty's own bonds. It is our policy that specific wrong-way transactions are approved on a case-by-case basis.

We use a range of tools to monitor and control wrong-way risk, including requiring the business to obtain prior approval before undertaking wrong-way risk transactions outside pre-agreed guidelines.

Credit quality of financial instruments

(Audited)

Our credit risk rating systems and processes differentiate exposures in order to highlight those with greater risk factors and higher potential severity of loss. In the case of individually significant accounts that are predominantly within our wholesale businesses, risk ratings are reviewed regularly and any amendments are implemented promptly. In our retail businesses, risk is assessed and managed using a wide range of risk and pricing models to generate portfolio data.

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the Group to support calculation of our minimum credit regulatory capital requirement. Our credit quality classifications are defined below.

Special attention is paid to problem exposures in order to accelerate remedial action. When appropriate, our operating companies use specialist units to provide customers with support to help them avoid default if possible.

Group and regional Credit Review and Risk Identification teams regularly review exposures and processes in order to provide an independent, rigorous assessment of credit risk across the Group, reinforce secondary risk management controls and share best practice. Internal audit, as a third line control function, focuses on risks with a global perspective and on the design and effectiveness of primary and secondary controls, carrying out oversight audits via the sampling of global and regional control frameworks, themed audits of key or emerging risks and project audits to assess major change initiatives.

The five credit quality classifications defined below each encompass a range of granular internal credit rating grades assigned to wholesale and retail lending businesses and the external ratings attributed by external agencies to debt securities.

Credit quality classification

	Debt securities and other bills	Wholesale lending and derivatives		Retail lending	
	External credit rating	Internal credit rating	12 month probability of default %	Internal credit rating[1]	Expected loss %
Quality classification					
Strong	A– and above	CRR[2]1 to CRR2	0 – 0.169	EL[3]1 to EL2	0 – 0.999
Good	BBB+ to BBB–	CRR3	0.170 – 0.740	EL3	1.000 – 4.999
Satisfactory	BB+ to B and unrated	CRR4 to CRR5	0.741 – 4.914	EL4 to EL5	5.000 – 19.999
Sub-standard	B– to C	CRR6 to CRR8	4.915 – 99.999	EL6 to EL8	20.000 – 99.999
Impaired	Default	CRR9 to CRR10	100	EL9 to EL10	100+ or defaulted[4]

1 *We observe the disclosure convention that, in addition to those classified as EL9 to EL10, retail accounts classified EL1 to EL8 that are delinquent by 90 days or more are considered impaired, unless individually they have been assessed as not impaired (see page 127, 'Past due but not impaired gross financial instruments').*
2 *Customer risk rating.*
3 *Expected loss.*
4 *The EL percentage is derived through a combination of PD and LGD, and may exceed 100% in circumstances where the LGD is above 100% reflecting the cost of recoveries.*

Quality classification definitions

- *'Strong'* exposures demonstrate a strong capacity to meet financial commitments, with negligible or low probability of default and/or low levels of expected loss. Retail accounts operate within product parameters and only exceptionally show any period of delinquency.
- 'Good' exposures require closer monitoring and demonstrate a good capacity to meet financial commitments, with low default risk. Retail accounts typically show only short periods of delinquency, with any losses expected to be minimal following the adoption of recovery processes.
- *'Satisfactory'* exposures require closer monitoring and demonstrate an average to fair capacity to meet financial commitments, with moderate default risk. Retail accounts typically show only short periods of delinquency, with any losses expected to be minor following the adoption of recovery processes.
- *'Sub-standard'* exposures require varying degrees of special attention and default risk is of greater concern. Retail portfolio segments show longer delinquency periods of generally up to 90 days past due and/or expected losses are higher due to a reduced ability to mitigate these through security realisation or other recovery processes.
- 'Impaired' exposures have been assessed as impaired. These include wholesale exposures where the bank considers that either the customer is unlikely to pay its credit obligations in full, without recourse by the bank to the actions such as realising security if held, or the customer is past due more than 90 days on any material credit obligation; retail accounts include loans and advances classified as EL9 to EL10, and for those classified EL1 to EL8 they are greater than 90 days past due unless individually they have been assessed as not impaired; and renegotiated loans that have met the requirements to be disclosed as impaired and have not yet met the criteria to be returned to the unimpaired portfolio (see below).

The customer risk rating ('CRR') 10-grade scale summarises a more granular underlying 23-grade scale of obligor probability of default ('PD'). All HSBC customers are rated using the 10- or 23-grade scale, depending on the degree of sophistication of the Basel II approach adopted for the exposure.

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. This mapping between internal and external ratings is indicative and may vary over time.

The expected loss ('EL') 10-grade scale for retail business summarises a more granular underlying EL scale for this customer segment; this combines obligor and facility/product risk factors in a composite measure.

For debt securities and certain other financial instruments, external ratings have been aligned to the five quality classifications based upon the mapping of related CRR to external credit grade.

Renegotiated loans and forbearance

(Audited)

A range of forbearance strategies is employed in order to improve the management of customer relationships, maximise collection opportunities and, if possible, avoid default, foreclosure or repossession. They include extended payment terms, a reduction in interest or principal repayments, approved external debt management plans, debt consolidations, the deferral of foreclosures and other forms of loan modifications and re-ageing.

Our policies and practices are based on criteria which enable local management to judge whether repayment is likely to continue. These typically provide a customer with terms and conditions that are more favourable than those provided initially. Loan forbearance is only granted in situations where the customer has showed a willingness to repay their loan and is expected to be able to meet the revised obligations.

Identifying renegotiated loans

The contractual terms of a loan may be modified for a number of reasons including changing market conditions, customer retention and other factors not related to the current or potential credit deterioration of a customer. When the contractual payment terms of a loan are modified because we have significant concerns about the borrower's ability to meet contractual payments when due, these loans are classified as 'renegotiated loans'.

For retail lending our credit risk management policy sets out restrictions on the number and frequency of renegotiations, the minimum period an account must have been opened before any renegotiation can be considered and the number of qualifying payments that must be received. The application of this policy varies according to the nature of the market, the product and the management of customer relationships through the occurrence of exceptional events. When considering whether there is significant concern regarding a customer's ability to meet contractual loan repayments when due, we assess the customer's delinquency status, account behaviour, repayment history, current financial situation and continued ability to repay. If the customer is not meeting contractual repayments or it is evident that they will be unable to do so without the renegotiation, there will be a significant concern regarding their ability to meet contractual payments, and the loan will be disclosed as impaired, unless the concession granted is insignificant as discussed below.

For loan restructurings in wholesale lending, indicators of significant concerns regarding a borrower's ability to pay include:

- the debtor is currently in default on any of its debt;
- the debtor has declared or is in the process of declaring bankruptcy or entering into a similar process;
- there is significant doubt as to whether the debtor will continue to be a going concern;
- currently, the debtor has securities that have been delisted, are in the process of being delisted, or are under threat of being delisted from an exchange as a result of trading or financial difficulties;
- based on estimates and projections that only encompass current business capabilities, the Group forecasts that the debtor's entity-specific cash flows will be insufficient to service the debt (both interest and principal) in accordance with the contractual terms of the existing agreement through maturity. In this instance, actual payment default may not yet have occurred; and
- absent the modification, the debtor cannot obtain funds from sources other than its existing creditors at an effective interest rate equal to the current market interest rate for similar debt for a non-distressed debtor.

Where the modification of a loan's contractual payment terms represents a concession for economic or legal reasons relating to the borrower's financial difficulty, and is a concession that we would not otherwise consider, then the renegotiated loan is disclosed as impaired in accordance with our impaired loan disclosure convention described in more detail on page 354, unless the concession is insignificant and there are no other indicators of impairment. Insignificant concessions are primarily restricted to our CML portfolio in HSBC Finance, where loans which are in the early stages of delinquency (less than 60 days delinquent) and typically have the equivalent of two payments deferred for the first time, are excluded from our impaired loan classification, as the contractual payment deferrals are deemed to be insignificant compared with payments due on the loan as a whole. For details of HSBC Finance's loan renegotiation programmes and portfolios, see pages 129 and 145.

Credit quality classification of renegotiated loans

(Audited)

Under IFRSs, an entity is required to assess whether there is objective evidence that financial assets are impaired at the end of each reporting period. A loan is impaired and an impairment allowance is recognised when there is objective evidence of a loss event that has an effect on the cash flows of the loan which can be reliably estimated. Granting a concession to a customer that we would not otherwise consider, as a result of their financial difficulty, is objective evidence of impairment and impairment losses are measured accordingly.

A renegotiated loan is presented as impaired when:

- there has been a change in contractual cash flows as a result of a concession which the lender would otherwise not consider, and
- it is probable that without the concession, the borrower would be unable to meet contractual payment obligations in full.

This presentation applies unless the concession is insignificant and there are no other indicators of impairment.

The renegotiated loan will continue to be disclosed as impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, and there are no other indicators of impairment. For loans that are assessed for impairment on a collective basis, the evidence typically comprises a history of payment performance against the original or revised terms, as appropriate to the circumstances. For loans that are assessed for impairment on an individual basis, all available evidence is assessed on a case-by-case basis.

For corporate and commercial loans, which are individually assessed for impairment and where non-monthly payments are more commonly agreed, the history of payment performance will depend on the underlying structure of payments agreed as part of the restructuring.

For retail lending the minimum period of payment performance required depends on the nature of loans in the portfolio, but is typically between six and twelve months. Where portfolios have more significant levels of forbearance activity, such as that undertaken by HSBC Finance, the minimum repayment performance period required may be substantially more (for further details on HSBC Finance see page 145). Payment performance periods are monitored to ensure they remain appropriate to the levels of recidivism observed within the portfolio. These performance periods are in addition to a minimum of two payments which must be received within a 60-day period (in the case of HSBC Finance, in certain circumstances, for example where debt has been restructured in bankruptcy proceedings, fewer or no qualifying payments may be required). The qualifying payments are required in order to demonstrate that the renegotiated terms are sustainable for the borrower.

Renegotiated loans are classified as unimpaired where the renegotiation has resulted from significant concern about a borrower's ability to meet their contractual payment terms but the concession is not significant and the contractual cash flows are expected to be collected in full following the renegotiation.

Derecognition of renegotiated loans

(Audited)

Loans that have been identified as renegotiated retain this designation until maturity or derecognition. When a loan is restructured as part of a forbearance strategy and the restructuring results in derecognition of the existing loan, the new loan is disclosed as renegotiated.

When determining whether a loan that is restructured should be derecognised and a new loan recognised, we consider the extent to which the changes to the original contractual terms result in the renegotiated loan, considered as a whole, being a substantially different financial instrument. The following are examples of circumstances that individually are likely to result in this test being met and derecognition accounting being applied:

- an uncollateralised loan becomes fully collateralised or vice versa;
- removal or addition of debt-to-equity conversion features attached to the loan agreement that have substance;
- a change in the currency in which the principal or interest is denominated, other than a conversion at a current market rate; or
- a change in the obligor.

The following are examples of factors that we consider may indicate that the revised loan is a substantially different financial instrument, but are unlikely to be conclusive in themselves:

- conditions added to the contract that substantially alter the credit risk of the loan (e.g. conditions on how the customer's business will be conducted in order to meet the revised terms of the loan);
- guarantees are put in place that are expected to substantially change the source of repayment and it is fully expected that the guarantees have value;
- rate structure changes (that are not existing contractual features) or debt consolidation where these changes are not purely a concession to allow the obligor to pay a monthly amount that is affordable given its credit distressed circumstances;
- a change in the liquidation preference or ranking of the instrument that is not a debt-to-equity conversion; or
- the collateral level (as a % of the loan) has doubled and the resulting coverage is more than 50%.

Renegotiated loans and recognition of impairment allowances

(Audited)

For retail lending, renegotiated loans are segregated from other parts of the loan portfolio for collective impairment assessment to reflect the higher rates of losses often encountered in these segments. When empirical evidence indicates an increased propensity to default and higher losses on such accounts, such as for re-aged loans in the US, the use of roll-rate (or discounted cash flow) methodology ensures these factors are taken into account when calculating impairment allowances by applying roll rates specifically calculated on the pool of loans subject to forbearance. When the portfolio size is small or when information is insufficient or not reliable enough to adopt a roll-rate (or discounted cash flow) methodology, a basic formulaic approach based on historical loss rate experience is used. As a result of our collective impairment methodology, we recognise collective impairment allowances on homogeneous groups of loans, including renegotiated loans, where there is historical evidence that there is a likelihood that loans in these groups will progress through the various stages of delinquency, and ultimately prove irrecoverable as a result of events occurring before the balance sheet date. This treatment applies irrespective of whether or not those loans are presented as impaired in accordance with our impaired loans disclosure convention.

In the corporate and commercial sectors, renegotiated loans are typically assessed individually. Credit risk ratings are intrinsic to the impairment assessment. A distressed restructuring is classified as an impaired loan. The individual impairment assessment takes into account the higher risk of the non-payment of future cash flows inherent in renegotiated loans.

Corporate and commercial forbearance

In the corporate and commercial sectors, forbearance activity is undertaken selectively where it has been identified that repayment difficulties against the original terms have already materialised, or are very likely to materialise. These cases are treated as impaired loans where:

- the customer is experiencing, or is very likely to experience, difficulty in meeting a payment obligation to the Group (i.e. due to current credit distress); and
- the Group is offering to the customer revised payment arrangements which constitute a concession (i.e. it is offering terms it would not normally be prepared to offer).

These cases are described as distressed restructurings. The agreement of a restructuring which meets the criteria above requires all loans, advances and counterparty exposures to the customer to be treated as impaired. Against the background of this requirement, as a customer approaches the point at which it becomes clear that there is an increasing risk that a restructuring of this kind might be necessary, the exposures will typically be regarded as sub-standard to reflect the deteriorating credit risk profile and will be graded as impaired when the restructure is proposed for approval, or sooner if there is sufficient concern regarding the customer's likeliness to pay.

For the purposes of determining whether changes to a customer's agreement should be treated as a distressed restructuring the following types of modification are regarded as concessionary:

- transfers from the customer of receivables from third parties, real estate, or other assets to satisfy fully or partially a debt;
- issuance or other granting of an equity interest to satisfy fully or partially a debt unless the equity interest is granted pursuant to existing terms for converting the debt into an equity interest; and
- modification of the terms of a debt, such as one or more of the following:
  - reduction (absolute or contingent) of the stated interest rate for the remaining original life of the debt;
  - extension of the maturity date or dates at a stated interest rate lower than the current market rate for new debt with similar risk;
  - reduction (absolute or contingent) of the face amount or maturity amount of the debt; and
  - reduction (absolute or contingent) of accrued interest.

Modifications that are unrelated to payment arrangements, such as the restructuring of collateral or security arrangements or the waiver of rights under covenants within documentation, are not regarded by themselves to be evidence of credit distress affecting payment capacity. Typically, covenants are in place to give the Group rights of repricing or acceleration, but they are frequently set at levels where payment capacity has yet to be affected, providing rights of action at earlier stages of credit deterioration. Such concessions do not directly affect the customer's ability to service the original contractual debt and are not reported as renegotiated loans. However, where a customer requests a non-payment related covenant waiver, the significance of the underlying breach of covenant will be considered together with any other indicators of impairment, and where there is a degree of severity of credit distress indicating uncertainty of payment, all available evidence will be considered in determining whether a loss event has occurred. The waiver will not, however, trigger classification as a renegotiated loan as payment terms have not been modified.

When both payment-related and non-payment related modifications are made together as a result of significant concerns regarding the payment of contractual cash flows, the loan is treated as a distressed restructuring and disclosed as a renegotiated loan.

Where clauses are built into the contract in advance which allow for payment-related modifications, and are exercised under conditions of credit distress at a point where the modification provides a concession to the customer, these cases are treated as meeting the definition of a distressed restructuring.

In assessing whether payment-related forbearance is a satisfactory and sustainable strategy, the customer's entire exposure and facilities will be reviewed and their ability to meet the terms of both the revised obligation and other credit facilities not amended in the renegotiation is assessed. Should this assessment identify that a renegotiation will not deal with a customer's payment capacity issues satisfactorily, other special management options may be applied. This process may identify the need to provide assistance to a customer specifically to restructure their business operations and activities so as to restore satisfactory payment capacity.

When considering acceptable restructuring terms we consider the ability of the customer to be able to service the revised interest payments as a necessity. When principal payment modifications are considered, again we require the customer to be able to comply with the revised terms as a necessary pre-condition for the restructuring to proceed. When principal payments are modified resulting in permanent forgiveness, or when it is otherwise considered that there is no longer a realistic prospect of recovery of outstanding principal, the affected balances are written off. When principal repayments are postponed, it is expected that the customer will be capable of paying in line with the renegotiated terms, including instances when the postponed principal repayment is expected from refinancing. In all cases, a loan renegotiation is only granted when the customer is expected to be able to meet the revised terms.

Modifications may be made on a temporary basis when time is needed for the customer to make arrangements for payment, when deterioration in payment capacity is expected to be acute but short lived, or when more time is needed to accommodate discussions regarding a more permanent accommodation with other bankers, for example in syndicated facilities where multilateral negotiation commonly features.

If a restructuring proceeds and the customer demonstrates satisfactory performance over a period of time, the case may be returned to a non-impaired grade (CRR1-8) provided no other indicators of impairment remain. Such a case cannot be returned to a non-impaired grade when a specific impairment allowance remains against any of the customer's credit facilities. The period of performance will vary depending on the underlying structure of payments to be made by the customer under the amended agreement and the extent to which the customer's financial position is considered to have improved.

Impairment assessment

(Audited)

It is our policy that each operating company in HSBC creates impairment allowances for impaired loans promptly and appropriately, when there is objective evidence that impairment of a loan or portfolio of loans has occurred.

For details of our impairment policies on loans and advances and financial investments, see Note 1j on the Financial Statements.

Impairment and credit risk mitigation

The existence of collateral has an effect when calculating impairment on individually assessed impaired loans. When we no longer expect to recover the principal and interest due on a loan in full or in accordance with the original terms and conditions, it is assessed for impairment. If exposures are secured, the current net realisable value of the collateral is taken into account when assessing the need for an impairment allowance. No impairment allowance is recognised in cases where all amounts due are expected to be settled in full on realisation of the security.

Personal lending portfolios are generally assessed for impairment on a collective basis as the portfolios typically consist of large groups of homogeneous loans. Two methods are used to calculate allowances on a collective basis: a roll-rate methodology or a more basic formulaic approach based on historical losses. On a yearly basis, we review the impairment allowance methodology used for retail banking and small business portfolios across the Group to ensure that the assumptions used in our collective assessment models continued to appropriately reflect the period of time between a loss event occurring and the account proceeding to delinquency and eventual write-off.

- The historical loss methodology is typically used to calculate collective impairment allowances for secured or low default portfolios such as mortgages until the point at which they are individually identified and assessed as impaired. For loans that are collectively assessed using historical loss methodology, the historical loss rate is derived from the average contractual write-off net of recoveries over a defined period. The net contractual write-off rate is the actual amount of loss experienced after the realisation of collateral and receipt of recoveries.
- A roll-rate methodology is more commonly adopted for unsecured portfolios when there are sufficient volumes of empirical data to develop robust statistical models. In certain circumstances mortgage portfolios have a statistically significant number of defaults and losses available, enabling reliable roll rates to be generated. In these cases a roll-rate methodology is applied until the point at which the loans are individually identified and assessed as impaired, and the average gross loss rates by delinquency bucket are adjusted to reflect the future expected cash flows after collateral and other recovery realisation.

The nature of the collective allowance assessment prevents individual collateral values or loan-to-value ('LTV') ratios from being included within the calculation. However, the loss rates used in the collective assessment are adjusted for the collateral realisation experiences which will vary depending on the LTV composition of the portfolio. For example, mortgage portfolios under a historical loss rate methodology with lower LTV ratios will typically experience lower loss history and consequently a lesser net contractual write-off rate.

For wholesale collectively assessed loans, historical loss methodologies are applied to measure loss event impairments which have been incurred but not reported. Loss rates are derived from the historical impairment charges or losses recognised on impaired loans net of recoveries over a defined period, typically no less than 60 months. These historical loss rates are adjusted by an economic factor which amends the historical averages to better represent current economic conditions affecting the portfolio. In order to reflect the likelihood of a loss event not being identified and assessed an emergence period assumption is applied which reflects the period between a loss occurring and its identification. The emergence period is estimated by management for each identified portfolio. The factors that may influence this estimation include economic and market conditions, customer behaviour, portfolio management information, credit management techniques and collection and recovery experiences in the market. The emergence period is assessed empirically on a periodic basis and may vary over time as these factors change.

Write-off of loans and advances

(Audited)

For details of our policy on the write-off of loans and advances, see Note 1j on the Financial Statements.

In HSBC Finance, the carrying amounts of residential mortgage and second lien loans in excess of net realisable value are written off at or before the time foreclosure is completed or settlement is reached with the borrower. If there is no reasonable expectation of recovery, and foreclosure is pursued, the loan is normally written off no later than the end of the month in which the loan becomes 180 days contractually past due. We regularly obtain new appraisals for these collateral dependent loans (every 180 days) and adjust carrying values to the most recent appraisal if they have improved or deteriorated as the best estimate of the cash flows that will be received on the disposal of the collateral.

Unsecured personal facilities, including credit cards, are generally written off at between 150 and 210 days past due, the standard period being the end of the month in which the account becomes 180 days contractually delinquent. Write-off periods may be extended, generally to no more than 360 days past due but, in very exceptional circumstances, to longer than that figure in a few countries where local regulation or legislation constrain earlier write-off or where the realisation of collateral for secured real estate lending takes this time.

For secured personal facilities, final write-off should generally occur within 60 months of the default at the latest.

In the event of bankruptcy or analogous proceedings, write-off may occur earlier than at the periods stated above. Collections procedures may continue after write-off.

Impairment methodologies
(Audited)

To identify objective evidence of impairment for available-for-sale ABSs, an industry standard valuation model is normally applied which uses data with reference to the underlying asset pools and models their projected future cash flows. The estimated future cash flows of the securities are assessed at the specific financial asset level to determine whether any of them are unlikely to be recovered as a result of loss events occurring on or before the reporting date.

The principal assumptions and inputs to the models are typically the delinquency status of the underlying loans, the probability of delinquent loans progressing to default, the prepayment profiles of the underlying assets and the loss severity in the event of default. However, the models utilise other variables relevant to specific classes of collateral to forecast future defaults and recovery rates. Management uses externally available data and applies judgement when determining the appropriate assumptions in respect of these factors. We use a modelling approach which incorporates historically observed progression rates to default to determine if the decline in aggregate projected cash flows from the underlying collateral will lead to a shortfall in contractual cash flows. In such cases, the security is considered to be impaired.

In respect of collateralised debt obligations ('CDO's), expected future cash flows for the underlying collateral are assessed to determine whether there is likely to be a shortfall in the contractual cash flows of the CDO.

When a security benefits from a contract provided by a monoline insurer that insures payments of principal and interest, the expected recovery on the contract is assessed in determining the total expected credit support available to the ABS.

Loan management unit

The HSBC Loan Management Unit ('LMU') is a front line customer contact department within Wholesale Credit and Market Risk that assumes responsibility for managing business customer relationships requiring intensive and close control where the bank's lending is at risk. LMU operates on a regional basis across the Group and is independent of the originating business management units. It reports locally to the Regional Head of Wholesale Credit and Market Risk. Customers are identified and transferred to LMU by business management or the Wholesale Credit and Market Risk approval teams.

Customers managed by LMU are normally operating outside the Group's risk appetite. They typically show symptoms of significant financial difficulty, the management team displays limited experience of managing a business in distress and the management and financial information provided to the Group is insufficient and unreliable.

The levels of customer exposure under management and the size of the LMU team varies between countries depending on the breadth of business undertaken locally but LMU will always manage highly distressed situations where individual customer exposure exceeds $1.5m.

The primary focus of LMU is to protect the bank's capital and minimise losses by working consensually with customers to promote and support viable recovery strategies wherever achievable, with the ultimate intention of returning the customer to front line relationship management. In some cases, rehabilitation is not possible and LMU will consider a range of options to protect the bank's exposure and solvency of the customer. On occasion, it is not possible to find a satisfactory solution and the customer may file for insolvency or local equivalent. In all outcomes, LMU seeks to treat customers fairly, sympathetically and positively, in a professional way with transparent processes and procedures.

Remediation and restructuring strategies available in the business and LMU include granting a customer various types of concessions while seeking to enhance the ability of the customer to ultimately repay the Group which could include enhancing the overall security available to the Group. Any decision to approve a concession will be a function of the regions specific country and sector appetite, the key metrics of the customer, the market environment, the loan structure and security. Internal reviews on customers managed directly by LMU are performed on a scheduled basis in accordance with relevant accounting guidelines, credit policies and national banking regulations. Under certain circumstances, concessions granted may result in the loan being classified as a renegotiated loan.

Collateral and other credit enhancements held
(Audited)

Loans and advances held at amortised cost

The Group's practice is to lend on the basis of customers' ability to meet their obligations out of cash flow resources rather than rely on the value of security offered. Depending on a customer's standing and the type of product, facilities may be provided without security. For other lending, a charge over collateral is obtained and considered in determining the credit decision and pricing. In the event of default, the bank may utilise the collateral as a source of repayment. Depending on its form, collateral can have a significant financial effect in mitigating our exposure to credit risk.

Additionally, risk may be managed by employing other types of collateral and credit risk enhancements such as second charges, other liens and unsupported guarantees, but the valuation of such mitigants is less certain and their financial effect has not been quantified.

Refinance risk

Many types of lending require the repayment of a significant proportion of the principal at maturity. Typically, the mechanism of repayment for the customer is through the acquisition of a new loan to settle the existing debt. Refinance risk arises where a customer is unable to repay such term debt on maturity, or to refinance debt at commercial rates. When there is evidence that this risk may apply to a specific contract, HSBC may need to refinance the loan on concessionary terms that we would not otherwise have considered, in order to recoup the maximum possible cash flows from the contract and potentially avoid the customer defaulting on the repayment of principal. When there is sufficient evidence that borrowers, based on their current financial capabilities, may fail at maturity to repay or refinance their loans, these loans are disclosed as impaired with recognition of a corresponding impairment allowance where appropriate.

Nature of HSBC's securitisation and other structured exposures

Mortgage-backed securities ('MBS's) are securities that represent interests in groups of mortgages and provide investors with the right to receive cash from future mortgage payments (interest and/or principal). An MBS which references mortgages with different risk profiles is classified according to the highest risk class.

Collateralised debt obligations ('CDO's) are securities backed by a pool of bonds, loans or other assets such as asset-backed securities ('ABS's). CDOs may include exposure to sub-prime or Alt-A mortgage assets where these are part of the underlying assets or reference assets. As there is often uncertainty surrounding the precise nature of the underlying collateral supporting CDOs, all CDOs supported by residential mortgage-related assets are classified as sub-prime. Our holdings of ABSs and CDOs and direct lending positions, and the categories of mortgage collateral and lending activity, are described below.

Our exposure to non-residential mortgage-related ABSs includes securities with collateral relating to commercial property mortgages, leveraged finance loans, student loans, and other assets such as securities with other receivable-related collateral.

Definitions and classifications of ABSs and CDOs

Categories of ABSs and CDOs	Definition	Classification
Sub-prime	Loans to customers who have limited credit histories, modest incomes or high debt-to-income ratios or have experienced credit problems caused by occasional delinquencies, prior charge-offs, bankruptcy or other credit-related actions.	For US mortgages, a FICO score of 620 or less has primarily been used to determine whether a loan is sub-prime. For non-US mortgages, management judgement is used.
US Home Equity Lines of Credit ('HELoC's) (categorised within 'Sub-prime')	A form of revolving credit facility provided to customers, which is supported in the majority of circumstances by a second lien or lower ranking charge over residential property.	Holdings of HELoCs are classified as sub-prime.
US Alt-A	Lower risk loans than sub-prime, but they share higher risk characteristics than lending under fully conforming standard criteria.	US credit scores and the completeness of documentation held (such as proof of income), are considered when determining whether an Alt-A classification is appropriate. Non sub-prime mortgages in the US are classified as Alt-A if they are not eligible for sale to the major US Government mortgage agencies or sponsored entities.
US Government agency and sponsored enterprises mortgage-related assets	Securities that are guaranteed by US Government agencies such as the Government National Mortgage Association ('Ginnie Mae'), or by US Government sponsored entities including Fannie Mae and Freddie Mac.	Holdings of US Government agency and US Government sponsored enterprises' mortgage-related assets are classified as prime exposures.

Categories of ABSs and CDOs	Definition	Classification
UK non-conforming mortgages (categorised within 'Sub-prime')	UK mortgages that do not meet normal lending criteria. Examples include mortgages where the expected level of documentation is not provided (such as income with self-certification), or where poor credit history increases risk and results in pricing at a higher than normal lending rate.	UK non-conforming mortgages are treated as sub-prime exposures.
Other residential mortgages	Residential mortgages, including prime mortgages, that do not meet any of the classifications described above.	Prime residential mortgage-related assets are included in this category.

Liquidity and funding

The management of liquidity and funding is primarily undertaken locally (by country) in our operating entities in compliance with the Group's Liquidity and Funding Risk Management Framework (the 'LFRF'), and with practices and limits set by the GMB through the RMM and approved by the Board. These limits vary according to the depth and the liquidity of the markets in which the entities operate. Our general policy is that each defined operating entity should be self-sufficient in funding its own activities. Where transactions exist between operating entities, they are reflected symmetrically in both entities.

As part of our Asset, Liability and Capital Management ('ALCM') structure, we have established ALCOs at Group level, in the regions and in operating entities. The terms of reference of all ALCOs include the monitoring and control of liquidity and funding.

The primary responsibility for managing liquidity and funding within the Group's framework and risk appetite resides with the local operating entities' ALCOs. Our most significant operating entities are overseen by regional ALCOs, Group ALCO and the RMM. The remaining smaller operating entities are overseen by regional ALCOs, with appropriate escalation of significant issues to Group ALCO and the RMM.

Operating entities are predominately defined on a country basis to reflect our local management of liquidity and funding. Typically, an operating entity will be defined as a single legal entity. However, to take account of the situation where operations in a country are booked across multiple subsidiaries or branches:

- an operating entity may be defined as a wider sub-consolidated group of legal entities if they are incorporated in the same country, liquidity and funding are freely fungible between the entities and permitted by local regulation, and the definition reflects how liquidity and funding are managed locally; or
- an operating entity may be defined more narrowly as a principal office (branch) of a wider legal entity operating in multiple countries, reflecting the local country management of liquidity and funding.

The RMM reviews and agrees annually the list of entities it directly oversees and the composition of these entities.

Primary sources of funding

Customer deposits in the form of current accounts and savings deposits payable on demand or at short notice form a significant part of our funding, and we place considerable importance on maintaining their stability. For deposits, stability depends upon maintaining depositor confidence in our capital strength and liquidity, and on competitive and transparent pricing.

We also access wholesale funding markets by issuing senior secured and unsecured debt securities (publically and privately) and borrowing from the secured repo markets against high quality collateral, in order to obtain funding for non-banking subsidiaries that do not accept deposits, to align asset and liability maturities and currencies and to maintain a presence in local wholesale markets.

The management of liquidity and funding risk

Inherent liquidity risk categorisation

We place our operating entities into one of two categories (low and medium) to reflect our assessment of their inherent liquidity risk considering political, economic and regulatory factors within the host country and factors specific to the operating entities themselves, such as their local market, market share and balance sheet strength. The categorisation involves management judgement and is based on the perceived liquidity risk of an operating entity relative to other entities in the Group. The categorisation is intended to reflect the possible impact of a liquidity event, not the probability of an event, and forms part of our risk appetite. It is used to determine the prescribed stress scenario that we require our operating entities to be able to withstand and manage to.

Core deposits

A key element of our internal framework is the classification of customer deposits into core and non-core based on our expectation of their behaviour during periods of liquidity stress. This characterisation takes into account the inherent liquidity risk categorisation of the operating entity originating the deposit, the nature of the customer and the size and pricing of the deposit. No deposit is considered to be core in its entirety unless it is contractually collateralising a loan. The core deposit base in each operating entity is considered to be a long-term source of funding and therefore is assumed not to be withdrawn in the liquidity stress scenario that we use to calculate our principal liquidity risk metrics.

The three filters considered in assessing whether a deposit in any operating entity is core are:

- *price:* any deposit priced significantly above market or benchmark rates is generally treated as entirely non-core;
- *size:* depositors with total funds above certain monetary thresholds are excluded. Thresholds are established by considering the business line and inherent liquidity risk categorisation; and
- *line of business:* the element of any deposit remaining after the application of the price and size filters is assessed on the basis of the line of business with which the deposit is associated. The proportion of any customer deposit that can be considered core under this filter is between 35% and 90%.

Repo transactions and bank deposits cannot be classified as core deposits.

Advances to core funding ratio

Core customer deposits are an important source of funding to finance lending to customers, and mitigate against reliance on short-term wholesale funding. Limits are placed on operating entities to restrict their ability to increase loans and advances to customers without corresponding growth in core customer deposits or long-term debt funding with a residual maturity beyond one year; this measure is referred to as the 'advances to core funding' ratio.

Advances to core funding ratio limits are set by the RMM for the most significant operating entities, and by regional ALCOs for smaller operating entities, and are monitored by ALCM teams. The ratio describes loans and advances to customers as a percentage of the total of core customer deposits and term funding with a remaining term to maturity in excess of one year. In general, customer loans are assumed to be renewed and are included in the numerator of the ratio, irrespective of the contractual maturity date. Reverse repo arrangements are excluded from the advances to core funding ratio.

Stressed coverage ratios

Stressed coverage ratios are derived from stressed cash flow scenario analyses and express stressed cash inflows as a percentage of stressed cash outflows over one-month and three-month time horizons.

The stressed cash inflows include:

- inflows (net of assumed haircuts) expected to be generated from the realisation of liquid assets; and
- contractual cash inflows from maturing assets that are not already reflected as a utilisation of liquid assets.

In line with the approach adopted for the advances to core funding ratio, customer loans are generally assumed not to generate any cash inflows under stress scenarios and are therefore excluded from the numerator of the stressed coverage ratio, irrespective of the contractual maturity date.

A stressed coverage ratio of 100% or higher reflects a positive cumulative cash flow under the stress scenario being monitored. Group operating entities are required to maintain a ratio of 100% or more out to three months under the combined market-wide and HSBC-specific stress scenario defined by the inherent liquidity risk categorisation of the operating entity concerned.

Compliance with operating entity limits is monitored by ALCM teams and reported monthly to the RMM for the main operating entities and to regional ALCOs for the smaller operating entities.

Stressed scenario analysis

We use a number of standard Group stress scenarios designed to model:

- combined market-wide and HSBC-specific liquidity crisis scenarios; and
- market-wide liquidity crisis scenario.

These scenarios are modelled by all operating entities. The appropriateness of the assumptions for each scenario is reviewed by ALCM regularly and formally approved by the RMM and the Board annually as part of the liquidity and funding risk appetite approval process.

Stressed cash outflows are determined by applying a standard set of prescribed stress assumptions to the Group's cash flow model. Our framework prescribes the use of two market-wide scenarios and two further combined market-wide and HSBC-specific stress scenarios of increasing severity. In addition to our standard stress scenarios, individual operating entities are required to design their own scenarios to reflect specific local market conditions, products and funding bases.

The two combined market-wide and HSBC-specific scenarios model a more severe scenario than the market-wide scenario. The relevant combined market-wide and HSBC-specific stress scenario that an operating entity manages to is based upon its inherent liquidity risk categorisation. The key assumptions factored into the two combined market-wide and HSBC-specific stress scenarios are summarised as follows:

- all non-core deposits are deemed to be withdrawn within three months (80% within one month), with the level of non-core deposits dependent on the operating entity's inherent liquidity risk categorisation;

- the ability to access interbank funding and unsecured term debt markets ceases for the duration of the scenario;
- the ability to generate funds from illiquid asset portfolios (securitisation and secured borrowing) is restricted to 25-75% of the lower of issues in the last six months or expected issues in the next six months. The restriction is based on current market conditions and is dependent on the operating entity's inherent liquidity risk categorisation;
- the ability to access repo funding ceases for any asset not classified as liquid under our liquid asset policy for the duration of the scenario;
- drawdowns on committed lending facilities must be consistent with the severity of the market stress being modelled and dependent on the inherent liquidity risk categorisation of the operating entity;
- outflows are triggered by a defined downgrade in long-term ratings. We maintain an ongoing assessment of the appropriate number of notches to reflect;
- customer loans are assumed to be renewed at contractual maturity;
- interbank loans and reverse repos are assumed to run off contractually; and
- assets defined as liquid assets are assumed to be realised in cash ahead of their contractual maturity, after applying a defined stressed haircut of up to 20%.

Liquid assets of HSBC's principal operating entities

Stressed scenario analysis and the numerator of the coverage ratio include the assumed cash inflows that would be generated from the realisation of liquid assets, after applying the appropriate stressed haircut. These assumptions are made on the basis of management's expectation of when an asset is deemed to be realisable.

Liquid assets are unencumbered assets that meet the Group's definition of liquid assets and are either held outright or as a consequence of a reverse repo transaction with a residual contractual maturity beyond the time horizon of the stressed coverage ratio being monitored. Any unencumbered asset held as a result of reverse repo transactions with a contractual maturity within the time horizon of the stressed coverage ratio being monitored is excluded from the stock of liquid assets and is instead reflected as a contractual cash inflow.

Our framework defines the asset classes that can be assessed locally as high quality and realisable within one month and between one month and three months. Each local ALCO has to be satisfied that any asset which may be treated as liquid in accordance with the Group's liquid asset policy will remain liquid under the stress scenario being managed to.

Inflows from the utilisation of liquid assets within one month can generally only be based on confirmed withdrawable central bank deposits or the sale or repo of government and quasi-government exposures generally restricted to those denominated in the sovereign's domestic currency. High quality ABSs (predominantly US MBSs) and covered bonds are also included but inflows assumed for these assets are capped.

Inflows after one month are also reflected for high quality non-financial and non-structured corporate bonds and equities within the most liquid indices.

Internal categorisation	Cash inflow recognised	Asset classes
Level 1	Within one month	• Central government • Central bank (including confirmed withdrawable reserves) • Supranationals • Multilateral development banks • Coins and banknotes
Level 2	Within one month but capped	• Local and regional government • Public sector entities • Secured covered bonds and pass-through ABSs • Gold
Level 3	From one to three months	• Unsecured non-financial entity securities • Equities listed on recognised exchanges and within liquid indices

Any entity owned and controlled by central or local/regional government but not explicitly guaranteed is treated as a public sector entity.

Any exposure explicitly guaranteed is reflected as an exposure to the ultimate guarantor.

In terms of the criteria used to ensure liquid assets are of a high quality, the Group's liquid asset policy sets out the following additional criteria:

1. Central bank and central government exposures:
   - denominated in the domestic currency of the related sovereign and held:
     - onshore in the domestic banking system, qualify as Level 1 liquid assets.

- offshore, must be risk weighted 20% or lower under the Basel standardised risk weighting methodology to qualify as Level 1 liquid assets.

- denominated in a currency other than the currency of the related sovereign (i.e. foreign currency) must be risk weighted 20% or lower under the Basel standardised risk weighting methodology and issued in a limited number of major currencies to qualify as Level 1 liquid assets.

The treatment of eurozone countries using the euro as their domestic currency depends on whether the exposures are held onshore in the domestic banking system or offshore. Central bank and central government exposures held onshore in the domestic banking system qualify as Level 1 liquid assets under criteria 1, but central bank and central government exposures held offshore are considered to be denominated in a foreign currency under criteria 3.

2. Local/regional government exposures held onshore and considered by the local regulator to be the same risk as central government exposures can be considered central government exposures.
3. Supranationals and multilateral development banks must be 0% risk weighted under the Basel standardised risk-weighting methodology to qualify as Level 1 liquid assets.
4. To qualify as a level 2 liquid asset, the exposure must be risk weighted 20% or lower under the Basel standardised risk-weighting methodology.
5. To qualify as a Level 3 liquid asset, an unsecured non-financial corporate debt exposure must satisfy a minimum internal rating requirement.

On a case-by-case basis, operating entities are permitted to treat other assets as liquid if these assets are realistically assessed to be liquid under stress. These liquid assets are reported as 'Other', separately from Level 1, Level 2 and Level 3 liquid assets.

Net cash flow arising from interbank and intragroup loans and deposits

Under the LFRF, a net cash inflow within three months arising from interbank and intra-Group loans and deposits will give rise to a lower liquid asset requirement. Conversely, a net cash outflow within three months arising from interbank and intra-Group loans and deposits will give rise to a higher liquid assets requirement.

Net cash flow arising from reverse repo, repo, stock borrowing, stock lending and outright short positions (including intra-Group)

A net cash inflow represents liquid resources in addition to liquid assets because any unencumbered asset held as a consequence of a reverse repo transaction with a residual contractual maturity within the stressed coverage ratio time period is not reflected as a liquid asset.

The impact of net cash outflow depends on whether the underlying collateral encumbered as a result will qualify as a liquid asset when released at the maturity of the repo. The majority of the Group's repo transactions are collateralised by liquid assets and, as such, any net cash outflow shown is offset by the return of liquid assets, which are excluded from the liquid asset table above.

Wholesale debt monitoring

Where wholesale debt term markets are accessed to raise funding, ALCO is required to establish cumulative rolling three-month and 12-month debt maturity limits to ensure no concentration of maturities within these timeframes.

Liquidity behaviouralisation

Liquidity behaviouralisation is applied to reflect our assessment of the expected period for which we are confident that we will have access to our liabilities, even under a severe liquidity stress scenario, and the expected period for which we must assume that we will need to fund our assets. Behaviouralisation is applied when the contractual terms do not reflect the expected behaviour. Liquidity behaviouralisation is reviewed and approved by local ALCO in compliance with policies set by the RMM. Our approach to liquidity risk management will often mean different approaches are applied to assets and liabilities. For example, management may assume a shorter life for liabilities and a longer-term funding requirement for assets. All core deposits are assumed under the Group's core/non-core and advances to core funding frameworks to have a liquidity behaviouralised life beyond one year and to represent a homogeneous source of core funding. The behaviouralisation of assets is far more granular and seeks to differentiate the period for which we must assume that we will need to fund the asset.

Funds transfer pricing

Our funds transfer pricing policies give rise to a two-stage funds transfer pricing approach, reflecting the fact that we separately manage interest rate risk and liquidity and funding risk under different assumptions. They have been developed to be consistent with our risk management frameworks. Each operating entity is required to apply the Group's transfer pricing policy framework to determine for each material currency the most appropriate interest rate risk transfer pricing curve, a liquidity premium curve (which is the spread over the interest rate risk transfer pricing curve) and a liquidity recharge assessment (which is the spread under or over the interest rate risk transfer pricing curve).

The interest rate risk transfer pricing policy seeks to ensure that all market interest rate risk arising structurally from non-trading (banking book) assets and liabilities which is capable of being neutralised externally in the market or neutralised internally by off-setting transfers, is transferred to BSM to be managed centrally as non-trading market risk. For each material currency each operating entity employs a single interest rate risk transfer pricing curve. The transfer price curve used for this purpose reflects how BSM in each operating entity is best able to neutralise the interest rate risk in the market at the point of transfer. Where basis risk can be identified between the re-pricing basis of an external asset or external liability and the re-pricing basis of the interest rate risk transfer pricing curve, this basis risk may be transferred to BSM provided it can neutralise the basis risk in the market.

Liquidity and funding risk is transfer priced independently from interest rate risk because the liquidity and funding risk of an operating entity is transferred to ALCO to be managed centrally. ALCO monitors and manages the advances to core funding ratio and delegates the management of the liquid asset portfolio and execution of the wholesale term debt funding plan to BSM. This assists ALCO in ensuring the Group's stressed coverage ratios remain above 100% out to three months.

The liquidity and funding risk transfer price consists of two components:

- Liquidity recharge: the cost of holding the benchmark liquid asset (the yield under the transfer price) to meet stressed cash outflows. The benchmark liquid asset is decided by ALCO and based on the weighted average duration that can be achieved by investing in level 1 liquid assets, with a residual duration of up to one year.
- Liquidity premium: the assessed cost/value of term funding (the yield over the transfer price) to pay for term debt and core deposits.

The assessed cost of holding liquid assets is allocated to the outflows modelled by the Group's internal stressed coverage ratio framework.

Liquidity premium is charged to any asset that affects our three-month stressed coverage ratios based on the assessed behaviouralised liquidity life of the asset, with any asset affecting the Group's advances to core funding metric required to have a minimum behaviouralised life of at least one year, and the prevailing liquidity premium curve rate set by ALCO and calibrated in line with Group's calibration principles. Core deposits therefore share equally in the liquidity premiums charged to the assets they support, after deducting the cost of any term funding.

Repos and stock lending

GB&M provides collateralised security financing services to its clients, providing them with cash financing or specific securities. When cash is provided to clients against collateral in the form of securities, the cash provided is recognised on the balance sheet as a reverse repo. When securities are provided to clients against cash collateral the cash received is recognised on the balance sheet as a repo or, if the securities are equity securities, as stock lending.

Each operating entity manages its collateral through a central collateral pool, in line with the LFRF. When specific securities need to be delivered and the entity does not have them currently available within the central collateral pool, the securities are borrowed on a collateralised basis. When securities are borrowed against cash collateral the cash provided is recognised on the balance sheet as a reverse repo or, if the securities are equity securities, as stock borrowing.

Operating entities may also borrow cash against collateral in the form of securities, using the securities available in the central collateral pool. Repos and stock lending can be used in this way to fund the cash requirement arising from securities owned outright by Markets to facilitate client business, and the net cash requirement arising from financing client securities activity.

Reverse repos, stock borrowing, repos and stock lending are reported net when the IFRSs offsetting criteria are met. In some cases transactions to borrow or lend securities are collateralised using securities. These transactions are off-balance sheet.

Any security accepted as collateral for a reverse repo or stock borrowing transaction must be of very high quality and its value subject to an appropriate haircut. Securities borrowed under reverse repo or stock borrowing transactions can only be recognised as part of the liquidity asset buffer for the duration of the transactions and only if the security received is eligible under the liquid asset policy within the LFRF.

Credit controls are in place to ensure that the fair value of any collateral received remains appropriate to collateralise the cash or fair value of securities given.

The effect of active collateral management

Collateral is managed on an operating entity basis, consistent with the approach adopted in managing liquidity and funding. Available collateral held by each operating entity is managed as a single collateral pool. In deciding which collateral to pledge, each operating entity seeks to optimise the use of the available collateral pool within the confines of the LFRF, irrespective of whether the collateral pledged is recognised on-balance sheet or was received in respect of reverse repo, stock borrowing or derivative transactions.

Managing collateral in this manner affects the presentation of asset encumbrance in that we may encumber on-balance sheet holdings while maintaining available unencumbered off-balance sheet holdings, even though we are not seeking to directly finance the on-balance sheet holdings pledged.

In quantifying the level of encumbrance of negotiable securities, the encumbrance is analysed by individual security. When a particular security is encumbered and we hold the security both on-balance sheet and off-balance sheet with the right to repledge, we assume for the purpose of this disclosure that the off-balance sheet holding received from the third party is encumbered ahead of the on-balance sheet holding.

An on-balance sheet encumbered and off-balance sheet unencumbered asset will occur, for example, if we receive a specific security as a result of a reverse repo/stock borrowing transaction, but finance the cash lent by pledging a generic collateral basket, even if the security received is eligible for the collateral basket pledged. It will also occur if we receive a generic collateral basket as a result of a reverse repo transaction but finance the cash lent by pledging specific securities, even if the securities pledged are eligible for the collateral basket.

Encumbered and unencumbered assets

Definitions of the categories included in the table 'Analysis of on-balance sheet encumbered and unencumbered assets':

- *Assets encumbered as a result of transactions with counterparties other than central banks as a result of covered bonds* are any assets on our balance sheet pledged against our covered bonds issuance with a counterparty which is not central bank and as a result the assets are unavailable to the bank to secure funding, satisfy collateral needs or be sold to reduce potential future funding requirements.
- *Assets encumbered as a result of transactions with counterparties other than central banks as a result of securitisation* are any assets on our balance sheet pledged against securitisations with a counterparty which is not central bank including asset-backed commercial paper, CDOs, residential mortgage-backed securities, or structured investment vehicles paper and as a result the assets are unavailable to the bank to secure funding, satisfy collateral needs or be sold to reduce potential future funding requirements.
- *Assets encumbered as a result of transactions with counterparties other than central banks – Other* are assets on our balance sheet (other than covered bonds and securitisation above) which have been pledged with a counterparty which is not central bank as a collateral against an existing liability, and as a result are assets which are unavailable to the bank to secure funding, satisfy collateral needs or be sold to reduce potential future funding requirements. Examples include assets pledged for sale and repurchase and stock lending transactions and certain property assets.
- *Assets positioned at central banks (i.e. pre-positioned plus encumbered)* are any assets that are eligible for emergency central bank liquidity/funding or under central bank pre-existing arrangements for funding without further due diligence work required. Any transferable customer loan that is central bank eligible such as pre-positioned central bank UK mortgages and US mortgages accepted by FHLB and assets on our balance sheet which have been pledged with central bank as collateral against an existing liability, and as a result are assets which are unavailable to the bank to secure funding, satisfy collateral needs or be sold to reduce potential future funding requirements.
- *Unencumbered – readily available assets* are assets regarded by the bank to be readily available in the normal course of business to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, and are not subject to any restrictions on their use for these purposes.
- *Unencumbered – other assets capable of being encumbered* are assets where there are no restrictions on their use to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, but they are not readily realisable in the normal course of business in their current form.
- *Unencumbered – reverse repo/stock borrowing receivables and derivative assets* are assets related specifically to reverse repo, stock borrowing and derivative transactions. They are shown separately as these on-balance sheet assets cannot be pledged but often give rise to the receipt of non-cash assets which are not recognised on the balance sheet, and can additionally be used to raise secured funding, meet additional collateral requirements or be sold.
- *Unencumbered – cannot be encumbered* are assets that have not been pledged and which we have assessed could not be pledged and therefore could not be used to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements. An example is assets held by the Group's insurance subsidiaries that back liabilities to policyholders and support the solvency of these entities.

Historically, the Group has not recognised any contingent liquidity value for assets other than those assets defined under the LFRF as being liquid assets, and any other negotiable instruments that under stress are assumed to be realisable after three months, even though they may currently be realisable. This approach has generally been driven by our risk appetite not to place any reliance on central banks. In a few cases, we have recognised the contingent value of discrete pools of assets, but the amounts involved are insignificant. As a result, we have reported the majority of our loans and advances to customers and banks in the category 'Other realisable assets' as management would need to perform additional actions in order to make the assets transferable and readily realisable.

Additional information

The amount of assets pledged to secure liabilities reported in Note 18 on the Financial Statements may be greater than the book value of assets reported as being encumbered in the table on page 163. Examples of where such differences occur are:

- ABSs and covered bonds, where the amount of liabilities issued plus the required mandatory over-collateralisation is lower than the book value of assets pledged to the pool. Any difference is categorised in the table above as 'Unencumbered – readily realisable assets';
- negotiable securities held by custodians or settlement agents, where a floating charge has been given over the entire holding to secure intra-day settlement liabilities, are only reported as encumbered to the extent that we have a liability to the custodian or settlement agent at the reporting date, with the balance reported as 'Unencumbered – readily realisable assets'; and
- assets pre-positioned with central banks or government agencies are only reported as encumbered to the extent that we have secured funding with the collateral. The unutilised pre-positioned collateral is reported as 'Unencumbered – readily realisable assets'.

Securities reflected on the balance sheet that are pledged as collateral against an existing liability or lent are reflected as encumbered for the duration of the transaction. When securities are received as collateral or borrowed, and when we have the right to sell or re-pledge these securities, they are reflected as available and unencumbered for the duration of the transaction, unless re-pledged or sold. Further analysis regarding the encumbrance of securities resulting from repos and stock lending and available unencumbered assets arising from reverse repos and stock borrowing is provided under the heading 'Encumbered and unencumbered assets' on page 162.

In the normal course of business we do not seek to utilise repo financing as a source of funding to finance customer assets, beyond the collateralised security financing activities within Markets described above.

The original contractual maturity of reverse repo, stock borrowing, repo and stock lending is short term with the vast majority of transactions being for less than 90 days.

Management of cross-currency liquidity and funding risk

Our liquidity and funding risk framework also considers the ability of each entity to continue to access foreign exchange markets under stress when a surplus in one currency is used to meet a deficit in another currency, for example, by the use of the foreign currency swap markets. Where appropriate, operating entities are required to monitor stressed coverage ratios and advances to core funding ratios for non-local currencies.

HSBC Holdings

HSBC Holdings' primary sources of cash are dividends received from subsidiaries, interest on and repayment of intra-group loans and securities with interest earned on its own liquid funds. HSBC Holdings also raises ancillary funds in the debt capital markets through subordinated and senior debt issuance. Cash is primarily used for the provision of capital and TLAC funding to subsidiaries, interest payments to debt holders and dividend payments to shareholders.

HSBC Holdings is also subject to contingent liquidity risk by virtue of credit-related commitments and guarantees and similar contracts issued. Such commitments and guarantees are only issued after due consideration of HSBC Holdings' ability to finance the commitments and guarantees and the likelihood of the need arising.

HSBC Holdings actively manages the cash flows from its subsidiaries to optimise the amount of cash held at the holding company level. 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, exchange controls, statutory reserves, and financial and operating performance. During 2015, none of the Group's subsidiaries experienced significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged by our subsidiaries on paying dividends or repaying loans and advances, with the exception of HSBC North America Holdings Inc. None of the subsidiaries which are excluded from our regulatory consolidation has capital resources below its minimum regulatory requirement.

Market risk

Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.

Market risk in global businesses

The diagram below summarises the main business areas where trading and non-trading market risks reside and the market risk measures used to monitor and limit exposures.

	Trading risk	Non-trading risk			
Risk types	– Foreign exchange and commodities – Interest rates – Credit spreads – Equities	– Structural foreign exchange – Interest rates[1] – Credit spreads			
Global businesses	GB&M, including BSM	GB&M, incl BSM	GPB	CMB	RBWM
Risk measure	VaR | Sensitivity | Stress testing	VaR | Sensitivity | Stress testing			

1 *The interest rate risk on the fixed-rate securities issued by HSBC Holdings is not included in the Group VaR. The management of this risk is described on page 171.*

Where appropriate, we apply similar risk management policies and measurement techniques to both trading and non-trading portfolios. Our objective is to manage and control market risk exposures in order to optimise return on risk while maintaining a market profile consistent with our status as one of the world's largest banking and financial services organisations.

The nature of the hedging and risk mitigation strategies performed across the Group corresponds to the market risk management instruments available within each operating jurisdiction. These strategies range from the use of traditional market instruments, such as interest rate swaps, to more sophisticated hedging strategies to address a combination of risk factors arising at portfolio level.

Market risk governance

(Audited)

Market risk is managed and controlled through limits approved by the RMM for HSBC Holdings and our various global businesses. These limits are allocated across business lines and to the Group's legal entities.

The management of market risk is principally undertaken in GB&M, where 94% of the total value at risk of HSBC (excluding insurance) and almost all trading VaR resides, using risk limits approved by the GMB. VaR limits are set for portfolios, products and risk types, with market liquidity being a primary factor in determining the level of limits set.

Global Risk is responsible for setting market risk management policies and measurement techniques. Each major operating entity has an independent market risk management and control sub-function which is responsible for measuring market risk exposures in accordance with the policies defined by Global Risk, and monitoring and reporting these exposures against the prescribed limits on a daily basis. The market risk limits are governed according to the framework illustrated to the left.

Each operating entity is required to assess the market risks arising on each product in its business and to transfer them to either its local GB&M unit for management, or to separate books managed under the supervision of the local ALCO.

Our aim is to ensure that all market risks are consolidated within operations that have the necessary skills, tools, management and governance to manage them. In certain cases where the market risks cannot be fully transferred, we identify the effect of varying scenarios on valuations or on net interest income resulting from any residual risk positions. Further details on the control and management process for residual risks are provided on page 212.

Model risk is governed through Model Oversight Committees ('MOC's) at the regional and global Wholesale Credit and Market Risk levels. They have direct oversight and approval responsibility for all traded risk models utilised for risk measurement and management and stress testing. The MOCs prioritise the development of models, methodologies and practices used for traded risk management within the Group and ensure that they remain within our risk appetite and business plans. The Markets MOC reports into the Group MOC, which oversees all model risk types at Group level. Group MOC informs the RMM about material issues at least on a bi-annual basis. The RMM is the Group's 'Designated Committee' according to regulatory rules and has delegated day-to-day governance of all traded risk models to the Markets MOC.

Our control of market risk in the trading and non-trading portfolios is based on a policy of restricting individual operations to trading within a list of permissible instruments authorised for each site by Global Risk, of enforcing new product approval procedures, and of restricting trading in the more complex derivative products only to offices with appropriate levels of product expertise and robust control systems.

Market risk measures

Monitoring and limiting market risk exposures

Our objective is to manage and control market risk exposures while maintaining a market profile consistent with our risk appetite.

We use a range of tools to monitor and limit market risk exposures including sensitivity analysis, value at risk and stress testing.

Sensitivity analysis

Sensitivity analysis measures the impact of individual market factor movements on specific instruments or portfolios, including interest rates, foreign exchange rates and equity prices, such as the effect of a one basis point change in yield. We use sensitivity measures to monitor the market risk positions within each risk type. Sensitivity limits are set for portfolios, products and risk types, with the depth of the market being one of the principal factors in determining the level of limits set.

Value at risk

(Audited)

Value at risk ('VaR') is a technique that estimates the potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is integrated into market risk management and is calculated for all trading positions regardless of how we capitalise those exposures. Where there is not an approved internal model, we use the appropriate local rules to capitalise exposures.

In addition, we calculate VaR for non-trading portfolios to have a complete picture of risk. Our models are predominantly based on historical simulation. VaR is calculated at a 99% confidence level for a one-day holding period. Where we do not calculate VaR explicitly, we use alternative tools as summarised in the Market Risk Stress Testing table on page 213.

Our VaR models derive plausible future scenarios from past series of recorded market rates and prices, taking into account inter-relationships between different markets and rates such as interest rates and foreign exchange rates. The models also incorporate the effect of option features on the underlying exposures.

The historical simulation models used incorporate the following features:

- historical market rates and prices are calculated with reference to foreign exchange rates and commodity prices, interest rates, equity prices and the associated volatilities;
- potential market movements utilised for VaR are calculated with reference to data from the past two years; and
- VaR measures are calculated to a 99% confidence level and use a one-day holding period.

The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR without any changes in the underlying positions.

We are committed to the ongoing development of our in-house risk models.

VaR model limitations

Although a valuable guide to risk, VaR should always be viewed in the context of its limitations. For example:

- the use of historical data as a proxy for estimating future events may not encompass all potential events, particularly those which are extreme in nature;
- the use of a holding period assumes that all positions can be liquidated or the risks offset during that period. This may not fully reflect the market risk arising at times of severe illiquidity, when the holding period may be insufficient to liquidate or hedge all positions fully;
- the use of a 99% confidence level, by definition, does not take into account losses that might occur beyond this level of confidence;
- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not necessarily reflect intra-day exposures; and
- VaR is unlikely to reflect loss potential on exposures that only arise under conditions of significant market movement.

Risk not in VaR framework

Our VaR model is designed to capture significant basis risks such as CDS versus bond, asset swap spreads and cross-currency basis. Other basis risks which are not completely covered in VaR, such as the Libor tenor basis, are complemented by our risk not in VaR ('RNIV') calculations, and are integrated into our capital framework.

The RNIV framework therefore aims to capture and capitalise material market risks that are not adequately covered in the VaR model. An example of this is Libor-overnight index swap basis risk for minor currencies. In such instances the RNIV framework uses stress tests to quantify the capital requirement. On average in 2015, the capital requirement derived from these stress tests represented 2.3% of the total internal model-based market risk requirement.

Risks covered by RNIV represented 19% of market risk RWAs for models with regulatory approval and included those resulting from underlying risk factors which are not observable on a daily basis across asset classes and products, such as dividend risk and implied correlation risks.

Risk factors are reviewed on a regular basis and either incorporated directly in the VaR models, where possible, or quantified through the VaR-based RNIV approach or a stress test approach within the RNIV framework. The severity of the scenarios is calibrated to be in line with the capital adequacy requirements. The outcome of the VaR-based RNIV is included in the VaR calculation and back-testing; a stressed VaR RNIV is also computed for the risk factors considered in the VaR-based RNIV approach.

Level 3 assets

The fair values of Level 3 assets and liabilities in trading portfolios are disclosed on page 382, and represent only a small proportion of the overall trading portfolio. Market risk arising from Level 3 instruments is managed by various market risk techniques such as stress testing and notional limits. The table on page 384 shows the movement in Level 3 financial instruments.

Stress testing

Stress testing is an important procedure that is integrated into our market risk management tool to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such scenarios, losses can be much greater than those predicted by VaR modelling.

Stress testing is implemented at legal entity, regional and overall Group levels. A standard set of scenarios is utilised consistently across all regions within the Group. Scenarios are tailored to capture the relevant events or market movements at each level. The risk appetite around potential stress losses for the Group is set and monitored against referral limits.

Market Risk Stress Testing				
Sensitivities	Technical	Hypothetical	Historical	Reverse Stress Testing
Impact of a single risk factor e.g. break of a currency peg	Impact of the largest move in each risk factor without consideration of any underlying market correlation	Impact of potential macroeconomic events, e.g. slowdown in mainland China	Scenarios that incorporate historical observations of market movements e.g. Black Monday (in 1987) for equities	

Market risk reverse stress tests are undertaken on the premise that there is a fixed loss. The stress testing process identifies which scenarios lead to this loss. The rationale behind the reverse stress test is to understand scenarios which are beyond normal business settings that could have contagion and systemic implications.

Stressed VaR and stress testing, together with reverse stress testing and the management of gap risk, provide management with insights regarding the 'tail risk' beyond VaR for which HSBC's appetite is limited.

Trading portfolios

Volcker Rule

In 2013, US regulators finalised the Volcker Rule. Section 619 of the Dodd-Frank Wall Street Reform and Consumer Protection Act and its final implementing rules (collectively referred to as the 'Volcker Rule') imposes broad restrictions on HSBC's ability to engage in 'proprietary trading' or to own, sponsor, or have certain relationships with hedge funds, private equity funds, and certain other collective investment vehicles (broadly defined as 'covered funds'). These restrictions are subject to a number of exemptions or exclusions, including market making, underwriting and risk-mitigating hedging, organising covered funds for customers and issuers of asset-backed securities, and underwriting or market making in covered fund interests.

The Volcker Rule broadly went into effect on 22 July 2015, with the exception of certain legacy fund activities that are able to rely on an extension of the conformance date.

HSBC has implemented a programme to comply with the Volcker Rule, including policies and procedures, internal controls, corporate governance, independent testing, training, and record keeping and, eventually, calculation and reporting of quantitative metrics for certain trading activities.

HSBC has completed training for all affected front office and control personnel, has conformance plans for those covered funds to which the extension applies, and believes that it is compliant in all material respects with the Volcker Rule.

Back-testing

We routinely validate the accuracy of our VaR models by back-testing them against both actual, which replaced clean profit and loss from 1 August 2015, and hypothetical profit and loss against the corresponding VaR numbers. Hypothetical profit and loss excludes non-modelled items such as fees, commissions and revenues of intra-day transactions.

We would expect on average to see two or three profits and two or three losses in excess of VaR at the 99% confidence level over a one-year period. The actual number of profits or losses in excess of VaR over this period can therefore be used to gauge how well the models are performing.

We back-test our Group VaR at various levels which reflect a full legal entity scope of HSBC, including entities that do not have local permission to use VaR for regulatory purposes.

Gap risk

Certain products, such as non-recourse margin loans, are not exposed to small day-to-day moves in market rates or prices, but are exposed large discontinuous moves. Such movements may occur, for example, when, in reaction to an adverse event or unexpected news announcement, some parts of the market move far beyond their normal volatility range and become temporarily illiquid. Products which exhibit exposure only to large discontinuous moves (gap risk) are not well captured by VaR measures or traditional market risk sensitivity measures. HSBC has implemented additional stress measurement and controls over such products.

In 2015, gap risk exposure was primarily due to non-recourse loan transactions, mostly for corporate clients, where the collateral against the loan is limited to the posted assets. Upon occurrence of a gap event, the value of the collateral could fall below the outstanding loan amount.

We did not incur any notable gap loss in 2015.

De-peg risk

For certain currencies (pegged or managed) the spot exchange rate is pegged at a fixed-rate (typically to US dollars or euros), or managed within a predefined band around a pegged rate. De-peg risk is the risk of the peg or managed band changing or being abolished, and moving to a floating regime.

HSBC has extensive experience in managing fixed and managed currency regimes. Using stressed scenarios on spot rates, we are able to analyse how de-peg events would affect the positions held by HSBC. We monitor such scenarios to pegged or managed currencies, such as the Hong Kong dollar, renminbi and Middle Eastern currencies, and limit any potential losses that would occur. This historical VaR measures, which may not fully capture the risk involved in holding positions in pegged or managed currencies, as such currencies may not have experienced a de-peg event during the historical timeframe being considered.

ABS/MBS exposures

The ABS/MBS (asset and mortgage-backed securities) exposures within the trading portfolios are managed within sensitivity and VaR limits as described on page 167, and are included within the stress testing scenarios described above.

Non-trading portfolios

(Audited)

Most of the Group's non-trading VaR relates to Balance Sheet Management ('BSM') or local treasury management functions. Contributions to Group non-trading VaR are driven by interest rates and credit spread risks arising from all global businesses. There is no commodity market risk in the non-trading portfolios.

Non-trading VaR also includes the interest rate risk of non-trading financial instruments held by the global businesses and transferred into portfolios managed by BSM or local treasuries. In measuring, monitoring and managing risk in our non-trading portfolios, VaR is just one of the tools used. The management of interest rate risk in the banking book is described further in 'Non-trading interest rate risk' below, including the role of BSM.

Non-trading VaR excludes equity risk on available-for-sale securities, structural foreign exchange risk, and interest rate risk on fixed-rate securities issued by HSBC Holdings, the scope and management of which are described in the relevant sections below.

Our control of market risk in the non-trading portfolios is based on transferring the assessed market risk of non-trading assets and liabilities created outside BSM or Markets, to the books managed by BSM, provided the market risk can be neutralised. The net exposure is typically managed by BSM through the use of fixed-rate government bonds (liquid assets held in available-for-sale books) and interest rate swaps. The interest rate risk arising from fixed-rate government bonds held within available-for-sale portfolios is reflected within the Group's non-traded VaR. Interest rate swaps used by BSM are typically classified as either a fair value hedge or a cash flow hedge and are included within the Group's non-traded VaR. Any market risk that cannot be neutralised in the market is managed by local ALCOs in segregated ALCO books.

Equity securities classified as available for sale

Potential new commitments are subject to risk appraisal to ensure that industry and geographical concentrations remain within acceptable levels for the portfolio. Regular reviews are performed to substantiate the valuation of the investments within the portfolio and investments held to facilitate ongoing business, such as holdings in government-sponsored enterprises and local stock exchanges.

Structural foreign exchange exposures

Structural foreign exchange exposures represent net investments in subsidiaries, branches and associates, the functional currencies of which are currencies other than the US dollar. An entity's functional currency is that of the primary economic environment in which the entity operates.

Exchange differences on structural exposures are recognised in 'Other comprehensive income'. We use the US dollar as our presentation currency in our consolidated financial statements because the US dollar and currencies linked to it form the major currency bloc in which we transact and fund our business. Our consolidated balance sheet is, therefore, affected by exchange differences between the US dollar and all the non-US dollar functional currencies of underlying subsidiaries.

We hedge structural foreign exchange exposures only in limited circumstances. Our structural foreign exchange exposures are managed with the primary objective of ensuring, where practical, that our consolidated capital ratios and the capital ratios of individual banking subsidiaries are largely protected from the effect of changes in exchange rates. This is usually achieved by ensuring that, for each subsidiary bank, the ratio of structural exposures in a given currency to RWAs denominated in that currency is broadly equal to the capital ratio of the subsidiary in question.

We may also transact hedges where a currency in which we have structural exposures is considered likely to revalue adversely, and it is possible in practice to transact a hedge. Any hedging is undertaken using forward foreign exchange contracts which are accounted for under IFRSs as hedges of a net investment in a foreign operation, or by financing with borrowings in the same currencies as the functional currencies involved. We evaluate residual structural foreign exchange exposures using an expected shortfall method.

Non-trading interest rate risk

Non-trading book interest rate risk arises principally from mismatches between the future yield on assets and their funding cost, as a result of interest rate changes. Analysis of this risk is complicated by making assumptions on embedded optionality within certain product areas such as the incidence of mortgage prepayments, and from behavioural assumptions regarding the economic duration of liabilities which are contractually repayable on demand such as current accounts, and the re-pricing behaviour of managed rate products. These assumptions around behavioural features are captured in our interest rate risk behaviouralisation framework, which is described below.

We aim, through our management of market risk in non-trading portfolios, to mitigate the effect of prospective interest rate movements which could reduce future net interest income, while balancing the cost of such hedging activities on the current net revenue stream.

Our funds transfer pricing policies give rise to a two stage funds transfer pricing approach. For details see page 207.

Interest rate risk behaviouralisation

Unlike liquidity risk, which is assessed on the basis of a very severe stress scenario, non-trading interest rate risk is assessed and managed according to 'business-as-usual' conditions. In many cases the contractual profile of non-trading assets/liabilities arising from assets/liabilities created outside Markets or BSM does not reflect the behaviour observed.

Behaviouralisation is therefore used to assess the market interest rate risk of non-trading assets/liabilities and this assessed market risk is transferred to BSM, in accordance with the rules governing the transfer of interest rate risk from the global businesses to BSM.

Behaviouralisation is applied in three key areas:

- the assessed re-pricing frequency of managed rate balances;
- the assessed duration of non-interest bearing balances, typically capital and current accounts; and
- the base case expected prepayment behaviour or pipeline take-up rate for fixed-rate balances with embedded optionality.

Interest rate behaviouralisation policies have to be formulated in line with the Group's behaviouralisation policies and approved at least annually by local ALCOs and regional ALCMs, in conjunction with local, regional and Group market risk monitoring teams.

The extent to which balances can be behaviouralised is driven by:

- the amount of the current balance that can be assessed as 'stable' under business-as-usual conditions; and
- for managed rate balances, the historical market interest rate re-pricing behaviour observed; or

- for non-interest bearing balances, the duration for which the balance is expected to remain under business-as-usual conditions. This assessment is often driven by the re-investment tenors available to BSM to neutralise the risk through the use of fixed-rate government bonds or interest rate derivatives, and for derivatives the availability of cash flow hedging capacity.

Balance Sheet Management

Effective governance across BSM is supported by the dual reporting lines it has to the CEO of GB&M and to the Group Treasurer. In each operating entity, BSM is responsible for managing liquidity and funding under the supervision of the local ALCO (which usually meets on a monthly basis). It also manages the non-trading interest rate positions transferred to it within a Markets limit structure.

In executing the management of the liquidity risk on behalf of ALCO, and managing the non-trading interest rate positions transferred to it, BSM invests in highly-rated liquid assets in line with the Group's liquid asset policy. The majority of the liquidity is invested in central bank deposits and government, supranational and agency securities with most of the remainder held in short-term interbank and central bank loans.

Withdrawable central bank deposits are accounted for as cash balances. Interbank loans, statutory central bank reserves and loans to central banks are accounted for as loans and advances to banks. BSM's holdings of securities are accounted for as available-for-sale or, to a lesser extent, held-to-maturity assets.

Statutory central bank reserves are not recognised as liquid assets. The statutory reserves that would be released in line with the Group's stressed customer deposit outflow assumptions are reflected as stressed inflows.

BSM is permitted to use derivatives as part of its mandate to manage interest rate risk. Derivative activity is predominantly through the use of vanilla interest rate swaps which are part of cash flow hedging and fair value hedging relationships.

Credit risk in BSM is predominantly limited to short-term bank exposure created by interbank lending, exposure to central banks and high quality sovereigns, supranationals or agencies which constitute the majority of BSM's liquidity portfolio. BSM does not manage the structural credit risk of any Group entity balance sheets.

BSM is permitted to enter into single name and index credit derivatives activity, but it does so to manage credit risk on the exposure specific to its securities portfolio in limited circumstances only. The risk limits are extremely limited and closely monitored. At 31 December 2015, BSM had no open credit derivative index risk.

VaR is calculated on both trading and non-trading positions held in BSM. It is calculated by applying the same methodology used for the Markets business and utilised as a tool for market risk control purposes.

BSM holds trading portfolio instruments in only very limited circumstances. Positions and the associated VaR were not significant during 2015.

Sensitivity of net interest income

A principal part of our management of market risk in non-trading portfolios is to monitor the sensitivity of expected net interest income under varying interest rate scenarios (simulation modelling). This monitoring is undertaken at an entity level by local ALCOs.

Entities apply a combination of scenarios and assumptions relevant to their local businesses, and standard scenarios which are required throughout HSBC. The latter are consolidated to illustrate the combined pro forma effect on our consolidated net interest income.

Projected net interest income sensitivity figures represent the effect of the pro forma movements in net interest income based on the projected yield curve scenarios and the Group's current interest rate risk profile. This effect, however, does not incorporate actions which would probably be taken by BSM or in the business units to mitigate the effect of interest rate risk. In reality, BSM seeks proactively to change the interest rate risk profile to minimise losses and optimise net revenues. The net interest income sensitivity calculations assume that interest rates of all maturities move by the same amount in the 'up-shock' scenario. Rates are not assumed to become negative in the 'down-shock' scenario which may, in certain currencies, effectively result in non-parallel shock. In addition, the net interest income sensitivity calculations take account of the effect on net interest income of anticipated differences in changes between interbank interest rates and interest rates over which the entity has discretion in terms of the timing and extent of rate changes.

Defined benefit pension schemes

Market risk arises within our defined benefit pension schemes to the extent that the obligations of the schemes are not fully matched by assets with determinable cash flows. See 'Pension risk' on page 225 for additional information.

HSBC Holdings

As a financial services holding company, HSBC Holdings has limited market risk activity. Its activities predominantly involve maintaining sufficient capital resources to support the Group's diverse activities; allocating these capital resources across our businesses; earning dividend and interest income on its investments in our businesses; providing dividend payments to its equity shareholders and interest payments to providers of debt capital; and maintaining a supply of short-term capital resources for deployment under extraordinary circumstances. It does not take proprietary trading positions.

The main market risks to which HSBC Holdings is exposed are non-trading interest rate risk and foreign currency risk. Exposure to these risks arises from short-term cash balances, funding positions held, loans to subsidiaries, investments in long-term financial assets and financial liabilities including debt capital issued. The objective of HSBC Holdings' market risk management strategy is to reduce exposure to these risks and minimise volatility in capital resources, cash flows and distributable reserves. Market risk for HSBC Holdings is monitored by HSBC Holdings ALCO in accordance with its risk appetite statement.

HSBC Holdings uses interest rate swaps and cross currency interest rate swaps to manage the interest rate risk and foreign currency risk arising from its long-term debt issues.

Operational risk

The objective of our operational risk management is to manage and control operational risk in a cost effective manner within targeted levels of operational risk consistent with our risk appetite, as defined by the GMB.

Operational risk is organised as a specific risk discipline within Global Risk, and a formal governance structure provides oversight over its management. The Global Operational Risk sub-function supports the Group Chief Risk Officer and the Global Operational Risk Committee. It is responsible for establishing and maintaining the Operational Risk Management Framework ('ORMF') and monitoring the level of operational losses and the effectiveness of the control environment. It is also responsible for operational risk reporting at Group level, including the preparation of reports for consideration by the RMM and the Group Risk Committee. The Global Operational Risk Committee meets at least quarterly to discuss key risk issues and review the effective implementation of the ORMF.

The ORMF defines minimum standards and processes and the governance structure for the management of operational risk and internal control in our geographical regions, global businesses and global functions. The ORMF has been codified in a high level standards manual supplemented with detailed policies which describes our approach to identifying, assessing, monitoring and controlling operational risk and gives guidance on mitigating action to be taken when weaknesses are identified.

Business managers throughout the Group are responsible for maintaining an acceptable level of internal control commensurate with the scale and nature of operations, and for identifying and assessing risks, designing controls and monitoring the effectiveness of these controls. The ORMF helps managers to fulfil these responsibilities by defining a standard risk assessment methodology and providing a tool for the systematic reporting of operational loss data.

A centralised database is used to record the results of the operational risk management process. Operational risk and control self-assessments are input and maintained by business units. Business and functional management and business risk and control managers monitor the progress of documented action plans to address shortcomings. To ensure that operational risk losses are consistently reported and monitored at Group level, all Group companies are required to report individual losses when the net loss is expected to exceed $10,000, and to aggregate all other operational risk losses under $10,000. Losses are entered into the Group Operational Risk database and are reported to the RMM on a monthly basis.

For further details, see the *Pillar 3 Disclosures 2015* report.

Compliance risk

Compliance risk falls within the definition of operational risk. All Group companies are required to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice. These rules, regulations, Group policies and formal standards include those relating to AML, counter-terrorist and proliferation financing, sanctions compliance, anti-bribery and corruption, conduct of business and other regulations.

The two Compliance sub-functions: Financial Crime Compliance ('FCC') and Regulatory Compliance ('RC'), are appropriately supported by a shared Compliance Operating Office and Reputational Risk Management teams. The Global Head of Financial Crime Compliance and the Global Head of Regulatory Compliance both report to the Group Chief Risk Officer.

There are compliance teams in each of the countries where we operate and in all global businesses. These compliance teams are principally overseen by Heads of Financial Crime Compliance and Regulatory Compliance located in Europe, the US, Canada, Latin America, Asia and the Middle East and North Africa. The effectiveness of the regional and global business compliance teams are reviewed by the respective FCC and RC Assurance teams.

Global policies and procedures require the prompt identification and escalation to Financial Crime Compliance or Regulatory Compliance of all actual or suspected breaches of any law, rule, regulation, policy or other relevant requirement. Reportable events are reported to the relevant Risk Management Committees and those of Group significance are escalated to the RMM, the Group Risk Committee and the Board, as appropriate. They are disclosed in the *Annual Report and Accounts* and *Interim Report*, as appropriate.

We published a new Global Conduct Policy in 2015 (following the approval and implementation of the global conduct approach and framework in 2014) for the management of conduct designed to ensure that we meet our strategic commitment to deliver fair outcomes for our customers, and not to disrupt the orderly and transparent operation of financial markets. It defines responsibilities and ensures that business activity and decisions are underpinned by a robust consideration and management of associated risks supporting delivery of the required fair outcomes for customers and maintenance of market integrity. Our focus on compliance and conduct issues is further reinforced by the Financial System Vulnerabilities Committee, which reports to the Board on matters relating to financial crime and financial system abuse and provides a forward-looking perspective on financial crime risk. In addition, the Conduct & Values Committee reports to the Board on matters relating to delivery of the required global conduct outcomes for customers and the orderly and transparent operation of financial markets, together with adherence to HSBC's Values.

Legal risk

Each legal department is required to have processes and procedures in place to manage legal risk that conform to Group standards.

Legal risk falls within the definition of operational risk and includes:

- contractual risk, which is the risk of a member of HSBC suffering financial loss, legal or regulatory action or reputational damage because its rights and/or obligations under a contract to which it is a party are technically defective;
- dispute adjudication risk, which is the risk of a member of HSBC suffering financial loss or reputational damage due to an adverse dispute environment or a failure to take appropriate steps to defend, prosecute and/or resolve actual or threatened legal claims brought against or by a Group member, including for the avoidance of doubt, regulatory matters;
- legislative risk, which is the risk that a Group member fails to or is unable to identify, analyse, track, assess or correctly interpret applicable legislation, case law or regulation, or new regulatory, legislative or doctrinal interpretations of existing laws or regulations, or decisions in the Courts or regulatory bodies; and
- non-contractual rights risk, which is the risk that a Group member's assets are not properly owned or protected or are infringed by others, or a Group member infringes another party's rights.

There are legal departments in 47 of the countries in which we operate. In addition to the Group Legal function, there are regional legal sub-functions in each of Europe, North America, Latin America, the Middle East and North Africa and Asia headed by Regional General Counsels, and a Global General Counsel responsible for each of the global businesses.

Global security and fraud risk

Security and fraud risk issues are managed at Group level by Global Security and Fraud Risk. This unit, which has responsibility for information, fraud, contingency, financial intelligence, physical and geopolitical risks is fully integrated within the central Global Risk function. This enables management to identify and mitigate the permutations of these and other non-financial risks to its business lines across the jurisdictions in which we operate.

- The Information Security Risk sub-function is responsible for defining the strategy and policy by which the organisation protects its information assets and services from compromise, corruption or loss, whether caused deliberately or inadvertently by internal or external parties. It provides independent advice, guidance and oversight to the business about the effectiveness of information security controls and practices in place or being proposed.
- The Fraud Risk sub-function is responsible for ensuring that effective prevention, detection and investigation measures are in place against all forms of fraudulent activity, whether initiated internally or externally, and is available to support any part of the business. To achieve that and to attain the level of integration needed to face the threat, the management of all types of fraud (e.g. card fraud, non-card fraud and internal fraud, including investigations) is established within one management structure and is part of the Global Risk function. We use technology extensively to prevent and detect fraud. For example, customers' credit and debit card spending is monitored continuously and suspicious transactions are highlighted for verification, internet banking sessions are reviewed and transactions monitored in a similar way and all new account applications are screened for fraud. We have a fraud systems strategy which is designed to provide minimum standards and allow easier sharing of best practices to detect fraud and minimise false alerts. We have developed a holistic and effective anti-fraud strategy which, in addition to the use of advanced technology, includes fraud prevention policies and practices, the implementation of strong internal controls, investigations response teams and liaison with law enforcement where appropriate.
- The Contingency Risk sub-function is responsible for ensuring that the group's critical systems, processes and functions have the resilience to maintain continuity in the face of major disruptive events. Within this wider risk, business continuity management covers the pre-planning for recovery, seeking to minimise the adverse effects of major business disruption, either globally, regionally or within country, against a range of actual or emerging risks. The pre-planning concentrates on the protection of customer services, our staff, revenue generation, the integrity of data and documents and meeting regulatory requirements. Each business has its own recovery plan, which is developed following the completion of a business impact analysis. This determines how much time the business could sustain an outage before the level of losses becomes unacceptable, i.e. its criticality. These plans are reviewed and tested every year. The planning is undertaken against Group policy and standards and each business confirms in an annual compliance certificate that all have been met. Should there be exceptions, these are raised and their short-term resolution is overseen by Group and regional business

continuity teams. It is important that plans are dynamic and meet all risks, particularly those of an emerging nature such as possible pandemics and cyber attacks. The ORMF is used to measure our resilience to these risks, and is confirmed to Group and regional risk committees. Resilience is managed through various risk mitigation measures. These include agreeing with IT acceptable recovery times of systems, ensuring our critical buildings have the correct infrastructure to enable ongoing operations, requiring critical vendors to have their own recovery plans and arranging with Group Insurance appropriate cover for business interruption costs.

- The Financial Intelligence Unit is jointly administered by Security and Fraud Risk and Financial Crime Compliance. It uses advanced analytics and subject matter expertise to detect indicators of financial crime in the Group's clients and counter-parties.
- The Physical Security sub-function develops practical physical, electronic and operational counter-measures to ensure that the people, property and assets managed by the Group are protected from crime, theft, attack and groups hostile to HSBC's interests.
- The Geopolitical Risk Unit provides both regular and ad hoc reporting to business executives and senior security and fraud risk management on geopolitical risk profiles and evolving threats in countries in which the Group operates. This both enhances strategic business planning and provides an early view into developing security risks. Security travel controls and guidance are also maintained.

Systems risk

Systems risk is the risk of failure or malfunction in the automated platforms that support the Group's daily execution (application systems) and the systems infrastructure on which they reside (data centres, networks and distributed computers).

The management of systems risk is overseen globally by the HSBC Operations, Services and Technology ('HOST') organisation. Oversight is provided through monthly risk management committee meetings that provide a comprehensive overview of existing and emerging top risks.

HOST manages the control environment over systems risks using risk and control assessments and scenario analysis. Material risks are monitored through the periodic testing of associated key controls.

Business-critical services have been identified. Quantitative scorecards called risk appetite statements are used for monitoring performance, and have been established for each of these services.

Global availability monitoring (24x7) is in place to assist in determining systems health. Our incident management processes are linked to business and geographical major incident groups for recovery decision-making and communication to customers and regulators.

Vendor risk management

Our vendor risk management ('VRM') programme is a global framework for managing risk with third party vendors, especially where we are reliant on outsourced agreements to provide critical services to our customers. VRM contains a rigorous process to identify material contracts and their key risks and ensure controls are in place to manage and mitigate these risks. Global and regional governance structures have been implemented to oversee vendor third party service providers.

Risk management of insurance operations

Overview of insurance products

(Audited)

HSBC manufactures the following main classes of contract:

- life insurance contracts with discretionary participation features ('DPF');
- credit life insurance business;
- annuities;
- term assurance and critical illness policies;
- linked life insurance;
- investment contracts with DPF;
- unit-linked investment contracts; and
- other investment contracts (including pension contracts written in Hong Kong).

We additionally write a small amount of non-life insurance business primarily covering personal and commercial property.

Nature and extent of risks

(Audited)

The majority of the risks in our Insurance business derive from manufacturing activities and can be categorised between financial risks and insurance risk; financial risks include market risk, credit risk and liquidity risk. Operational and sustainability risks are also present and are covered by the Group's respective overall risk management processes.

The following sections describe how financial risks and insurance risk are managed.

HSBC subsidiaries that manufacture insurance products establish control procedures complying with the guidelines and requirements issued by Group Insurance and local regulatory requirements. Country level oversight is exercised by local insurance risk management committees. Country Chief Risk Officers ('CRO's) have reporting lines locally and functional reporting lines into the Group Insurance CRO, who has overall accountability for risk management in insurance operations globally. The Group Insurance Risk Management Committee oversees the control framework globally and is accountable to the RBWM Risk Management Committee on risk matters.

In addition, local ALCOs monitor and review the duration and cash flow matching of insurance assets and liabilities.

All insurance products, whether manufactured internally or by a third party, are subjected to a product approval process prior to introduction.

Financial risks

(Audited)

Our insurance businesses are exposed to a range of financial risks, including market risk, credit risk and liquidity risk. Market risk includes interest rate, equity and foreign exchange risks. The nature and management of these risks is described below.

Manufacturing subsidiaries are exposed to financial risks when, for example, the proceeds from financial assets are not sufficient to fund the obligations arising from insurance and investment contracts. In many jurisdictions, local regulatory requirements prescribe the type, quality and concentration of assets that these subsidiaries must maintain to meet insurance liabilities. These requirements complement Group-wide policies.

Market risk

(Audited)

Market risk is managed through limits approved by the RMM for HSBC Holdings. An allocation of the Group-wide market risk appetite is provided to the Insurance business by Group Traded Risk. These limits are then apportioned between different Insurance entities to support the strategic aims of the business.

The market risk team supporting insurance within Wholesale Market Risk and the Group Insurance CRO are responsible for setting market risk management policies and measurement techniques applied to the Insurance activities of HSBC.

At entity level the appetite for market risk is expressed through detailed market risk mandates. Investment Officers hold day-to-day responsibility for managing assets so as to remain within the mandates and are answerable to the local ALCOs. ALCOs hold wider responsibility over longer-term actions related to liabilities that are necessary to remain within the agreed mandates.

ALCOs act to implement the strategy of the Executive Committee which, in turn, is answerable to the Board. The Board holds ultimate accountability over the risk profile held and targeted within each company.

Description of market risk

The main features and exposures of products manufactured by our insurance manufacturing subsidiaries which generate market risk, and the market risk to which these features expose the Group, are discussed below.

Interest rate risk arises from a mismatch between asset yields and the investment returns implied by the guarantees payable to policyholders by insurance manufacturing subsidiaries. When asset yields are below guaranteed yields, products may be closed to new business, repriced or restructured. A list of the different types of guarantees within our insurance contracts is outlined below.

Categories of guaranteed benefits

- implicit interest rate guarantees: when future policyholder benefits are defined as fixed monetary amounts, e.g. annuities in payment and endowment savings contracts;
- annual return: the annual return is guaranteed to be no lower than a specified rate. This may be the return credited to the policyholder every year, or the average annual return credited to the policyholder over the life of the policy, which may occur on the maturity date or the surrender date of the contract; and
- capital: policyholders are guaranteed to receive no less than the premiums paid plus declared bonuses less expenses.

The proceeds from insurance and investment products with DPF are primarily invested in bonds with a proportion allocated to other asset classes in order to provide customers with the potential for enhanced returns. Subsidiaries with portfolios of such products are exposed to the risk of falls in market prices which cannot be fully reflected in the discretionary bonuses. An increase in market volatility could also result in an increase in the value of the guarantee to the policyholder.

Long-term insurance and investment products typically permit the policyholder to surrender the policy or let it lapse at any time. When the surrender value is not linked to the value realised from the sale of the associated supporting assets, the subsidiary is exposed to market risk. In particular, when customers seek to surrender their policies when asset values are falling, assets may have to be sold at a loss to fund redemptions.

A subsidiary holding a portfolio of long-term insurance and investment products, especially with DPF, may attempt to reduce exposure to its local market by investing in assets in countries other than that in which it is based. These assets may be denominated in currencies other than the subsidiary's local currency. Where the foreign exchange exposure associated with these assets is not hedged, for example because it is not cost effective to do so, this exposes the subsidiary to the risk of its local currency strengthening against the currency of the related assets.

For unit-linked contracts, market risk is substantially borne by the policyholder, but market risk exposure typically remains as fees earned for management are related to the market value of the linked assets.

Asset and liability matching

It is not always possible to match asset and liability durations, partly because there is uncertainty over policyholder behaviour which introduces uncertainty over the receipt of all future premiums and the timing of claims, and partly because the forecast payment dates of liabilities may exceed the duration of the longest dated investments available.

We use models to assess the effect of a range of future scenarios on the values of financial assets and associated liabilities, and ALCOs employ the outcomes in determining how to best structure asset holdings to support liabilities. The scenarios include stresses applied to factors which affect insurance risk such as mortality and lapse rates. Of particular importance is assessing the expected pattern of cash inflows against the benefits payable on the underlying contracts, which can extend for many years.

How market risk is managed

All our insurance manufacturing subsidiaries have market risk mandates which specify the investment instruments in which they are permitted to invest and the maximum quantum of market risk which they may retain. They manage market risk by using some or all of the techniques listed below, depending on the nature of the contracts they write.

Techniques for managing market risk

- for products with DPF, adjusting bonus rates to manage the liabilities to policyholders. The effect is that a significant portion of the market risk is borne by the policyholder;
- structuring asset portfolios to support projected liability cash flows;
- using derivatives to protect against adverse market movements or better match liability cash flows;
- for new products with investment guarantees, considering the cost when determining the level of premiums or the price structure;
- periodically reviewing products identified as higher risk, which contain investment guarantees and embedded optionality features linked to savings and investment products;
- designing new products to mitigate market risk, such as changing the investment return sharing portion between policyholders and the shareholder;
- exiting, to the extent possible, investment portfolios whose risk is considered unacceptable; and
- repricing premiums charged to policyholders.

In the product approval process, the risks embedded in new products are identified and assessed. When, for example, options and guarantees are embedded in new products, the due diligence process ensures that complete and appropriate risk management procedures are in place. Management reviews certain exposures more frequently when markets are more volatile to ensure that any matters arising are dealt with in a timely fashion.

How the exposure to market risk is measured

Our insurance manufacturing subsidiaries monitor exposures against mandated limits regularly and report them to Group Insurance.

In addition, large insurance manufacturing subsidiaries perform a high-level monthly assessment of market risk exposure against risk appetite. This is submitted to Group Insurance and a global assessment presented to the RBWM Risk Management Committee. Risk measures include statistics relating to IFRSs, regulatory solvency and economic capital.

Standard measures for quantifying market risks

- for interest rate risk, the sensitivities of the net present values of asset and expected liability cash flows, in total and by currency, to a one basis point parallel shift in the discount curves used to calculate the net present values;
- for equity price risk, the total market value of equity holdings and the market value of equity holdings by region and country; and
- for foreign exchange risk, the total net short foreign exchange position and the net foreign exchange positions by currency.

The standard measures are relatively straightforward to calculate and aggregate, but they have limitations. The most significant one is that a parallel shift in yield curves of one basis point does not capture the non-linear relationships between the values of certain assets and liabilities and interest rates. Non-linearity arises, for example, from investment guarantees and product features which enable policyholders to surrender their policies. We bear the shortfall if the yields on investments held to support contracts with guaranteed benefits are less than the investment returns implied by the guaranteed benefits.

We recognise these limitations and augment our standard measures with stress tests which examine the effect of a range of market rate scenarios on the aggregate annual profits and total equity of our insurance manufacturing subsidiaries, after taking into consideration tax and accounting treatments where material and relevant. The results of these tests are reported to Group Insurance and risk committees every quarter.

Similarly economic capital statistics are produced monthly, with a more detailed exercise undertaken on a quarterly basis. Economic capital measures estimate, on a market consistent economic value basis, the quantum of capital required given the exposures in the Insurance operation. Total exposures, a breakdown by risk class, and movement analysis are presented to the Insurance Risk Management Committee on a quarterly basis.

Credit risk

(Audited)

Description of credit risk

Credit risk arises in two main areas for our insurance manufacturers:

(i) risk of default by debt security counterparties after investing premiums to generate a return for policyholders and shareholders; and

(ii) risk of default by reinsurance counterparties and non-reimbursement for claims made after ceding insurance risk.

How credit risk is managed

Our insurance manufacturing subsidiaries are responsible for the credit risk, quality and performance of their investment portfolios. Our assessment of the creditworthiness of issuers and counterparties is based primarily upon internationally recognised credit ratings and other publicly available information.

Investment credit exposures are monitored against limits by our local insurance manufacturing subsidiaries, and are aggregated and reported to Group Insurance Credit Risk and Group Credit Risk. Stress testing is performed by Group Insurance on the investment credit exposures using credit spread sensitivities and default probabilities.

We use a number of tools to manage and monitor credit risk. These include a credit report which contains a watch-list of investments with current credit concerns and is circulated monthly to senior management in Group Insurance and the individual country CROs to identify investments which may be at risk of future impairment.

Liquidity risk

(Audited)

Description of liquidity risk

It is an inherent characteristic of almost all insurance contracts that there is uncertainty over the amount of claims liabilities that may arise and the timing of their settlement, and this creates liquidity risk.

There are three aspects to liquidity risk. The first arises in normal market conditions and is referred to as funding liquidity risk; specifically, the capacity to raise sufficient cash when needed to meet payment obligations. Secondly, market liquidity risk arises when the size of a particular holding may be so large that a sale cannot be completed around the market price. Finally, standby liquidity risk refers to the capacity to meet payment terms in abnormal conditions.

How liquidity risk is managed

Our insurance manufacturing subsidiaries primarily fund cash outflows arising from claim liabilities from the following sources of cash inflows:

- premiums from new business, policy renewals and recurring premium products;
- interest and dividends on investments and principal repayments of maturing debt investments;
- cash resources; and
- the sale of investments.

They manage liquidity risk by utilising some or all of the following techniques:

- matching cash inflows with expected cash outflows using specific cash flow projections or more general asset and liability matching techniques such as duration matching;
- maintaining sufficient cash resources;
- investing in good credit-quality investments with deep and liquid markets to the degree to which they exist;
- monitoring investment concentrations and restricting them where appropriate, for example, by debt issues or issuers; and
- establishing committed contingency borrowing facilities.

Each of these techniques contributes to mitigating the three types of liquidity risk described above.

Every quarter, our insurance manufacturing subsidiaries are required to complete and submit liquidity risk reports to Group Insurance for collation and review. Liquidity risk is assessed in these reports by measuring changes in expected cumulative net cash flows under a series of stress scenarios designed to determine the effect of reducing expected available liquidity and accelerating cash outflows. This is achieved, for example, by assuming new business or renewals are lower, and surrenders or lapses are greater, than expected.

Insurance risk

(Audited)

Insurance risk is the risk, other than financial risk, of loss transferred from the holder of the insurance contract to the issuer (i.e. HSBC). The principal risk we face is that, over time, the cost of the contract, including claims and benefits may exceed the total amount of premiums and investment income received.

The cost of claims and benefits can be influenced by many factors, including mortality and morbidity experience, lapse and surrender rates.

Insurance risks are controlled by high-level policies and procedures set both centrally and locally, taking into account where appropriate local market conditions and regulatory requirements. Formal underwriting, reinsurance and claims-handling procedures designed to ensure compliance with regulations are applied, supplemented with stress testing.

As well as exercising underwriting controls, we use reinsurance as a means of mitigating exposure to insurance risk. Where we manage our exposure to insurance risk through the use of third-party reinsurers, the associated revenue and manufacturing profit is ceded to the reinsurers. Although reinsurance provides a means of managing insurance risk, such contracts expose us to credit risk, the risk of default by the reinsurer.

The principal drivers of our insurance risk are described below. The liabilities for long-term contracts are set by reference to a range of assumptions around these drivers. These typically reflect the issuers' own experiences. The type and quantum of insurance risk arising from life insurance depends on the type of business, and varies considerably.

- *mortality and morbidity*: the main contracts which generate exposure to these risks are term assurance, whole life products, critical illness and income protection contracts and annuities. The risks are monitored on a regular basis, and are primarily mitigated by underwriting controls and reinsurance and by retaining the ability in certain cases to amend premiums in the light of experience;
- *lapses and surrenders*: the risks associated with this are generally mitigated by product design, the application of surrender charges and management actions, for example, managing the level of bonus payments to policyholders. A detailed persistency analysis at a product level is carried out at least on an annual basis; and
- *expense risk* is mitigated by pricing, for example, retaining the ability in certain cases to amend premiums and/or policyholder charges based on experience, and cost management discipline.

Liabilities are affected by changes in assumptions (see 'Sensitivity analysis' on page 188).

Reputational risk

The Global Head of Financial Crime Compliance and the Global Head of Regulatory Compliance are the risk stewards for reputational risk. The development of policies and an effective control environment for the identification, assessment, management and mitigation of reputational risk are co-ordinated through the Group Reputational Risk Policy Committee ('GRRPC'), which is chaired by the Group Chairman. In parallel, the Global Risk Resolution Committee ('GRRC'), chaired by the Chief Risk Officer, is the highest decision-making forum in the Group for dealing with matters arising from clients or transactions that either present a serious potential reputational risk to the Group or merit a Group-led decision to ensure a consistent risk management approach across the regions and global businesses. Both committees are responsible for keeping the RMM apprised of areas and activities presenting significant reputational risk and, where appropriate, for making recommendations to the RMM to mitigate such risk. Significant issues posing reputational risk are also reported to the Board and the Conduct & Values Committee, where appropriate.

Overseeing all reputational risk matters, the Reputational Risk sub-function is responsible for setting policies to guide the Group's management of reputational risk, devising strategies to protect against reputational risk and advising the global businesses and global functions in helping them identify, assess and mitigate such risks, where possible. This sub-function is led by a central headquarters-based team and supported by teams within each business line and region who help to ensure that issues are directed to the appropriate forums, that decisions are made and implemented effectively, and that management information is generated to aid senior management in the businesses and regions in understanding where reputational risk exists within the Group. Each global business has established a governance process that empowers the Reputational Risk and Client Selection committees to address reputational risk issues at the appropriate level, escalating decisions where appropriate. The global functions manage and escalate reputational risks within established operational risk frameworks.

Standards for all major aspects of business are set for the Group and for individual subsidiaries, businesses and functions. Reputational risks, including environmental, social and governance matters, are considered and assessed by the Board, the GMB, the RMM, subsidiary company boards, Board committees and senior management during the formulation of policy and the establishment of our standards. These policies, which form an integral part of the internal control system (see page 275), are communicated through manuals and statements of policy and are promulgated through internal communications and training. The policies set out our risk appetite and operational procedures for all areas of reputational risk, including financial crime prevention (money laundering, terrorist and proliferation financing, sanctions-breaking and bribery and corruption deterrence), regulatory compliance, conduct-related concerns, environmental impacts, human rights matters and employee relations. The policy manuals address risk issues in detail and co-operation between Group departments and businesses is required to ensure a strong adherence to our risk management system and our sustainability practices.

Fiduciary risk

Business activities in which fiduciary risk is inherent are only permitted within designated lines of business. Fiduciary risk is managed within the designated businesses via a comprehensive policy framework and monitoring of key indicators. The Group's principal fiduciary businesses and activities ('designated businesses and activities') are:

- HSBC Securities Services, which is exposed to fiduciary risk through its funds services and corporate trust and loan agency activities;
- HSBC Global Asset Management, which is exposed to fiduciary risks through its investment management activities on behalf of clients;
- HSBC Global Private Banking, which is exposed to fiduciary risks through its private trust division and discretionary investment management;
- HSBC Insurance, which is exposed to fiduciary risks through the investment management activities it undertakes when providing insurance products and services;
- RBWM Trust Investment Wrappers, required by regulation for the provision of normal RBWM Wealth Management products and services; and
- HSBC Employee Pension Scheme activities, where fiduciary duties may arise as part of carrying out a function of discretion or control over an HSBC employee pension scheme's operations.

The Group's requirements for the management of fiduciary risk are laid down in the fiduciary section of the Global Risk Functional Instruction Manual, which is owned by Global Operational Risk. No business other than the designated businesses may undertake fiduciary activities without notifying Global Operational Risk and receiving specific dispensations from the relevant fiduciary policy requirements.

Other policies around the provision of advice, including investment advice and corporate advisory, and the management of potential conflicts of interest, also mitigate our fiduciary risks.

Pension risk

(Audited)

We operate a number of pension plans throughout the world, as described in the Pension risk section on page 189 and below. A global pension risk framework and accompanying global policies on the management of risks related to defined benefit and defined contribution plans is in place. The Global Pensions Oversight Committee is responsible for the governance and oversight of all pension plans sponsored by HSBC around the world.

In order to fund the benefits associated with defined benefit plans, sponsoring Group companies (and, in some instances, employees) make regular contributions in accordance with advice from actuaries and in consultation with the schemes' trustees (where relevant). The defined benefit plans invest these contributions in a range of investments designed to meet their long-term liabilities.

The level of these contributions has a direct impact on HSBC's cash flow and would normally be set to ensure that there are sufficient funds to meet the cost of the accruing benefits for the future service of active members. However, higher contributions are required when plan assets are considered insufficient to cover the existing pension liabilities. Contribution rates are typically revised annually or triennially, depending on the plan. The agreed contributions to the principal plan are revised triennially.

A deficit in a defined benefit plan may arise from a number of factors, including:

- investments delivering a return below that required to provide the projected plan benefits. This could arise, for example, when there is a fall in the market value of equities, or when increases in long-term interest rates cause a fall in the value of fixed income securities held;
- the prevailing economic environment leading to corporate failures, thus triggering write-downs in asset values (both equity and debt);
- a change in either interest rates or inflation which causes an increase in the value of the scheme liabilities; and
- scheme members living longer than expected (known as longevity risk).

A plan's investment strategy is determined after taking into consideration the market risk inherent in the investments and its consequential impact on potential future contributions. The long-term investment objectives of both HSBC and, where relevant and appropriate, the trustees are:

- to limit the risk of the assets failing to meet the liabilities of the plans over the long term; and
- to maximise returns consistent with an acceptable level of risk so as to control the long-term costs of the defined benefit plans.

In pursuit of these long-term objectives, a benchmark is established for the allocation of the defined benefit plan assets between asset classes. In addition, each permitted asset class has its own benchmarks, such as stock market or property valuation indices and, where relevant, desired levels of out-performance. The benchmarks are reviewed at least triennially within 18 months of the date at which an actuarial valuation is made, or more frequently if required by local legislation or circumstances. The process generally involves an extensive asset and liability review.

Ultimate responsibility for investment strategy rests with either the trustees or, in certain circumstances, a management committee. The degree of independence of the trustees from HSBC varies in different jurisdictions, however all fiduciaries are required to put the plan members' needs above all others.

Defined contribution plans result in far less exposure to market risk for the Group, but remain exposed to operational and reputational risks as they place the responsibility and flexibility more directly with employees. To manage these risks, the performance of defined contribution investment funds is monitored and local engagement with employees is actively promoted to ensure they are provided with sufficient information about the options available to them.

Pension plans in the UK

The HSBC Bank (UK) Pension Scheme (the principal plan) has both defined benefit and defined contribution sections. The defined benefit section accounts for approximately 72% of our total defined benefit obligations around the world. All new employees have joined the defined contribution section since 1996 and from 1 July 2015 the defined benefit section was fully closed to future accrual so that all future pension provision for all employees is provided by the defined contribution section. The principal plan is overseen by an independent corporate trustee who has a fiduciary responsibility for the operation of the pension plan. The trustee is responsible for monitoring and managing the investment strategy and administration of scheme benefits. The principal plan holds a diversified portfolio of investments to meet future cash flow liabilities arising from accrued benefits as they fall due to be paid. The trustee of the principal plan is required to produce a written Statement of Investment Principles which governs decision-making about how investments are made and the need for adequate diversification is taken into account in the choice of asset allocation and manager structure in the defined benefit section. Longevity risk in the principal plan is assessed as part of the measurement of the pension liability and managed through the funding process of the plan.

Sustainability risk

Sustainability risks arise from the provision of financial services to companies or projects which indirectly result in unacceptable impacts on people or on the environment. The Risk Function, with input from Global Corporate Sustainability, is mandated to manage these risks globally working through local offices as appropriate. Sustainability Risk Managers have regional or national responsibilities for advising on and managing environmental and social risks. The Risk Function's responsibilities in relation to sustainability risk include:

- formulating sustainability risk policies. This includes overseeing our sustainability risk standards, our application of the Equator Principles and our sustainability policies (covering agricultural commodities, chemicals, defence, energy, forestry, freshwater infrastructure, mining and metals, and World Heritage Sites and Ramsar Wetlands); undertaking an independent review of transactions where sustainability risks are assessed to be high; and supporting our operating companies to assess similar risks of a lower magnitude;
- building and implementing systems-based processes to ensure consistent application of policies, reduce the costs of sustainability risk reviews and capture management information to measure and report on the effect of our lending and investment activities on sustainable development; and
- providing training and capacity building within our operating companies to ensure sustainability risks are identified and mitigated consistently to either our own standards, international standards or local regulations, whichever is higher.

Capital

1 *Appendix to Capital.*

Our objective in the management of Group capital is to maintain appropriate levels of capital to support our business strategy and meet our regulatory and stress testing related requirements.

Capital highlights

- Our end point common equity tier 1 ('CET1') ratio of 11.9% was up from 11.1% at the end of 2014.
- We continue to generate capital from profit and our progress to achieve targeted RWA initiatives strengthened our CET1 ratio, creating capacity for growth.
- Our leverage ratio remained strong at 5.0%.

Capital overview

Capital ratios

	At 31 December	
	2015	2014
	%	%
CRD IV end point		
Common equity tier 1 ratio[1]	**11.9**	11.1
CRD IV transitional		
Common equity tier 1 ratio[1]	**11.9**	10.9
Tier 1 ratio	**13.9**	12.5
Total capital ratio	**17.2**	15.6

Total regulatory capital and risk-weighted assets

	At 31 December	
	2015	2014
	$m	$m
CRD IV end point		
Common equity tier 1 capital[1]	**130,863**	135,953
CRD IV transitional		
Common equity tier 1 capital[1]	**130,863**	133,200
Additional tier 1 capital	**22,440**	19,539
Tier 2 capital	**36,530**	37,991
Total regulatory capital	**189,833**	190,730
Risk-weighted assets	**1,102,995**	1,219,765

For footnote, see page 243.

We manage Group capital to ensure that we exceed current regulatory requirements and that we respect the payment priority of our capital providers. Throughout 2015, we complied with the Prudential Regulation Authority's ('PRAs') regulatory capital adequacy requirements, including those relating to stress testing. We are also well placed to meet our expected future capital requirements.

We continue to manage Group capital to meet a medium-term target for return on equity of more than 10% by 2017. This is modelled on a CET1 ratio on an end point basis in the range of 12% to 13%, which takes into account known and quantifiable end-point CET1 requirements and includes a regulatory and management buffer in the range of 1% to 2%, based on our estimate of the additional CET1 we will need to hold to cover the new time-varying buffers and other factors. The CET1 regulatory and management buffer will be kept under review until the details of the regulatory framework are finalised.

Capital and RWAs are calculated and presented according to the Group's interpretation of CRD IV legislation and the PRA's rules as set out in the PRA Rulebook.

Despite the rules published to date, there remains continued uncertainty around the amount of capital that UK banks will be required to hold. In December 2015, the Financial Policy Committee ('FPC') published its view of the capital framework as applicable to UK banks, which set out expectations in relation to CET1 and tier 1 capital across the industry. However, requirements applicable to individual banks are subject to the PRA's determination. While there is emerging clarity around the interaction of the capital buffers and the PRA's Pillar 2 framework, uncertainty remains around the broader capital framework, including revisions to the RWA requirements, capital floors, and global systemically important bank ('G-SIB') developments. Furthermore, there remain a number of draft and unpublished European Banking Authority ('EBA') technical and implementation standards due in 2016.

A summary of our policies and practices regarding capital management, measurement and allocation is provided in the Appendix to Capital on page 243.

Movements by major drivers

Capital and RWA movements by major driver – CRD IV end point basis

	CET1 capital $bn	RWAs $bn
CRD IV end point basis at 1 January 2015	136.0	1,219.8
Capital generation from profit	3.4	
– consolidated profits attributable to shareholders of the parent company (including regulatory adjustments)	11.3	
– dividends net of scrip[2]	(7.9)	
RWA initiatives		(123.8)
Business growth including associates		48.7
Foreign currency translation differences[3]	(7.9)	(52.2)
Other movements	(0.6)	10.5
CRD IV end point basis at 31 December 2015	**130.9**	**1,103.0**

For footnotes, see page 243.

Our CET1 capital was reduced by foreign currency translation differences of $7.9bn. This was partly offset by capital of $3.4bn generated from profits net of dividends (including the fourth interim dividend after planned scrip).

Included in profits was a $1.4bn gain on the partial sale of our shareholding in Industrial Bank. This included fair value gains reclassified to the income statement that has already been included in CET1 capital, resulting in no further impact. An additional impact on CET1 capital from the partial sale of our shareholding in Industrial Bank was lower allowable non-controlling interest.

Substantial progress has been made in achieving the Group's 2017 RWA target. After foreign currency translation differences, RWAs reduced by $65bn in 2015, primarily driven by specific initiatives that saved $124bn of RWAs. The saving was partially offset by business growth of $49bn.

The following comments describe the key RWA movements excluding foreign currency translation differences.

RWA initiatives

The main drivers were:

- $38bn from reduced exposures, the partial disposal of our investment in Industrial Bank, a decrease in trading positions subject to the Incremental Risk Charge, client facility reductions and trade compressions;
- $30bn from refining our calculations, including the further application of the small and medium-sized enterprise ('SME') supporting factor, a more refined application of credit conversion factors ('CCFs'), increased usage of internal ratings-based ('IRB') models and the move of certain exposures from residual to cash flow weighted maturity;
- $25bn from process improvements such as better linking of collateral and guarantees to facilities, enhanced risk parameters and the use of more granular data resulting in lower CCFs for off-balance sheet items; and
- $30bn through the continued reduction in the GB&M legacy credit and US run-off portfolios.

Business growth

Business growth increased RWAs by $49bn, principally in:

- CMB, from higher term lending to corporate customers, principally in Europe, North America and Asia, $23bn;
- our associates, Bank of Communications and The Saudi British Bank, $14bn; and
- GB&M, from higher general lending to corporates which increased RWAs by $10bn, mainly in Europe.

Risk-weighted assets

RWAs by risk type

	2015 $bn	2014 $bn
Credit risk	**875.9**	955.3
– standardised approach	**332.7**	356.9
– IRB foundation approach	**27.4**	16.8
– IRB advanced approach	**515.8**	581.6
Counterparty credit risk	**69.2**	90.7
– standardised approach	**19.1**	25.2
– advanced approach	**50.1**	65.5
Market risk	**42.5**	56.0
– internal model based	**34.9**	44.6
– standardised approach	**7.6**	11.4
Operational risk	**115.4**	117.8
At 31 December 2015	**1,103.0**	1,219.8
Of which:		
Run-off portfolios	**69.3**	99.2
– legacy credit in GB&M	**29.8**	44.1
– US CML and Other	**39.5**	55.1

RWAs by global businesses

	2015 $bn	2014 $bn
Retail Banking and Wealth Management[4]	**189.5**	207.2
Commercial Banking[4]	**421.0**	430.3
Global Banking and Markets	**440.6**	516.1
Global Private Banking	**19.3**	20.8
Other	**32.6**	45.4
At 31 December 2015	**1,103.0**	1,219.8

RWAs by geographical regions[5]

	2015 $bn	2014 $bn
Europe	**337.4**	375.4
Asia	**459.7**	499.8
Middle East and North Africa	**60.4**	63.0
North America	**191.6**	221.4
Latin America	**73.4**	88.8
At 31 December 2015	**1,103.0**	1,219.8

For footnotes, see page 243

Credit risk RWAs

Credit risk exposure – RWAs by geographical region

	Europe $bn	Asia $bn	MENA $bn	North America $bn	Latin America $bn	Total $bn
IRB approach	**192.6**	**195.9**	**19.4**	**122.5**	**12.8**	**543.2**
– IRB advanced approach	**175.1**	**195.9**	**9.5**	**122.5**	**12.8**	**515.8**
– IRB foundation approach	**17.5**	**–**	**9.9**	**–**	**–**	**27.4**
Standardised approach	**46.8**	**177.7**	**32.0**	**33.9**	**42.3**	**332.7**
RWAs at 31 December 2015	**239.4**	**373.6**	**51.4**	**156.4**	**55.1**	**875.9**
IRB approach	216.1	213.1	15.6	142.0	11.6	598.4
– IRB advanced approach	203.3	213.1	11.6	142.0	11.6	581.6
– IRB foundation approach	12.8	–	4.0	–	–	16.8
Standardised approach	47.1	186.0	39.0	29.6	55.2	356.9
RWAs at 31 December 2014	263.2	399.1	54.6	171.6	66.8	955.3

Credit risk exposure – RWAs by global businesses

	Principal[4] RBWM $bn	RBWM (US run-off portfolio) $bn	Total RBWM $bn	CMB[4] $bn	GB&M $bn	GPB $bn	Other $bn	Total $bn
IRB approach	**59.0**	**33.2**	**92.2**	**218.0**	**214.8**	**8.5**	**9.7**	**543.2**
– IRB advanced approach	**59.0**	**33.2**	**92.2**	**199.0**	**207.5**	**8.4**	**8.7**	**515.8**
– IRB foundation approach	**–**	**–**	**–**	**19.0**	**7.3**	**0.1**	**1.0**	**27.4**
Standardised approach	**57.6**	**3.8**	**61.4**	**172.0**	**69.7**	**7.2**	**22.4**	**332.7**
RWAs at 31 December 2015	**116.6**	**37.0**	**153.6**	**390.0**	**284.5**	**15.7**	**32.1**	**875.9**
IRB approach	56.1	47.3	103.4	217.2	255.6	10.2	12.0	598.4
– IRB advanced approach	56.1	47.3	103.4	209.2	248.1	10.0	10.9	581.6
– IRB foundation approach	–	–	–	8.0	7.5	0.2	1.1	16.8
Standardised approach	61.2	4.8	66.0	181.0	70.1	6.6	33.2	356.9
RWAs at 31 December 2014	117.3	52.1	169.4	398.2	325.7	16.8	45.2	955.3

For footnotes, see page 243.

Credit risk RWAs are calculated using three approaches, as permitted by the PRA. For consolidated Group reporting, we have adopted the advanced IRB approach for the majority of our business, with a small proportion being on the foundation IRB approach and the remaining portfolios on the standardised approach.

RWA movement by geographical regions by key driver – credit risk – IRB only[6]

	Europe $bn	Asia $bn	MENA $bn	North America $bn	Latin America $bn	Total $bn
RWAs at 1 January 2015	**216.1**	**213.1**	**15.6**	**142.0**	**11.6**	**598.4**
Foreign exchange movement	**(10.4)**	**(7.2)**	**(0.6)**	**(4.7)**	**(3.4)**	**(26.3)**
Acquisitions and disposals	**(14.1)**	**–**	**(0.1)**	**(4.9)**	**–**	**(19.1)**
Book size	**11.4**	**2.9**	**(0.5)**	**(2.8)**	**0.4**	**11.4**
Book quality	**(8.0)**	**(6.9)**	**(1.4)**	**0.7**	**3.9**	**(11.7)**
Model updates	**1.2**	**(2.6)**	**4.7**	**0.2**	**0.1**	**3.6**
– portfolios moving onto IRB approach	**(0.1)**	**–**	**4.7**	**0.2**	**0.1**	**4.9**
– new/updated models	**1.3**	**(2.6)**	**–**	**–**	**–**	**(1.3)**
Methodology and policy	**(3.6)**	**(3.4)**	**1.7**	**(8.0)**	**0.2**	**(13.1)**
– internal updates	**(6.2)**	**(5.4)**	**1.6**	**(8.0)**	**0.2**	**(17.8)**
– external updates – regulatory	**2.6**	**2.0**	**0.1**	**–**	**–**	**4.7**
Total RWA movement	**(23.5)**	**(17.2)**	**3.8**	**(19.5)**	**1.2**	**(55.2)**
RWAs at 31 December 2015	**192.6**	**195.9**	**19.4**	**122.5**	**12.8**	**543.2**
RWAs at 1 January 2014 on Basel 2.5 basis	166.9	182.9	15.0	161.5	8.5	534.8
Foreign exchange movement	(11.6)	(4.0)	(0.2)	(2.4)	(1.9)	(20.1)
Acquisitions and disposals	(3.5)	–	(0.7)	(4.2)	(0.1)	(8.5)
Book size	11.4	19.5	1.8	2.9	2.0	37.6
Book quality	(1.5)	–	(0.8)	(10.3)	1.4	(11.2)
Model updates	19.4	0.3	–	(6.1)	–	13.6
Methodology and policy	35.0	14.4	0.5	0.6	1.7	52.2
– internal updates	(11.7)	(5.2)	(0.2)	(6.4)	(0.1)	(23.6)
– external updates – regulatory	2.2	8.5	(0.2)	0.7	0.1	11.3
– CRD IV impact	37.0	5.7	0.4	4.9	0.2	48.2
– NCOA moving from STD to IRB	7.5	5.4	0.5	1.4	1.5	16.3
Total RWA movement	49.2	30.2	0.6	(19.5)	3.1	63.6
RWAs at 31 December 2014 on CRD IV basis	216.1	213.1	15.6	142.0	11.6	598.4

For footnote, see page 243.

RWA movement by global businesses by key driver – credit risk – IRB only[6]

	Principal[4] RBWM $bn	RBWM (US run-off) $bn	Total RBWM $bn	CMB[4] $bn	GB&M $bn	GPB $bn	Other $bn	Total $bn
RWAs at 1 January 2015	56.1	47.3	103.4	217.2	255.6	10.2	12.0	598.4
Foreign exchange movement	(2.9)	–	(2.9)	(11.7)	(11.0)	(0.3)	(0.4)	(26.3)
Acquisitions and disposals	–	(4.9)	(4.9)	–	(14.2)	–	–	(19.1)
Book size	3.7	(5.6)	(1.9)	15.8	(0.8)	(0.5)	(1.2)	11.4
Book quality	(2.8)	(3.7)	(6.5)	6.0	(10.5)	(0.1)	(0.6)	(11.7)
Model updates	0.4	–	0.4	5.6	(2.3)	(0.1)	–	3.6
– portfolios moving onto IRB approach	–	–	–	4.1	0.9	(0.1)	–	4.9
– new/updated models	0.4	–	0.4	1.5	(3.2)	–	–	(1.3)
Methodology and policy	4.5	0.1	4.6	(14.9)	(2.0)	(0.7)	(0.1)	(13.1)
– internal updates	2.5	0.1	2.6	(14.9)	(4.7)	(0.7)	(0.1)	(17.8)
– external updates – regulatory	2.0	–	2.0	–	2.7	–	–	4.7
Total RWA movement	2.9	(14.1)	(11.2)	0.8	(40.8)	(1.7)	(2.3)	(55.2)
RWAs at 31 December 2015	**59.0**	**33.2**	**92.2**	**218.0**	**214.8**	**8.5**	**9.7**	**543.2**
RWAs at 1 January 2014 on Basel 2.5 basis	58.5	72.6	131.1	189.4	198.5	10.6	5.2	534.8
Foreign exchange movement	(2.6)	–	(2.6)	(8.7)	(8.1)	(0.2)	(0.5)	(20.1)
Acquisitions and disposals	–	–	–	–	(8.2)	–	(0.3)	(8.5)
Book size	1.9	(6.9)	(5.0)	23.1	21.1	(0.5)	(1.1)	37.6
Book quality	(5.7)	(8.6)	(14.3)	2.8	(0.2)	(0.3)	0.8	(11.2)
Model updates	0.6	(6.2)	(5.6)	12.2	7.0	–	–	13.6
Methodology and policy	3.4	(3.6)	(0.2)	(1.6)	45.5	0.6	7.9	52.2
– internal updates	(3.0)	(3.9)	(6.9)	(5.0)	(11.2)	(0.5)	–	(23.6)
– external updates – regulatory	1.8	–	1.8	2.5	6.3	0.5	0.2	11.3
– CRD IV impact	–	–	–	(0.7)	48.6	0.2	0.1	48.2
– NCOA moving from STD to IRB	4.6	0.3	4.9	1.6	1.8	0.4	7.6	16.3
Total RWA movement	(2.4)	(25.3)	(27.7)	27.8	57.1	(0.4)	6.8	63.6
RWAs at 31 December 2014 on CRD IV basis	56.1	47.3	103.4	217.2	255.6	10.2	12.0	598.4

For footnotes, see page 243.

Internal ratings-based approach

For portfolios treated under the IRB approach, credit risk RWAs decreased by $55bn, which included a reduction of $26bn due to foreign exchange movements.

Acquisitions and disposals

- The disposal of US mortgage portfolios reduced RWAs by $4.9bn; and
- the sale of securitisation positions in the GB&M legacy credit portfolio resulted in a RWA decrease of $14bn.

Book size

- The book size grew from higher corporate lending, including term and trade-related lending which increased RWAs by $16bn, mainly in Europe and Asia for CMB.
- In North America, in RBWM, the continued run-off of the US CML retail mortgage portfolios resulted in an RWA reduction of $5.6bn.

Book quality

- RWAs reduced by $3.7bn in the US run-off portfolio, primarily due to continued run-off which led to an improvement in the book quality of the residual portfolio;
- book quality improvements in the Principal RBWM business of $2.8bn mainly related to credit quality improvements in Europe;
- in CMB, RWAs increased by $6.0bn, primarily as a result of corporate downgrades in Europe;
- in GB&M, a decrease in RWAs of $10bn was mainly due to the implementation of netting agreements to new corporate counterparties in Europe, the securitisation of corporate loans and rating upgrades of institutions in Asia; and
- the downgrade of Brazil's rating increased RWAs by $3.7bn across businesses.

Methodology and policy changes

- RWA initiatives were the main driver for the reduction of RWAs driven by changes in 'internal updates'. Further details are provided on page 229.
- They were offset by the change in RWA calculation on defaulted exposures in RBWM increasing RWAs by $2.0bn, the implementation of a risk-weight floor on mortgages in Hong Kong with an RWA impact of $2.0bn,

and the implementation of a 1.06 scaling factor on securitisation positions risk-weighted at 1,250% which increased RWAs by $2.1bn.

Standardised approach

For portfolios treated under the standardised approach, credit risk RWAs decreased by $24bn, which included a reduction of $27bn due to foreign exchange movements.

- RWAs increased by $23bn across all regions as a result of higher lending. Growth in our associate, BoCom, accounted for $15bn.
- This was offset by RWA initiatives reducing RWAs by $29bn, mainly comprising portfolios moving to an IRB approach (reducing the standardised approach by $10.2bn and increasing the IRB approach by $7.2bn) and partial disposal of our investment in Industrial Bank reducing RWAs by $12.4bn.

Counterparty credit risk and market risk RWAs

Counterparty credit risk RWAs

	2015 $bn	2014 $bn
Advanced approach	50.1	65.5
– CCR IRB approach	46.8	62.0
– credit valuation adjustment	3.3	3.5
Standardised approach	19.1	25.2
– CCR standardised approach	4.7	4.4
– credit valuation adjustment	12.2	18.0
– central counterparty	2.2	2.8
At 31 December	**69.2**	90.7

RWA movement by key driver – counterparty credit risk – advanced approach

	2015 $bn	2014 $bn
RWAs at 1 January	65.5	42.2
Book size	(10.2)	1.6
Book quality	(0.8)	(0.6)
Model updates	–	0.1
Methodology and policy	(4.4)	22.2
– internal updates	(4.4)	(3.8)
– external updates – regulatory	–	9.0
– CRD IV impact	–	17.0
Total RWA movement	(15.4)	23.3
RWAs at 31 December	**50.1**	65.5

Market risk RWAs

	2015 $bn	2014 $bn
Internal model based	34.9	44.6
– VaR	7.7	7.3
– stressed VaR	9.8	10.4
– incremental risk charge	11.4	20.1
– other VaR and stressed VaR	6.0	6.8
Standardised approach	7.6	11.4
At 31 December	**42.5**	56.0

RWA movement by key driver – market risk – internal model based

	2015 $bn	2014 $bn
RWAs at 1 January	44.6	52.2
Acquisitions and disposals	–	(2.2)
Movement in risk levels	(5.5)	(4.2)
Methodology and policy	(4.2)	(1.2)
– internal updates	(4.2)	(3.8)
– external updates – regulatory	–	2.6
Total RWA movement	(9.7)	(7.6)
RWAs at 31 December	**34.9**	44.6

Counterparty credit risk RWAs

Counterparty credit risk RWAs reduced by $21bn during 2015.

Standardised approach

A reduction of $6.1bn in RWAs in the standardised portfolio was mostly due to the impact of market movements and position reductions for derivatives held with counterparties eligible for the standardised credit value adjustment ('CVA') charge.

Advanced approach

The book size reduced by $10bn, mainly driven by market movements, particularly in foreign exchange derivatives, trade compression and portfolio management activities.

Further reductions in 'Methodology and policy' were mainly driven by savings from RWA initiatives.

Market risk RWAs

Total market risk RWAs decreased by $13bn in 2015.

Standardised approach

The market risk RWAs in the standardised portfolio fell by $3.8bn, mainly driven by the reduction in the legacy credit portfolio.

Internal model based

The reduction in RWAs due to movements in risk levels of $5.5bn was driven by a combination of active management of the book and market movements, in particular within the incremental risk charge. In addition to these movements, there were savings of $4.2bn in 'Methodology and policy' due to the refinement of models used for the calculation of the incremental risk charge and risks not in VaR.

Operational risk RWAs

The reduction in operational risk RWAs of $2.4bn was mainly the result of currency exchange differences and a decline in income in Latin America.

Capital

Source and application of total regulatory capital

	Year to 31 December	
	2015	2014
	$m	$m
Movement in total regulatory capital		
Opening common equity tier 1 capital on a transitional basis[7]	**133,200**	131,233
Transitional adjustments	**2,753**	
– unrealised gains arising from revaluation of property	**1,375**	
– unrealised gains in available-for-sale debt and equities	**1,378**	
Opening common equity tier 1 capital on an end point basis[1]	**135,953**	
Contribution to common equity tier 1 capital from profit for the period	**11,302**	12,678
– consolidated profits attributable to shareholders of the parent company	**13,522**	13,688
– removal of own credit spread net of tax	**(912)**	(328)
– debit valuation adjustment	**(139)**	254
– deconsolidation of insurance entities and SPEs	**(1,169)**	(936)
Net dividends including foreseeable net dividends[2]	**(7,853)**	(7,541)
– dividends net of scrip	**(4,136)**	(4,179)
– fourth interim dividend net of planned scrip	**(3,717)**	(3,362)
Increase in goodwill and intangible assets deducted[3]	**(227)**	2,424
Ordinary shares issued	**147**	267
Foreign currency translation differences[3]	**(7,887)**	(8,356)
Other, including regulatory adjustments	**(572)**	2,495
Closing common equity tier 1 capital	**130,863**	133,200
Opening additional tier 1 capital on a transitional basis[7]	**19,539**	14,408
Movement in additional tier 1 securities	**2,272**	4,961
– new issuance	**3,580**	5,681
– grandfathering adjustments	**(1,308)**	(720)
Other, including regulatory adjustments	**629**	170
Closing tier 1 capital on a transitional basis	**153,303**	152,739
Opening other tier 2 capital on a transitional basis[7]	**37,991**	35,538
Movement in tier 2 securities	**(1,276)**	2,414
– new issuance	**3,180**	3,500
– grandfathering adjustments	**(2,996)**	–
– foreign currency transitional differences	**(887)**	(1,066)
– other movements	**(573)**	(20)
Other, including regulatory adjustments	**(185)**	39
Closing total regulatory capital on a transitional basis	**189,833**	190,730

For footnotes, see page 243.

Composition of regulatory capital

(Audited)

	Ref	At 31 December 2015 $m	2014 $m
Common equity tier 1 capital			
Shareholders' equity		**160,664**	166,617
– shareholders' equity per balance sheet[8]	*a*	**188,460**	190,447
– foreseeable interim dividend[2]		**(3,717)**	(3,362)
– preference share premium	*b*	**(1,405)**	(1,405)
– other equity instruments	*c*	**(15,112)**	(11,532)
– deconsolidation of special purpose entities[9]	*a*	**(91)**	(323)
– deconsolidation of insurance entities	*a, h*	**(7,471)**	(7,208)
Non-controlling interests		**3,519**	4,640
– non-controlling interests per balance sheet	*d*	**9,058**	9,531
– preference share non-controlling interests	*e*	**(2,077)**	(2,127)
– non-controlling interests transferred to tier 2 capital	*f*	**–**	(473)
– non-controlling interests in deconsolidated subsidiaries	*d*	**(933)**	(851)
– surplus non-controlling interests disallowed in CET1		**(2,529)**	(1,440)
Regulatory adjustments to the accounting basis		**(4,556)**	(3,556)
– own credit spread[10]		**(159)**	767
– debit valuation adjustment		**(336)**	(197)
– defined benefit pension fund adjustment	*g*	**(4,009)**	(4,069)
– cash flow hedging reserve		**(52)**	(57)
Deductions		**(28,764)**	(31,748)
– goodwill and intangible assets	*h*	**(20,650)**	(22,475)
– deferred tax assets that rely on future profitability (excludes those arising from temporary differences)	*n*	**(1,204)**	(1,036)
– additional valuation adjustment (referred to as PVA)		**(1,151)**	(1,341)
– investments in own shares through the holding of composite products of which HSBC is a component (exchange traded funds, derivatives and index stock)		**(839)**	(1,083)
– negative amounts resulting from the calculation of expected loss amounts	*i*	**(4,920)**	(5,813)
Common equity tier 1 capital on an end point basis		**130,863**	135,953
Tier 1 and tier 2 capital on a transitional basis			
Common equity tier 1 capital on an end point basis		**130,863**	135,953
Transitional adjustments			(2,753)
– unrealised gains arising from revaluation of property			(1,375)
– unrealised gains in available-for-sale debt and equities			(1,378)
Common equity tier 1 capital on a transitional basis		**130,863**	133,200
Additional tier 1 capital on a transitional basis			
Other tier 1 capital before deductions		**22,621**	19,687
– preference share premium	*b*	**1,015**	1,160
– preference share non-controlling interests	*e*	**1,711**	1,955
– allowable non-controlling interest in AT1	*d*	**1,546**	884
– Hybrid capital securities	*j*	**18,349**	15,688
Deductions		**(181)**	(148)
– unconsolidated investments[11]		**(121)**	(148)
– holding of own additional tier 1 instruments		**(60)**	–
Tier 1 capital on a transitional basis		**153,303**	152,739
Tier 2 capital on a transitional basis			
Total qualifying tier 2 capital before deductions		**36,852**	38,213
– allowable non-controlling interest in tier 2	*d*	**14**	99
– perpetual subordinated debt	*l*	**1,941**	2,218
– term subordinated debt	*m*	**34,897**	35,656
– non-controlling interests in tier 2 capital	*f*	**–**	240
Total deductions other than from tier 1 capital		**(322)**	(222)
– unconsolidated investments[11]		**(282)**	(222)
– holding of own tier 2 instruments		**(40)**	–
Total regulatory capital on a transitional basis		**189,833**	190,730

For footnotes, see page 243.

The references (a) – (n) identify balance sheet components on page 236 which are used in the calculation of regulatory capital.

Reconciliation of regulatory capital from transitional basis to an estimated CRD IV end point basis

	At 31 December 2015 $m	2014 $m
Common equity tier 1 capital on a transitional basis	**130,863**	133,200
Unrealised gains arising from revaluation of property		1,375
Unrealised gains in available-for-sale debt and equities		1,378
Common equity tier 1 capital on an end point basis	**130,863**	135,953
Additional tier 1 capital on a transitional basis	**22,440**	19,539
Grandfathered instruments:		
Preference share premium	**(1,015)**	(1,160)
Preference share non-controlling interests	**(1,711)**	(1,955)
Hybrid capital securities	**(9,088)**	(10,007)
Transitional provisions:		
Allowable non-controlling interest in AT1	**(1,377)**	(487)
Unconsolidated investments[11]	**121**	148
Additional tier 1 capital end point basis	**9,370**	6,078
Tier 1 capital on an end point basis	**140,233**	142,031
Tier 2 capital on a transitional basis	**36,530**	37,991
Grandfathered instruments:		
Perpetual subordinated debt	**(1,941)**	(2,218)
Term subordinated debt	**(19,034)**	(21,513)
Transitional provisions:		
Non-controlling interest in tier 2 capital	**–**	(240)
Allowable non-controlling interest in tier 2	**21**	396
Unconsolidated investments[11]	**(121)**	(148)
Tier 2 capital on an end point basis	**15,455**	14,268
Total regulatory capital on an end point basis	**155,688**	156,299

For footnote, see page 243.

The capital position presented on a CRD IV transitional basis follows the Group's interpretation of CRD IV legislation and the PRA's rules as set out in the PRA Rulebook.

The effects of draft EBA technical standards are not generally captured in our numbers.

While 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. From 1 January 2015, unrealised gains on investment property and available-for-sale securities were recognised in CET1 capital. As a result our end point and transitional CET1 capital and ratios are now aligned.

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

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

Under CRD IV, as implemented in the UK, banks are required to meet a minimum CET1 ratio of 4.5% of RWAs, a minimum tier 1 ratio of 6% of RWAs and a total capital ratio of 8% of RWAs. In addition to the Pillar 1 minimum ratios, the PRA sets Pillar 2A capital requirements, which together are considered the minimum level of regulatory capital to be maintained at all times. Pillar 2A is to be met with at least 56% CET1 capital and the remaining with non-common equity capital.

In addition to minimum requirements, CRD IV establishes a number of capital buffers to be met with CET1 capital, which largely phase-in from 1 January 2016. To the extent our CET1 capital is insufficient to meet these buffer requirements, the Group would suffer automatic restrictions on capital distributions.

Going forward, as the grandfathering provisions fall away, we intend to meet our overall regulatory minima in an economically efficient manner by issuing non-common equity capital as necessary. At 31 December 2015, the Group had $25.1bn of CRD IV compliant non-common equity capital instruments, of which $3.2bn of tier 2 and $3.6bn of additional tier 1 were issued during the year (for details on the additional tier 1 instruments issued during the year see Note 35 on the Financial Statements). At 31 December 2015, the Group also had $32.8bn of non-common equity capital instruments qualifying as eligible capital under CRD IV by virtue of the application of the grandfathering provisions, after applying a 30% reduction as outlined above.

Regulatory balance sheet

Regulatory and accounting consolidations

The basis of consolidation for the purpose of financial accounting under IFRS, described in Note 1 on the Financial Statements, differs from that used for regulatory purposes as described in 'Structure of the regulatory group' on page 12 of the *Pillar 3 Disclosures 2015* report. The table below provides a reconciliation of the financial accounting balance sheet to the regulatory scope of consolidation.

Interests in banking associates are equity accounted in the financial accounting consolidation, whereas their exposures are proportionally consolidated for regulatory purposes by including our share of assets, liabilities, profit and loss and RWAs in accordance with the PRA's application of CRD IV.

Subsidiaries engaged in insurance activities are excluded from the regulatory consolidation by excluding assets, liabilities and post-acquisition reserves, leaving the investment of these insurance subsidiaries to be recorded at cost and deducted from CET1 (subject to thresholds).

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.

Entities in respect of which the basis of consolidation for financial accounting purposes differs from that used for regulatory purposes can be found in table 5 of the *Pillar 3 Disclosures 2015* report.

Reconciliation of balance sheets – financial accounting to regulatory scope of consolidation

	Ref	Accounting balance sheet $m	Deconsolidation of insurance/ other entities $m	Consolidation of banking associates $m	Regulatory balance sheet $m
Assets					
Cash and balances at central banks		98,934	(2)	28,784	127,716
Items in the course of collection from other banks		5,768	–	22	5,790
Hong Kong Government certificates of indebtedness		28,410	–	–	28,410
Trading assets		224,837	340	4,390	229,567
Financial assets designated at fair value		23,852	(23,521)	2,034	2,365
Derivatives		288,476	(146)	495	288,825
Loans and advances to banks		90,401	(3,008)	16,413	103,806
Loans and advances to customers		924,454	(7,427)	120,016	1,037,043
of which:					
– impairment allowances on IRB portfolios	i	(6,291)	–	–	(6,291)
– impairment allowances on standardised portfolios		(3,263)	–	(2,780)	(6,043)
Reverse repurchase agreements – non-trading		146,255	711	5,935	152,901
Financial investments		428,955	(51,684)	42,732	420,003
Assets held for sale		43,900	(4,107)	–	39,793
of which:					
– goodwill and intangible assets	h	1,680	(219)	–	1,461
– impairment allowances of disposal groups held for sale		(1,454)	–	–	(1,454)
of which:					
– IRB portfolios	i	(7)	–	–	(7)
– standardised portfolios		(1,447)	–	–	(1,447)
Capital invested in insurance and other entities		–	2,371	–	2,371
Current tax assets		1,221	(15)	–	1,206
Prepayments, accrued income and other assets		54,398	(2,539)	9,692	61,551
of which:					
– retirement benefit assets	g	5,272	–	–	5,272
Interests in associates and joint ventures		19,139	–	(18,571)	568
of which:					
– positive goodwill on acquisition	h	593	–	(579)	14
Goodwill and intangible assets	h	24,605	(6,068)	623	19,160
Deferred tax assets	n	6,051	195	518	6,764
Total assets at 31 December 2015		2,409,656	(94,900)	213,083	2,527,839
Liabilities and equity					
Hong Kong currency notes in circulation		28,410	–	–	28,410
Deposits by banks		54,371	(97)	50,005	104,279
Customer accounts		1,289,586	(119)	147,522	1,436,989
Repurchase agreements – non-trading		80,400	–	–	80,400
Items in course of transmission to other banks		5,638	–	–	5,638
Trading liabilities		141,614	(66)	59	141,607
Financial liabilities designated at fair value		66,408	(6,046)	–	60,362
of which:					
– term subordinated debt included in tier 2 capital	m	21,168	–	–	21,168
– hybrid capital securities included in tier 1 capital	j	1,342	–	–	1,342

	Ref	Accounting balance sheet $m	Deconsolidation of insurance/ other entities $m	Consolidation of banking associates $m	Regulatory balance sheet $m
Derivatives		**281,071**	**87**	**508**	**281,666**
Debt securities in issue		**88,949**	**(7,885)**	**5,065**	**86,129**
Liabilities of disposal groups held for sale		**36,840**	**(3,690)**	**–**	**33,150**
Current tax liabilities		**783**	**(84)**	**409**	**1,108**
Liabilities under insurance contracts		**69,938**	**(69,938)**	**–**	**–**
Accruals, deferred income and other liabilities		**38,116**	**2,326**	**6,669**	**47,111**
of which:					
– retirement benefit liabilities		**2,809**	**(2)**	**61**	**2,868**
Provisions		**5,552**	**(25)**	**–**	**5,527**
of which:					
– contingent liabilities and contractual commitments		**240**	**–**	**–**	**240**
of which:					
– credit-related provisions on IRB portfolios	*i*	**201**	**–**	**–**	**201**
– credit-related provisions on standardised portfolios		**39**	**–**	**–**	**39**
Deferred tax liabilities		**1,760**	**(868)**	**5**	**897**
Subordinated liabilities		**22,702**	**–**	**2,841**	**25,543**
of which:					
– hybrid capital securities included in tier 1 capital	*j*	**1,929**	**–**	**–**	**1,929**
– perpetual subordinated debt included in tier 2 capital	*l*	**2,368**	**–**	**–**	**2,368**
– term subordinated debt included in tier 2 capital	*m*	**18,405**	**–**	**–**	**18,405**
Total shareholders' equity	*a*	**188,460**	**(7,562)**	**–**	**180,898**
of which:					
– other equity instruments included in tier 1 capital	*c, j*	**15,112**	**–**	**–**	**15,112**
– preference share premium included in tier 1 capital	*b*	**1,405**	**–**	**–**	**1,405**
Non-controlling interests	*d*	**9,058**	**(933)**	**–**	**8,125**
of which:					
– non-cumulative preference shares issued by subsidiaries included in tier 1 capital	*e*	**2,077**	**–**	**–**	**2,077**
– non-controlling interests included in tier 2 capital, cumulative preferred stock	*f*	**–**	**–**	**–**	**–**
– non-controlling interests attributable to holders of ordinary shares in subsidiaries included in tier 2 capital	*f, m*	**–**	**–**	**–**	**–**
Total liabilities and equity at 31 December 2015		**2,409,656**	**(94,900)**	**213,083**	**2,527,839**
Assets					
Cash and balances at central banks		129,957	–	30,731	160,688
Items in the course of collection from other banks		4,927	–	80	5,007
Hong Kong Government certificates of indebtedness		27,674	–	–	27,674
Trading assets		304,193	(720)	2,357	305,830
Financial assets designated at fair value		29,037	(28,791)	3,312	3,558
Derivatives		345,008	(94)	353	345,267
Loans and advances to banks		112,149	(2,727)	7,992	117,414
Loans and advances to customers		974,660	(10,809)	116,484	1,080,335
of which:					
– impairment allowances on IRB portfolios	*i*	(6,942)	–	–	(6,942)
– impairment allowances on standardised portfolios		(5,395)	–	(2,744)	(8,139)
Reverse repurchase agreements – non-trading		161,713	(30)	7,510	169,193
Financial investments		415,467	(50,420)	33,123	398,170
Capital invested in insurance and other entities		–	2,542	–	2,542
Current tax assets		1,309	(16)	–	1,293
Prepayments, accrued income and other assets		75,176	(5,295)	8,501	78,382
of which:					
– goodwill and intangible assets of disposal groups held for sale	*h*	8	–	–	8
– retirement benefit assets	*g*	5,028	–	–	5,028
– impairment allowances on assets held for sale		(16)	–	–	(16)
of which:					
– IRB portfolios	*i*	(16)	–	–	(16)
– standardised portfolios		–	–	–	–
Interests in associates and joint ventures		18,181	–	(17,479)	702
of which:					
– positive goodwill on acquisition	*h*	621	–	(606)	15
Goodwill and intangible assets	*h*	27,577	(5,593)	571	22,555
Deferred tax assets	*n*	7,111	163	474	7,748
Total assets at 31 December 2014		2,634,139	(101,790)	194,009	2,726,358

Reconciliation of balance sheets – financial accounting to regulatory scope of consolidation (continued)

	Ref	Accounting balance sheet $m	Deconsolidation of insurance/ other entities $m	Consolidation of banking associates $m	Regulatory balance sheet $m
Liabilities and equity					
Hong Kong currency notes in circulation		27,674	–	–	27,674
Deposits by banks		77,426	(21)	40,530	117,935
Customer accounts		1,350,642	(535)	141,858	1,491,965
Repurchase agreements – non-trading		107,432	–	–	107,432
Items in course of transmission to other banks		5,990	(3)	–	5,987
Trading liabilities		190,572	(42)	50	190,580
Financial liabilities designated at fair value		76,153	(6,317)	–	69,836
of which:					
– term subordinated debt included in tier 2 capital	*m*	21,822	–	–	21,822
– hybrid capital securities included in tier 1 capital	*j*	1,495	–	–	1,495
Derivatives		340,669	37	331	341,037
Debt securities in issue		95,947	(7,797)	3,720	91,870
Current tax liabilities		1,213	(138)	317	1,392
Liabilities under insurance contracts		73,861	(73,861)	–	–
Accruals, deferred income and other liabilities		53,396	(3,659)	5,145	54,882
of which:					
– retirement benefit liabilities		3,208	(2)	56	3,262
Provisions		4,998	(63)	–	4,935
of which:					
– contingent liabilities and contractual commitments		234	–	–	234
of which:					
– credit-related provisions on IRB portfolios	*i*	132	–	–	132
– credit-related provisions on standardised portfolios		102	–	–	102
Deferred tax liabilities		1,524	(1,009)	2	517
Subordinated liabilities		26,664	–	2,056	28,720
of which:					
– hybrid capital securities included in tier 1 capital	*j*	2,761	–	–	2,761
– perpetual subordinated debt included in tier 2 capital	*l*	2,773	–	–	2,773
– term subordinated debt included in tier 2 capital	*m*	21,130	–	–	21,130
Total shareholders' equity	*a*	190,447	(7,531)	–	182,916
of which:					
– other equity instruments included in tier 1 capital	*c, j*	11,532	–	–	11,532
– preference share premium included in tier 1 capital	*b*	1,405	–	–	1,405
Non-controlling interests	*d*	9,531	(851)	–	8,680
of which:					
– non-cumulative preference shares issued by subsidiaries included in tier 1 capital	*e*	2,127	–	–	2,127
– 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*	173	–	–	173
Total liabilities and equity at 31 December 2014		2,634,139	(101,790)	194,009	2,726,358

The references (a) – (n) identify balance sheet components which are used in the calculation of regulatory capital on page 234.

Leverage ratio

Leverage ratio

	EU Delegated Act basis at 31 December	
	2015	2014
	$bn	$bn
Total assets per accounting balance sheet	**2,410**	2,634
Deconsolidation of insurance/other entities	**(95)**	(102)
Consolidation of banking associates	**213**	194
Total assets per regulatory/accounting balance sheet	**2,528**	2,726
Adjustments to reverse netting of loans and deposits allowable under IFRS	**32**	38
Reversal of accounting values including assets classified as held for sale:	**(456)**	(525)
– derivatives	**(290)**	(345)
– repurchase agreement and securities finance	**(166)**	(180)
Replaced with the regulatory rules:		
Derivatives including assets classified as held for sale:	**149**	166
– mark-to-market	**69**	81
– deductions of receivables assets for cash variation margin	**(65)**	(82)
– add-on amounts for potential future exposure	**125**	148
– exposure amount resulting from the additional treatment for written credit derivatives	**20**	19
Repurchase agreement and securities finance including assets classified as held for sale:	**173**	188
– gross securities financing transactions assets	**243**	269
– netted amounts of cash payables and cash receivables of gross securities financing transactions assets	**(78)**	(89)
– measurement of counterparty risk	**8**	8
Addition of off-balance sheet commitments and guarantees	**401**	396
– guarantees and contingent liabilities	**67**	67
– commitments	**326**	321
– others	**8**	8
Exclusion of items already deducted from the capital measure	**(33)**	(36)
Exposure measure after regulatory adjustments	**2,794**	2,953
Tier 1 capital under CRD IV (end point)	**140**	142
Leverage ratio	**5.0%**	4.8%

The numerator of the leverage ratio is calculated using the final CRD IV end point tier 1 capital definition while the exposure measure is now calculated based on the Commission Delegated Regulation (EU) 2015/62, published in January 2015.

Regulatory developments

Regulatory capital requirements

The regulatory capital requirements comprise a Pillar 1 minimum, individual capital guidance ('ICG') set by the PRA in the form of Pillar 2A, a number of capital buffers established by CRD IV and any PRA buffer that the PRA may set in addition to ICG.

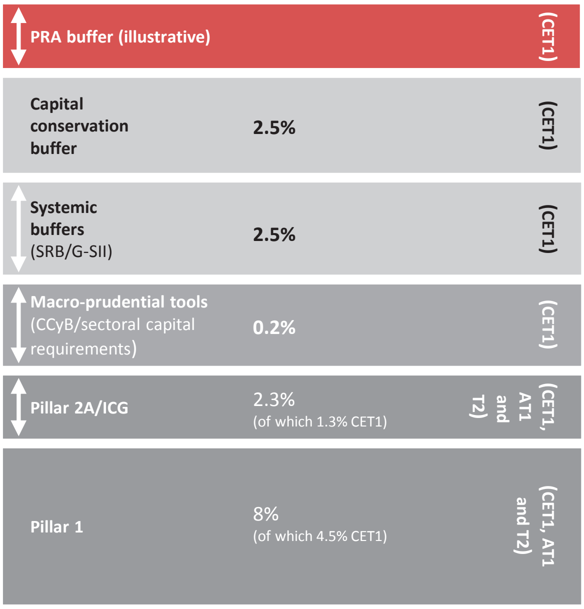
The Pillar 1 minimum ratio and the capital conservation buffer ('CCB') rates are certain. The macro-prudential tools, Pillar 2A, the PRA buffer and the systemic buffers are time-varying elements. This uncertainty is reflected in the regulatory and management buffer we have included in the 12% to 13% CET1 range that is used to model our medium-term target for return on equity of more than 10% by 2017. This buffer is currently in the range of 1% to 2%.

In December 2015, the FPC published its end point view of the calibration of the capital framework as applicable to UK banks. This set out the FPC's final expectations in relation to the levels of capital across the industry, while specific requirements for individual banks will vary at the PRA's determination. These expectations do not include time-varying additional requirements such as the countercyclical capital buffer ('CCyB') and are based on the assumption that existing deficiencies in the definition and measurement of RWAs under Pillar 1 requirements will be addressed over time. These deficiencies in Pillar 1 are currently compensated through additional Pillar 2 requirements. The FPC stated its expectation that by 2019, once such deficiencies were corrected, Pillar 2A requirements would reduce.

In addition to the above, consideration of the finalised Financial Stability Board ('FSB') proposals in relation to total loss absorbing capacity ('TLAC') requirements, and the UK implementation of the EU minimum requirement for own funds and eligible liabilities ('MREL') will also be required.

Based on the known and quantifiable requirements to date, including the announced CCyB rates and current ICG, the overall capital requirements applicable to the Group on an end-point basis (at 1 January 2019) are presented in the table below.

Capital requirements framework (end point)



CRD IV capital buffers

CRD IV established a number of capital buffers, to be met with CET1 capital, broadly aligned with the Basel III framework. In the UK, with the exception of the CCyB which applied with immediate effect, CRD IV capital buffers are being phased in from 1 January 2016.

Automatic restrictions on capital distributions apply if a bank's CET1 capital falls below the level of its CRD IV combined buffer. The CRD IV combined buffer is defined as the total of the CCB, the CCyB, the global systemically important institutions ('G-SII's') buffer and the systemic risk buffer ('SRB'), as these become applicable.

At 31 December 2015, the applicable CCyB rates in force were 1% set by Norway and Sweden. Relevant credit exposures located in Norway and Sweden were $2.4bn and $1.5bn respectively. At 31 December 2015, this resulted in an immaterial Group institution-specific CCyB requirement.

The Hong Kong Monetary Authority ('HKMA') CCyB rate of 0.625% was implemented on 27 January 2016 in respect of Hong Kong exposures, following communication from the FPC. The impact of the HKMA CCyB rate on our Group institution-specific CCyB rate is expected to be 7bps (based on RWAs at 31 December 2015).

The CCyB rates introduced by Norway and Sweden will increase to 1.5% from June 2016. In January 2016, the HKMA also announced that the CCyB rate applied to exposures in Hong Kong will be increased to 1.25% from 1 January 2017.

In December 2015, the FPC maintained a 0% CCyB rate for UK exposures. At the same time, the FPC published the final calibration of the capital framework for UK banks. Within this, the FPC indicated that going forward it would apply a more active use of the CCyB and stated that it intends to publish a revised policy statement on the use of the CCyB in March 2016. The FPC also noted that it expects to set a countercyclical buffer rate for UK exposures, in the region of 1% when risks are judged to be neither subdued nor elevated. The CCyB rate will be informed by the annual UK concurrent stress test of major UK banks. If a rate change is introduced it is expected to come into effect 12 months later.

In December 2015, the PRA confirmed our applicable G-SII buffer as 2.5%. The G-SII buffer together with the CCB of 2.5%, came into effect on 1 January 2016. These are being phased in until 2019 in increments of 25% of the end point buffer requirement. Therefore, as of 1 January 2016, the requirement for each buffer is 0.625% of RWAs.

Alongside CRD IV requirements, since 2014, the PRA has expected major UK banks and building societies to meet a 7% CET1 ratio using the CRD IV end point definition. At 1 January 2016, with the introduction of the G-SII buffer and the CCB, our minimum CET1 capital requirements and combined buffer requirement taken together amount to 7.1% (based on RWAs at 31 December 2015), effectively superseding the previous PRA guidance on the CET1 ratio.

In January 2016, the FPC published a consultation on its proposed framework for the SRB. It is proposed that it will apply to ring-fenced banks and large building societies and will be implemented from 1 January 2019. The buffer to be applied to HSBC's ring-fenced bank has yet to be determined.

Further details of the aforementioned CRD IV buffers are set out in the Appendix to Capital on page 246.

Pillar 2 and the 'PRA buffer'

The Pillar 2 framework requires banks to hold capital in respect of risks not captured in the Pillar 1 framework and to assess risks which banks may become exposed to over a forward-looking planning horizon. The PRA's assessment results in the determination of ICG/Pillar 2A and Pillar 2B, respectively.

Pillar 2A was previously required to be met by total capital but, since 1 January 2015, must be met with at least 56% CET1. Furthermore, the PRA expects firms not to meet the CRD IV buffers with any CET1 required to meet its ICG.

The Pillar 2A requirement is a point in time assessment of the amount of capital the PRA considers that a bank should hold to meet the overall financial adequacy rule. It is therefore subject to change as part of the PRA's supervisory review process. In November 2015, our Pillar 2A requirement was set at 2.3% of RWAs, of which 1.3% is met by CET1.

In July 2015, the PRA published a final policy statement PS17/15, setting out amendments to the PRA Rulebook and Supervisory Statements in relation to the Pillar 2 framework. The revised framework became effective on 1 January 2016. The PRA's Statement of Policy sets out the methodologies that it will use to inform its setting of firms' Pillar 2 capital requirements, including new approaches for determining Pillar 2 requirements for credit risk, operational risk, credit concentration risk and pension obligation risk.

In parallel, in July 2015, the PRA also issued its supervisory statement SS31/15 in which it introduced a PRA buffer to replace the capital planning buffer determined under

Pillar 2B, from 1 January 2016. This is to be met in the form of CET1 capital.

The statement sets out that the PRA buffer is intended to avoid duplication with CRD IV buffers and will be set for a particular firm depending on its vulnerability in a stress scenario. In order to address significant weaknesses in risk management and governance, a scalar may be applied to firms' CET1 Pillar 1 and Pillar 2A capital requirements. This will also form part of the PRA Buffer.

Where the PRA considers there is overlap between the CRD IV buffers and the PRA buffer assessment, the PRA buffer will be set as the excess capital required over and above the CRD IV combined buffer. From 1 January 2016, the CCB and the systemic buffers are permitted to offset against the PRA buffer with the exception of any risk management and governance scalar where applicable. The use of the PRA buffer will not result in automatic restrictions to distributions.

Regulatory stress testing

The Group is subject to supervisory stress testing in many jurisdictions. These requirements are increasing in frequency and granularity. As such, stress testing represents a key focus for the Group.

The Bank of England published the results of the 2015 UK stress test in December 2015 confirming that these tests did not reveal any capital inadequacies for HSBC. At the European level, the EBA did not undertake a stress testing exercise in 2015 but instead carried out a transparency exercise, the results of which were published in November 2015.

In July 2015, the EBA also disclosed a timeline for the 2016 EU wide stress test exercise. The EBA expects to publish the 2016 stress test scenario and methodology in the first quarter of 2016, with results published in the third quarter of 2016.

In October 2015, the Bank of England published its approach to stress testing in the UK. This set out that the outcome of the UK stress testing exercise will be considered by the FPC when determining the UK CCyB rate, and will also inform the PRA buffer. Furthermore, from 2016, the applicable hurdle rate which is the amount of capital that banks are expected to maintain under a stress, is to include Pillar 1, Pillar 2A and G-SII buffer requirements.

In 2015, Group entities also participated in regional stress testing exercises. For further details on stress testing exercises, see page 116.

RWA developments

Throughout 2015, UK, EU and international regulators issued a series of consultations designed to revise the various components of the RWA regime and increase related reporting and disclosures. In particular, the Basel Committee on Banking Supervision ('the Basel Committee') published proposals relating to certain Pillar 1 risk types to update standardised, non-modelled approaches for calculating capital requirements. Details of the most significant consultations are set out below.

In December 2015 the Basel Committee published its second consultation paper on a revised standardised approach for credit risk. This included proposals to reintroduce external credit ratings, moderated by internal due diligence, as the basis for calculating risk weights for banks and corporates. The risk weights for other assets are to be determined by a variety of treatments tailored for each exposure class, which are designed to increase risk sensitivity and comparability.

In January 2016, the Basel Committee published the final rules arising from the Fundamental Review of the Trading Book, with implementation planned for 2019. The new regime includes amendments to the trading book boundary and new market risk capital calculations for both the modelled and standardised approaches. The Basel Committee acknowledges that there is considerable ongoing work which could require further revisions to the framework.

The final changes to the CVA capital charge are expected to be published in 2016. Following the finalisation of the CVA capital regime, the EU is expected to review the exemptions to the CVA charge currently applied to corporates, sovereigns and intragroup exposures. In the interim, the EU has consulted upon a methodology for calculating a Pillar 2 charge for excessive CVA risk resulting from exempted transactions.

The revised consultations for standardised operational risk and the design and calibration of a capital floor based on the standardised approaches, are expected by the end of 2016.

All of the Basel Committee's consultations will need to be transposed into EU law before coming into effect. This includes the finalised changes that relate to the counterparty risk and securitisation regimes.

UK leverage ratio framework

Following consultations in 2014, secondary legislation came into force in April 2015 to provide the FPC with direction powers in relation to the UK leverage ratio framework. In July 2015, the FPC published its final policy statement setting out its intention to use its new powers of direction. As a result the PRA issued a consultation paper to introduce requirements for the UK leverage ratio framework. This established a minimum tier 1 leverage ratio of 3%, an additional leverage ratio buffer ('ALRB') for G-SIIs and a countercyclical leverage ratio buffer ('CCLB'), and was implemented on 1 January 2016. The ALRB and CCLB are to be met entirely with CET1 capital and will be set at 35% of the relevant buffers in the risk-weighted capital framework. At 1 January 2016, our minimum leverage ratio requirement of 3% was supplemented with an ALRB of 0.2% and a CCLB which rounds to 0%. We comfortably exceed these leverage requirements.

It is anticipated that a minimum leverage ratio requirement, including potential buffers for G-SIBs, will be consulted upon by the Basel Committee in 2016 and a formal Pillar 1 measure finalised by 1 January 2018.

Total loss absorbing capacity proposals

As part of Recovery and Resolution frameworks both in the EU and internationally, there have been various developments in relation to TLAC. In the EU, the Bank Recovery and Resolution Directive introduces an MREL.

In July 2015, the EBA published a final draft Regulatory Technical Standard ('RTS') for MREL which seeks to provide additional clarity on the criteria that resolution authorities should take into account when setting a firm specific MREL requirement. The EBA notes that it aims to implement the MREL in a way which is consistent with the finalised international standard on TLAC.

In November 2015, the FSB published finalised proposals on TLAC for G-SIBs to be applied in accordance with individual bank resolution strategies. This set out a requirement of 16% of RWAs and a TLAC leverage ratio of 6% to be met from 1 January 2019, increasing to 18% and 6.75% respectively, from 1 January 2022. Existing regulatory capital buffers will need to be met in addition to the minimum TLAC requirement. A breach of TLAC will be treated as severely as a breach of minimum capital requirements.

In November 2015, the Basel Committee also published a consultation on the treatment of banks' holdings of TLAC instruments issued by a G-SIB, which proposed new deductions from regulatory capital. Once finalised, any additional requirements in relation to TLAC are expected to be reflected in MREL and to be implemented in the UK.

In December 2015, the Bank of England published a consultation paper on the UK's implementation of MREL. The Bank of England stated that it intends to set MREL consistent with both TLAC and the final EBA RTS expected to be published later this year. The MREL is expected to comprise a loss absorption amount which reflects existing regulatory capital requirements and a recapitalisation amount which reflects the capital that a firm is likely to need post resolution. The latter can be met with both regulatory capital and eligible liabilities.

While MREL is to be set on an individual basis, the Bank of England generally expects MREL for banks whose appropriate resolution strategy is bail-in, to be equivalent to twice the current minimum capital requirements. A finalised Statement of Policy is expected by mid-2016. The Bank of England is also expected to provide firms with an indication of their prospective 2020 MREL during 2016, and will set MREL on a transitional basis until then. For G-SIBs, MREL is proposed to apply from 2019, consistent with FSB timelines.

In parallel to the above, the PRA separately published a consultation paper on the interaction between MREL and capital buffers and how it would treat a breach of MREL requirements. This proposed that banks should not be able to meet MREL requirements with CET1 used to meet existing capital and leverage ratio buffers.

Structural reform and recovery and resolution planning

Globally there have been a number of developments relating to banking structural reform and the introduction of recovery and resolution regimes. As part of recovery and resolution planning, some regulators and national authorities have also required changes to the corporate structures of banks. These include requiring the local incorporation of banks or ring-fencing of certain businesses.

In 2013 and 2014, UK legislation was enacted requiring large banking groups to ring-fence UK retail and SME banking activity in a separately incorporated banking subsidiary (a 'ring-fenced bank') that is prohibited from engaging in significant trading activity. Ring-fencing is to be completed by 1 January 2019. The legislation also detailed the applicable individual customers to be transferred to the ring-fenced bank. In addition, the legislation places restrictions on the activities and geographical scope of ring-fenced banks. Throughout 2015 the PRA published a number of consultations on the implementation of ring-fencing requirements and the finalisation of rules is expected to continue in 2016.

The key proposals included near final rules published in May 2015 on legal structure, corporate governance, and continuity of services and facilities.

Additionally, in October 2015, the PRA issued a consultation on the application of capital and liquidity rules for ring-fenced banks, management of intra-group exposures, and use of financial market infrastructures. The PRA intends to undertake a further consultation in 2016 in respect of reporting and disclosure, and publish finalised rules and supervisory statements thereafter, with implementation by 1 January 2019.

We are working with our primary regulators to develop and agree a resolution strategy for HSBC. It is our view that a strategy by which the Group breaks up at a subsidiary bank level at the point of resolution (referred to as a Multiple Point of Entry) is the optimal approach, as it is aligned to our existing legal and business structure. Similarly to all G-SIBs, we are working with our regulators to mitigate or remove critical inter-dependencies between our subsidiaries to further facilitate the resolution of the Group. In particular, in order to remove operational dependencies (where one subsidiary bank provides critical services to another), we are in the process of transferring critical services from our subsidiary banks to a separate internal group of service companies ('ServCo group').

During 2015, more than 18,000 employees performing shared services in the UK were transferred to the ServCo group. Further transfers of employees, critical shared services and assets in the UK, Hong Kong and other jurisdictions will occur in due course.

Footnotes to Capital

1 *From 1 January 2015 the CRD IV transitional CET1 and end point CET1 capital ratios became aligned for HSBC Holdings plc due to the recognition of unrealised gains on investment property and available-for-sale securities.*
2 *This includes dividends on ordinary shares, quarterly dividends on preference shares and coupons on capital securities, classified as equity.*
3 *The basis of presentation for foreign currency translation differences has changed to reflect the total amount in CET1 capital. Previously this only included foreign currency translation differences recognised in other comprehensive income. The comparative period, where applicable, has not been updated to reflect the change.*
4 *In the first half of 2015, a portfolio of customers was transferred from CMB to RBWM in Latin America in order to better align the combined banking needs of the customers with our established global businesses. Comparative data have been re-presented accordingly.*
5 *RWAs are non-additive across geographical regions due to market risk diversification effects within the Group.*
6 *For the basis of preparation, see page 247.*
7 *CRD IV balances as at 31 December 2013 were estimated based on the Group's interpretation of final CRD IV legislation and final rules issued by the PRA, details of which can be found in the basis of preparation on page 324 of the* Annual Report and Accounts 2013.
8 *Includes externally verified profits for the year to 31 December 2015.*
9 *Mainly comprises unrealised gains/losses in available-for-sale debt securities related to SPEs.*
10 *Includes own credit spread on trading liabilities.*
11 *Mainly comprise investments in insurance entities.*

Appendix to Capital

Capital management

(Audited)

Approach and policy

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. Pre-tax return on risk-weighted assets ('RoRWA') is an operational metric by which the global businesses are managed on a day-to-day basis. The metric is calibrated against return on equity and our capital requirements to ensure we are best placed to achieve capital strength and business profitability, combined with regulatory capital efficiency objectives. It is our objective to maintain a strong capital base to support the risks inherent in our business and invest in accordance with our strategy, exceeding both consolidated and local regulatory capital requirements at all times.

Our policy on capital management is underpinned by a capital management framework and our internal capital adequacy assessment process, which enables us to manage our capital in a consistent manner. The framework, which is approved by the Group Management Board ('GMB') annually, incorporates a number of different capital measures including market capitalisation, shareholders' equity, economic capital and regulatory capital. During 2015, we continued to manage Group capital to meet a medium-term target for return on equity of more than 10%. This is modelled on a CET1 ratio on an end point basis in the range of 12% to 13%.

Capital measures

- shareholders' equity is the equity capital invested in HSBC by our shareholders, adjusted for certain reserves and goodwill previously amortised or written-off;
- economic capital is the internally calculated capital requirement which we deem necessary to support the risks to which we are exposed; and
- regulatory capital is the capital which we are required to hold in accordance with the rules established by the PRA for the consolidated Group and by our local regulators for individual Group companies. This comprises common equity tier 1, additional tier 1 and tier 2 capital.

Our assessment of capital adequacy is aligned to our assessment of risks, including: credit, market, operational, interest rate risk in the banking book, pensions, insurance, structural foreign exchange risk and residual risks.

Stress testing

In addition to our annual group internal stress test, the Group is subject to supervisory stress testing in many jurisdictions. Supervisory requirements are increasing in frequency and in the granularity with which the results are required. These exercises include the programmes of the PRA, the FRB, the EBA, the ECB and the HKMA, as well as stress tests undertaken in other jurisdictions. We take into account the results of all such regulatory stress testing and our internal stress test when assessing our internal capital requirements. The outcome of stress testing exercises carried out by the PRA, will also feed into a PRA buffer under the Pillar 2 requirements, where required.

Risks to capital

Outside of the stress-testing framework, a list of top and emerging risks is regularly evaluated for their effect on our CET1 capital ratio. As a result, other risks may be identified which have the potential to affect our RWAs and/or capital position. These risks are also included in the evaluation of risks to capital. The downside or upside scenarios are assessed against our capital management objectives and mitigating actions are assigned as necessary. The responsibility for global capital allocation principles and decisions rests with the GMB. Through our internal governance processes, we seek to maintain discipline over our investment and capital allocation decisions and seek to ensure that returns on investment meet the Group's management objectives. Our strategy is to allocate capital to businesses and entities on the basis of their ability to achieve established RoRWA objectives and their regulatory and economic capital requirements.

Risk-weighted asset plans

RWA plans form part of the Annual Operating Plan that is approved by the Board. Revised forecasts are submitted to the GMB on a monthly basis and reported RWAs are monitored against plan.

Our global businesses are set targets in line with the priorities outlined in last June's strategy update including RWA efficiency and return on RWAs. Business performance against RWA targets is monitored through regular reporting to the Holding Company ALCO as well as the GMB. Performance measures are aligned to the Group's strategic actions. The management of regulatory capital deductions is also addressed in the RWA monitoring framework through additional notional charges for these items.

Analysis is undertaken within the RWA monitoring framework to identify the key drivers of movements. 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. Analysis is also undertaken to recognise and report specific actions that are targeted RWA reduction initiatives.

Capital generation

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' own capital issuance and profit retention. As part of its capital management process, HSBC Holdings seeks to maintain a prudent balance between the composition of its capital and its investment in subsidiaries.

Capital measurement and allocation

The PRA supervises HSBC on a consolidated basis and therefore 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 capital adequacy requirements. Our capital at Group level is calculated under CRD IV and supplemented by the PRA's rules to effect the transposition of directive requirements.

Our policy and practice in capital measurement and allocation at Group level is underpinned by the CRD IV rules. In most jurisdictions, non-banking financial subsidiaries are also subject to the supervision and capital requirements of local regulatory authorities.

The Basel III framework, similarly to Basel II, is structured around three 'pillars': minimum capital requirements, supervisory review process and market discipline. The CRD IV legislation implemented Basel III in the EU and, in the UK, the 'PRA Rulebook' for CRR Firms transposed the various national discretions under the CRD IV legislation into UK requirements. CRDIV also introduces a number of capital buffers, including the CCB, CCyB, and other systemic buffers such as the G-SII buffer.

Regulatory capital

For regulatory purposes, our capital base is divided into three main categories, namely CET1, additional tier 1 and tier 2, depending on their characteristics.

- CET1 capital is the highest quality form of capital, comprising shareholders' equity and related non-controlling interests (subject to limits). Under CRD IV various capital deductions and regulatory adjustments are made to these items which are treated differently for the purposes of capital adequacy – these include deductions for goodwill and intangible assets, deferred tax assets that rely on future profitability, negative amounts resulting from the calculation of expected loss amounts under IRB, holdings of capital securities of financial sector entities and surplus defined benefit pension fund assets.
- Additional tier 1 capital comprises eligible non-common equity capital securities and any related share premium; it also includes qualifying securities issued by subsidiaries subject to certain limits. Holdings of additional tier 1 securities of financial sector entities are deducted.
- Tier 2 capital comprises eligible capital securities and any related share premium and qualifying tier 2 capital securities issued by subsidiaries subject to limits. Holdings of tier 2 capital securities of financial sector entities are deducted.

Pillar 1 capital requirements

Pillar 1 is comprised of the capital resources requirements for credit risk, market risk and operational risk. Credit risk includes counterparty credit risk and securitisation requirements. These requirements are expressed in terms of RWAs.

Credit risk capital requirements

CRD IV applies three approaches of increasing sophistication to the calculation of Pillar 1 credit risk capital requirements. The most basic, 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 internal ratings-based ('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 the estimates of exposure at default ('EAD') and loss given default ('LGD') are subject 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.

The capital resources requirement, which is intended to cover unexpected losses, is derived from a formula specified in the regulatory rules which incorporates PD, LGD, EAD and other variables such as maturity and correlation. Expected losses are calculated by multiplying PD by EAD and LGD. Expected losses are deducted from capital to the extent that they exceed total accounting impairment allowances. For credit risk we have adopted the IRB advanced approach for the majority of our portfolios, with the remainder on either IRB foundation or standardised approaches.

At the end of 2015, a number of portfolios in Europe, Asia and North America were on the advanced IRB approach as well as our sovereigns, banks and large corporate exposures globally. Others remain on the standardised or foundation approach pending definition of local regulations or model approval, or under exemptions from IRB treatment. In some instances, regulators have allowed us to transition from advanced to standardised approaches for a limited number of portfolios.

- *Counterparty credit risk*

  Counterparty credit risk ('CCR') arises for derivatives and securities financing transactions. It is calculated for both the trading and non-trading books and is the risk that the counterparty to a transaction may default before completing the satisfactory settlement of the transaction. Three approaches to calculating CCR and determining exposure values are defined by CRD IV: mark-to-market, standardised and internal model method. 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 internal model method approaches for CCR.

  In addition, CRD IV introduced a regulatory capital charge to cover CVA risk, the risk of adverse movements in the credit valuation adjustments taken for expected credit losses on derivative transactions. Where we have both specific risk VaR approval and internal model method approval for a product, the CVA VaR approach has been used to calculate the CVA capital charge. Where we do not hold both approvals, the standardised approach has been applied. Certain counterparty exposures are exempt from CVA, such as non-financial counterparties and sovereigns.

- *Securitisation*

  Securitisation positions are held in both the trading and non-trading books. For non-trading book securitisation positions, CRD IV specifies two methods for calculating credit risk requirements, the standardised and the IRB approaches. Both rely on the mapping of rating agency credit ratings to risk weights, which range from 7% to 1,250%.

  Within the IRB approach, we use the ratings-based method for the majority of our non-trading book securitisation positions, and the internal assessment approach for exposures arising from asset-backed commercial paper programmes, mainly related to liquidity facilities and programme wide credit enhancement.

  The majority of securitisation positions in the trading book are risk weighted for capital purposes as though they are held in the non-trading book under the standardised or IRB approaches.

Market risk capital requirement

The market risk capital requirement is measured using internal market risk models where approved by the PRA, or the standard rules of CRD IV. Our internal market risk models are VaR, stressed VaR and Incremental Risk. Since the sale of our correlation portfolio in September 2014, there has been no market risk capital requirement associated with the comprehensive risk measure.

Operational risk capital requirement

CRD IV includes a capital requirement for operational risk, again utilising three levels of sophistication. The capital required under the basic indicator approach is a simple percentage of gross revenues, whereas under the standardised approach the calculation is applied to the same measure with varying percentages by business line. Both these approaches use an average of the last three financial years' revenues. Finally, the advanced measurement approach uses banks' own statistical analysis and modelling of operational risk data to determine capital requirements. We have adopted the standardised approach in determining our operational risk capital requirements.

Pillar 2 capital requirements

We conduct an annual internal capital adequacy assessment process ('ICAAP') to determine a forward looking assessment of our capital requirements given our business strategy, risk profile, risk appetite and capital plan. This process incorporates the Group's risk management processes and governance framework. As a part of our ICAAP, we carry out internal stress testing of our base capital plan where both the PRA released stress scenario and concurrent scenario in the context of our business and specific risk drivers are taken into account. These, coupled with our economic capital framework and other risk management practices, are used to assess our internal capital adequacy requirements.

The ICAAP is examined by the PRA as part of its supervisory review and evaluation process ('SREP'), which occurs periodically to enable the regulator to define the individual capital guidance or minimum capital requirements for HSBC and our capital planning buffer where required. Under the revised Pillar 2 PRA regime, which came into effect from 1 January 2016, the capital planning buffer was replaced with a PRA buffer. The PRA states this is not intended to duplicate the CRD IV buffers, and will be set according to vulnerability in a stress scenario, as assessed through the annual PRA stress testing exercise.

CRD IV capital buffers

CRD IV introduced a number of capital buffers which apply in addition to Pillar 1 and Pillar 2 requirements and are broadly aligned with the Basel III framework. This includes the CCB, CCyB, and G-SII which are all currently applicable to the Group. These are to be met with CET1 and, with the exception of the CCyB which applies with immediate effect, are being phased in from 1 January 2016. The CRD IV includes other capital buffers such as the systemic risk buffer which has not yet been fully implemented by the PRA.

- *CCB*

  The CCB is designed to ensure banks build up capital outside periods of stress that can be drawn down when losses are incurred. It is set at 2.5% of RWAs across all banks, and is being phased in from 1 January 2016. At 1 January 2016, our CCB was 0.625%.

- *G-SII*

  The Group is designated as a G-SII by the PRA, and is currently subject to a G-SII buffer of 2.5% of RWAs. This is being phased in from 1 January 2016. The G-SII buffer is intended to address systemic risk, which is assessed on an annual basis according to a number of indicators such as: the size of a bank, its interconnectedness, the lack of readily available substitutes or financial institution infrastructure for the services it provides, its global cross-jurisdictional activity, and the complexity of its business model. At 1 January 2016, our G-SII buffer was 0.625%.

- *CCyB*

  The CCyB is a countercyclical buffer which is set on an institution specific basis and calculated according to the geographic location of relevant exposures. It is designed to protect against future losses where unsustainable levels of leverage, debt or credit growth pose a systemic threat. Our institution-specific CCyB for the Group is calculated as the weighted average of the CCyB rates that apply in the jurisdictions where our relevant credit exposures are located. At 31 December 2015 our institution specific CCyB applicable on a group basis, was close to 0%.

- *Combined buffer*

  As a result of the above requirements, at 1 January 2016, the combined buffer applicable to HSBC Group was estimated as 1.25%.

Leverage ratio requirements

In addition to risk-based capital requirements, the Group is subject to a non-risk sensitive, minimum leverage ratio requirement of 3%, as set by the PRA. This is calculated in accordance with the Commission Delegated Regulation (EU) 2015/62, published in January 2015, which implemented the revised Basel III 2014 exposure measure. Since 1 January 2016, the minimum leverage ratio of 3% has been supplemented with an ALRB for G-SIIs and a CCLB, both of which are set at 35% of the relevant buffers in the risk-weighted capital framework. As a result, at 1 January 2016, our minimum leverage ratio requirement of 3% was supplemented with an ALRB of 0.2% and a CCLB which rounds to 0%.

Pillar 3 disclosure requirements

Pillar 3 of the Basel regulatory framework is related to market discipline and aims to make firms more transparent by requiring publication, at least annually, of wide-ranging information on their risks, capital and management. Our *Pillar 3 Disclosures 2015* are published on our website, www.hsbc.com, under Investor Relations.

RWA movement by key driver – basis of preparation and supporting notes

Credit risk drivers – definitions and quantification

The causal analysis of RWA movements splits the total movement in IRB RWAs into six drivers, described below. The first four relate to specific, identifiable and measurable changes. The remaining two, book size and book quality, are derived after accounting for movements in the first four specific drivers.

1. Foreign exchange movements

This is the movement in RWAs as a result of changes in the exchange rate between the functional currency of the HSBC company owning each portfolio and US dollars, being our presentation currency for consolidated reporting. Our structural foreign exchange exposures are managed with the primary objective of ensuring, where practical, that our consolidated capital ratios and the capital ratios of individual banking subsidiaries are largely protected from the effect of changes in exchange rates. This is usually achieved by ensuring that, for each subsidiary bank, the ratio of structural exposures in a given currency to risk-weighted assets denominated in that currency is broadly equal to the capital ratio of the subsidiary in question. We hedge structural foreign exchange exposures only in limited circumstances.

2. Acquisitions and disposals

This is the movement in RWAs as a result of the disposal or acquisition of business operations. This can be whole businesses or parts of a business. The movement in RWAs is quantified based on the credit risk exposures as at the end of the month preceding a disposal or following an acquisition.

3. Model updates

RWA movements arising from the implementation of new models and from changes to existing parameter models are allocated to this driver. This figure will also include changes which arise following review of modelling assumptions. Where a model recalibration reflects an update to more recent performance data, the resulting RWA changes are not assigned here, but instead reported under book quality.

RWA changes are estimated based on the impact assessments made in the testing phase prior to implementation. These values are used to simulate the effect of new or updated models on the portfolio at the point of implementation, assuming there were no major changes in the portfolio from the testing phase to implementation phase.

RWA movement arising from portfolios moving from the standardised approach to the IRB approach are also allocated to this driver. The RWA movement by key driver statement shows the increase in IRB RWAs, but does not show the corresponding reduction in standardised approach RWAs as its scope is limited to IRB only.

The movement in RWAs is quantified at the date at which the IRB approach is applied, and not during the testing phase as with a new/updated model.

4. Methodology and policy

Internal updates

This captures the effect on RWAs of changing the internal treatment of exposures. This may include, but is not limited to, a portfolio or a part of one moving from an existing IRB model onto a standardised model, identification of netting and credit risk mitigation.

External updates – regulatory

This specifies the effect of additional or changing regulatory requirements. This includes, but is not limited to, regulatory-prescribed changes to the RWA calculation. The movement in RWAs is quantified by comparing the RWAs calculated for that portfolio under the old and the new requirements.

5. Book size

RWA movements attributed to this driver are those we would expect to experience for the given movement in exposure, as measured by EAD, assuming a stable risk profile. These RWA movements arise in the normal course of business, such as growth in credit exposures or reduction in book size from run-offs and write-offs.

The RWA movement is quantified as follows:

- RWA and EAD changes captured in the four drivers above are excluded from the total movements to create an adjusted movement in EAD and RWA for the period.
- The average RWA to EAD percentage is calculated for the opening position and is applied to the adjusted movement in EAD. This results in an estimated book size RWA movement based on the assumption that the EAD to RWA percentage is constant throughout the period.

As the calculation relies on averaging, the output is dependent upon the degree of portfolio aggregation and the number of discrete time periods for which the calculation is undertaken. For each quarter of 2015 this calculation was performed for each

HSBC company with an IRB portfolio by global businesses, split by the main Basel categories of credit exposures, as described in the table below:

CRD IV categories of IRB credit exposures within HSBC		
Central governments and central banks	Corporates – Other	Retail – Qualifying revolving
Institutions	Retail – Secured by real estate SME	Retail – Other SME
Corporates – SME	Retail – Secured by retail estate non-SME	Retail – Other non-SME
Corporates – Specialised Lending		

The total of the results is shown in book size within the RWA movement by key driver table.

6. Book quality

This represents RWA movements resulting from changes in the underlying credit quality of customers. These are caused by changes to IRB risk parameters which arise from actions such as, but not limited to, model recalibration, change in counterparty external rating, or the influence of new lending on the average quality of the book. The change in RWAs attributable to book quality is calculated as the balance of RWA movements after taking account of all drivers described above.

The RWA movement by key driver statement includes only movements which are calculated under the IRB approach. Certain classes of credit risk exposure are treated as capital deductions and therefore reductions are not shown in this statement. If the treatment of a credit risk exposure changes from RWA to capital deduction in the period, then only the reduction in RWAs would appear in the RWA movement by key driver tables. In this instance, a reduction in RWAs does not necessarily indicate an improvement in the capital position.

Counterparty risk drivers – definitions and quantification

The RWA movement by key driver for counterparty credit risk calculates the credit risk drivers 5 and 6 at a more granular level, by using transaction level details provided by regional sites. ‘Foreign exchange movement’ is not a reported layer for counterparty risk drivers, as there is cross currency netting across the portfolio.

Market risk drivers – definitions and quantification

The RWA movement by key driver for market risk combines the credit risk drivers 5 and 6 into a single driver called ‘Movements in risk levels’.