

HSBC HOLDINGS PLC  
Form 6-K  
February 25, 2016

# **SECURITIES AND EXCHANGE COMMISSION**

**Washington, D.C. 20549**

## **FORM 6-K**

**Report of Foreign Private Issuer**

**Pursuant to Rule 13a-16 or 15d-16 of  
the Securities Exchange Act of 1934**

**For the month of February 2016**

**Commission File Number: 001-14930**

# **HSBC Holdings plc**

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

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

Form 20-F  Form 40-F

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

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

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

Yes  No

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

The Registrant hereby incorporates by reference into its Registration Statement on Form F-3ASR (File No. 333-202420) (i) the consolidated financial statements of HSBC Holdings plc and its subsidiaries as at 31 December 2014 and 2015 and for each of the years in the three-year period ended 31 December 2015 and notes thereon on attached pages 336 to 469, (ii) the disclosures marked audited within the Report of the Directors: Risk section on attached pages 120 to 225 and the Report of the Directors: Capital section on attached pages 233 to 244, (iii) management's report on the effectiveness of internal control over financial reporting on attached page 98a, (iv) the auditors' reports thereon and (v) the Exhibits attached hereto.

**This document includes Audited consolidated financial statements of HSBC, related disclosures and auditors reports thereon**

### **Cautionary statement regarding forward-looking statements**

This *Form 6-K* contains certain forward-looking statements with respect to HSBC's financial condition, results of operations, capital position and business.

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

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

Forward-looking statements involve inherent risks and uncertainties. Readers are cautioned that a number of factors could cause actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement. These include, but are not limited to:

changes in general economic conditions in the markets in which we operate, such as continuing or deepening recessions and fluctuations in employment beyond those factored into consensus forecasts; changes in foreign exchange rates and interest rates; volatility in equity markets; lack of liquidity in wholesale funding markets; illiquidity and downward price pressure in national real estate markets; adverse changes in central banks' policies with respect to the provision of liquidity support to financial markets; heightened market concerns over sovereign creditworthiness in over-indebted countries; adverse changes in the funding status of public or private defined benefit pensions; and consumer perception as to the continuing availability of credit and price competition in the market segments we serve;

changes in government policy and regulation, including the monetary, interest rate and other policies of central banks and other regulatory authorities; initiatives to change the size, scope of activities and interconnectedness of financial institutions in connection with the implementation of stricter regulation of financial institutions in key markets worldwide; revised capital and liquidity benchmarks which could serve to deleverage bank balance sheets and lower returns available from the current business model and portfolio mix; imposition of levies or taxes designed to change business mix and risk appetite; the practices, pricing or responsibilities of financial institutions

...serving their consumer markets; expropriation, nationalisation, confiscation of assets and changes in legislation relating to foreign ownership; changes in bankruptcy legislation in the principal markets in which we operate and the consequences thereof; general changes in government policy that may significantly influence investor decisions; extraordinary government actions as a result of current market turmoil; other unfavourable political or diplomatic developments producing social instability or legal uncertainty which in turn may affect demand for our products and services; the costs, effects and outcomes of product regulatory reviews, actions or litigation, including any additional compliance requirements; and the effects of competition in the markets where we operate including increased competition from non-bank financial services companies, including securities firms; and

...factors specific to HSBC, including discretionary RWA growth and our success in adequately identifying the risks we face, such as the incidence of loan losses or delinquency, and managing those risks (through account management, hedging and other techniques). Effective risk management depends on, among other things, our ability through stress testing and other techniques to prepare for events that cannot be captured by the statistical models it uses; and our success in addressing operational, legal and regulatory, and litigation challenges, notably compliance with the DPA.

**Certain defined terms**

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

## **Report of the Independent Registered Public Accounting**

### **Firm to the Board of Directors and Shareholders of**

#### **HSBC Holdings plc**

In our opinion, the accompanying consolidated balance sheet as of 31 December 2015 and the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year then ended present fairly, in all material respects, the financial position of HSBC Holdings plc and its subsidiaries as of 31 December 2015 and the results of their operations and their cash flows for the year then ended in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited the adjustments to the 2014 and 2013 financial statements to retrospectively apply the changes in disclosure as described in Note 1A. In our opinion, such adjustments are appropriate and have been properly applied. We were not engaged to audit, review, or apply any procedures to the 2014 or 2013 financial statements of the Company other than with respect to the adjustments and, accordingly, we do not express an opinion or any other form of assurance on the 2014 or 2013 financial statements taken as a whole.

Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of 31 December 2015, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's assessment of internal controls over financial reporting appearing on page 98a. Our responsibility is to express an opinion on these financial statements and on the Company's internal control over financial reporting based on our integrated audit. We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audit of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

PricewaterhouseCoopers LLP

London, United Kingdom

22 February 2016

HSBC HOLDINGS PLC

## **Report of the Independent Registered Public Accounting**

### **Firm to the Board of Directors and Shareholders of**

#### **HSBC Holdings plc**

We have audited the accompanying consolidated financial statements of HSBC Holdings plc and its subsidiaries (together "HSBC") on pages 337 to 469, before the effects of certain adjustments as described in Note 1A, which comprise the consolidated balance sheet as of 31 December 2014, and the related consolidated income statements, consolidated statements of comprehensive income, consolidated statements of cash flows and consolidated statements of changes in equity for each of the years in the two-year period ended 31 December 2014, including the disclosures marked "audited" within the Report of the Directors: Risk section on pages 101 to 226 and the Report of the Directors: Capital section on pages 227 to 248. HSBC's management is responsible for these consolidated financial statements. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. Our audit of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above, before the effects of certain adjustments as described in Note 1A, present fairly, in all material respects, the financial position of HSBC as of 31 December 2014, and the results of its operations and its cash flows for each of the years in the two-year period ended 31 December 2014, in conformity with International Financial Reporting Standards ("IFRSs") as adopted by the European Union ("EU") and IFRSs as issued by the International Accounting Standards Board ("IASB").

We were not engaged to audit, review, or apply any procedures to the adjustments of certain information as described in Note 1A, and, accordingly, we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by a successor auditor.

KPMG Audit Plc

London, England

23 February 2015



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**Report of the Directors: Other Information (page 98a)**

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**Report of the Directors: Financial Review** (continued)

**Disclosure controls**

The Group Chief Executive and Group Finance Director, with the assistance of other members of management, carried out an evaluation of the effectiveness of the design and operation of HSBC Holdings' disclosure controls and procedures as at 31 December 2015. Based upon that evaluation, the Group Chief Executive and Group Finance Director concluded that our disclosure controls and procedures as at 31 December 2015 were effective to provide reasonable assurance that information required to be disclosed in the reports which the company files and submits under the US Securities Exchange Act of 1934, as amended, is recorded, processed, summarised and reported as and when required. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

During the year it was determined that the control environment associated with IT privileged access required significant improvement. Deficiencies were noted in the design and operation of controls for the granting, release and monitoring of privileged access in a number of systems. For the identified deficiencies, management responded by implementing a programme to determine the scale and nature of the deficiencies, remediate identified control deficiencies and determine if privileged access had been misused during 2015. Management also identified and assessed the effectiveness of relevant IT, business, monitoring and period-end mitigating controls. Please see *Effectiveness of Internal Controls* on page 277.

There have been no changes in HSBC Holdings' internal control over financial reporting during the year ended 31 December 2015, that have materially affected, or are reasonably likely to materially affect, HSBC Holdings' internal control over financial reporting.

**Management's assessment of internal controls over financial reporting**

Management is responsible for establishing and maintaining an adequate internal control structure and procedures for financial reporting, and has completed an assessment of the effectiveness of the Group's internal controls over financial reporting for the year ended 31 December 2015. In making the assessment, management used the framework for internal control evaluation contained in the Financial Reporting Council's *Guidance on Risk Management, Internal Control and Related Financial and Business Reporting* (September 2014), as well as the criteria established by the Committee of Sponsoring Organisations of the Treadway Commission ( COSO ) in *Internal Control-Integrated Framework* (2013) .

Based on the assessment performed, management concluded that for the year ended 31 December 2015, the Group's internal controls over financial reporting were effective.

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PricewaterhouseCoopers LLP, which has audited the consolidated financial statements of the Group for the year ended 31 December 2015, has also audited the effectiveness of the Group's internal control over financial reporting under Auditing Standard No. 5 of the Public Company Accounting Oversight Board (United States) as stated in their report on pages 323 and 335.

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**Financial statements and notes on the financial statements (pages 336 - 469)**

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**Financial Statements**

**Financial Statement/Notes on the Financial Statements**

**Financial Statements**

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**Consolidated income statement****for the year ended 31 December 2015**

	<i>Notes</i>	<b>2015</b> \$m	2014 \$m	2013 \$m
Interest income		<b>47,189</b>	50,955	51,192
Interest expense		<b>(14,658)</b>	(16,250)	(15,653)
Net interest income		<b>32,531</b>	34,705	35,539
Fee income		<b>18,016</b>	19,545	19,973
Fee expense		<b>(3,311)</b>	(3,588)	(3,539)
Net fee income		<b>14,705</b>	15,957	16,434
Trading income excluding net interest income		<b>6,948</b>	4,853	6,643
Net interest income on trading activities		<b>1,775</b>	1,907	2,047
Net trading income		<b>8,723</b>	6,760	8,690
Changes in fair value of long-term debt issued and related derivatives		<b>863</b>	508	(1,228)
Net income from other financial instruments designated at fair value		<b>669</b>	1,965	1,996
Net income from financial instruments designated at fair value	2	<b>1,532</b>	2,473	768
Gains less losses from financial investments		<b>2,068</b>	1,335	2,012
Dividend income		<b>123</b>	311	322
Net insurance premium income	3	<b>10,355</b>	11,921	11,940
Other operating income		<b>1,055</b>	1,131	2,632
<b>Total operating income</b>		<b>71,092</b>	74,593	78,337
Net insurance claims and benefits paid and movement in liabilities to policyholders	4	<b>(11,292)</b>	(13,345)	(13,692)
<b>Net operating income before loan impairment charges and other credit risk provisions</b>		<b>59,800</b>	61,248	64,645
Loan impairment charges and other credit risk provisions	5	<b>(3,721)</b>	(3,851)	(5,849)
<b>Net operating income</b>		<b>56,079</b>	57,397	58,796
Employee compensation and benefits	6	<b>(19,900)</b>	(20,366)	(19,196)

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General and administrative expenses		<b>(17,662)</b>	(18,565)	(17,065)
Depreciation and impairment of property, plant and equipment		<b>(1,269)</b>	(1,382)	(1,364)
Amortisation and impairment of intangible assets	20	<b>(937)</b>	(936)	(931)
<b>Total operating expenses</b>		<b>(39,768)</b>	(41,249)	(38,556)
<b>Operating profit</b>	5	<b>16,311</b>	16,148	20,240
Share of profit in associates and joint ventures	19	<b>2,556</b>	2,532	2,325
<b>Profit before tax</b>		<b>18,867</b>	18,680	22,565
Tax expense	8	<b>(3,771)</b>	(3,975)	(4,765)
<b>Profit for the year</b>		15,096	14,705	17,800
Profit attributable to shareholders of the parent company		<b>13,522</b>	13,688	16,204
Profit attributable to non-controlling interests		<b>1,574</b>	1,017	1,596
		\$	\$	\$
Basic earnings per ordinary share	10	<b>0.65</b>	0.69	0.84
Diluted earnings per ordinary share	10	<b>0.64</b>	0.69	0.84

The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnote, see page 346.*

HSBC HOLDINGS PLC

**Financial Statement** (continued)**Consolidated statement of comprehensive income / Consolidated balance sheet****Consolidated statement of comprehensive income****for the year ended 31 December 2015**

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Profit for the year	<b>15,096</b>	14,705	17,800
<b>Other comprehensive income/(expense)</b>			
<b>Items that will be reclassified subsequently to profit or loss when specific conditions are met:</b>			
Available-for-sale investments	<b>(3,072)</b>	2,972	(1,718)
fair value gains/(losses)	<b>(1,231)</b>	4,794	(1,787)
fair value gains reclassified to the income statement	<b>(2,437)</b>	(1,672)	(1,277)
amounts reclassified to the income statement in respect of impairment losses	<b>127</b>	374	286
income taxes	<b>469</b>	(524)	1,060
Cash flow hedges	<b>(24)</b>	188	(128)
fair value gains	<b>704</b>	1,512	776
fair value gains reclassified to the income statement	<b>(705)</b>	(1,244)	(894)
income taxes	<b>(23)</b>	(80)	(10)
Share of other comprehensive income/(expense) of associates and joint ventures	<b>(9)</b>	80	(71)
share for the year	<b>(9)</b>	78	(35)
reclassified to income statement on disposal		2	(36)
Exchange differences	<b>(10,945)</b>	(8,903)	(1,372)
foreign exchange gains reclassified to income statement on disposal of a foreign operation		(21)	(290)
other exchange differences	<b>(11,112)</b>	(8,917)	(1,154)
Income tax attributable to exchange differences	<b>167</b>	35	72
<b>Items that will not be reclassified subsequently to profit or loss:</b>			
Remeasurement of defined benefit asset/liability	<b>101</b>	1,985	(458)
before income taxes	<b>130</b>	2,419	(601)
income taxes	<b>(29)</b>	(434)	143

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Other comprehensive income for the year, net of tax	(13,949)	(3,678)	(3,747)
<b>Total comprehensive income for the year</b>	<b>1,147</b>	11,027	14,053
Attributable to:			
shareholders of the parent company	460	9,245	12,644
non-controlling interests	687	1,782	1,409
<b>Total comprehensive income for the year</b>	<b>1,147</b>	11,027	14,053

The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnote, see page 346.*

HSBC HOLDINGS PLC

**Consolidated balance sheet****at 31 December 2015**

	<i>Notes</i>	<b>2015</b> \$m	2014 \$m
<b>Assets</b>			
Cash and balances at central banks		<b>98,934</b>	129,957
Items in the course of collection from other banks		<b>5,768</b>	4,927
Hong Kong Government certificates of indebtedness		<b>28,410</b>	27,674
Trading assets	<i>12</i>	<b>224,837</b>	304,193
Financial assets designated at fair value	<i>15</i>	<b>23,852</b>	29,037
Derivatives	<i>16</i>	<b>288,476</b>	345,008
Loans and advances to banks		<b>90,401</b>	112,149
Loans and advances to customers		<b>924,454</b>	974,660
Reverse repurchase agreements non-trading		<b>146,255</b>	161,713
Financial investments	<i>17</i>	<b>428,955</b>	415,467
Assets held for sale	<i>23</i>	<b>43,900</b>	7,647
Prepayments, accrued income and other assets	<i>22</i>	<b>54,398</b>	67,529
Current tax assets		<b>1,221</b>	1,309
Interests in associates and joint ventures	<i>19</i>	<b>19,139</b>	18,181
Goodwill and intangible assets	<i>20</i>	<b>24,605</b>	27,577
Deferred tax assets	<i>8</i>	<b>6,051</b>	7,111
<b>Total assets at 31 December</b>		<b>2,409,656</b>	2,634,139
<b>Liabilities and equity</b>			
<b>Liabilities</b>			
Hong Kong currency notes in circulation		<b>28,410</b>	27,674
Deposits by banks		<b>54,371</b>	77,426
Customer accounts		<b>1,289,586</b>	1,350,642
Repurchase agreements non-trading		<b>80,400</b>	107,432
Items in the course of transmission to other banks		<b>5,638</b>	5,990
Trading liabilities	<i>24</i>	<b>141,614</b>	190,572
Financial liabilities designated at fair value	<i>25</i>	<b>66,408</b>	76,153
Derivatives	<i>16</i>	<b>281,071</b>	340,669
Debt securities in issue	<i>26</i>	<b>88,949</b>	95,947
Liabilities of disposal groups held for sale	<i>23</i>	<b>36,840</b>	6,934

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Accruals, deferred income and other liabilities	27	<b>38,116</b>	46,462
Current tax liabilities		<b>783</b>	1,213
Liabilities under insurance contracts	28	<b>69,938</b>	73,861
Provisions	29	<b>5,552</b>	4,998
Deferred tax liabilities	8	<b>1,760</b>	1,524
Subordinated liabilities	30	<b>22,702</b>	26,664
<b>Total liabilities at 31 December</b>		<b>2,212,138</b>	2,434,161
<b>Equity</b>			
Called up share capital	35	<b>9,842</b>	9,609
Share premium account		<b>12,421</b>	11,918
Other equity instruments		<b>15,112</b>	11,532
Other reserves		<b>7,109</b>	20,244
Retained earnings		<b>143,976</b>	137,144
Total shareholders' equity		<b>188,460</b>	190,447
Non-controlling interests	34	<b>9,058</b>	9,531
<b>Total equity at 31 December</b>		<b>197,518</b>	199,978
<b>Total liabilities and equity at 31 December</b>		<b>2,409,656</b>	2,634,139

The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnote, see page 346.*

Douglas Flint, *Group Chairman*

Iain Mackay, *Group Finance Director*

HSBC HOLDINGS PLC



**Financial Statements** (continued)**Consolidated statement of cash flows / Consolidated statement of changes in equity****Consolidated statement of cash flows****for the year ended 31 December 2015**

	<i>Notes</i>	<b>2015</b> \$m	2014 \$m	2013 \$m
<b>Cash flows from operating activities</b>				
Profit before tax		<b>18,867</b>	18,680	22,565
Adjustments for:				
net gain from investing activities		<b>(1,935)</b>	(1,928)	(1,458)
share of profits in associates and joint ventures		<b>(2,556)</b>	(2,532)	(2,325)
(gain)/loss on disposal of associates, joint ventures, subsidiaries and businesses			9	(1,173)
other non-cash items included in profit before tax	36	<b>10,765</b>	11,262	11,995
change in operating assets	36	<b>65,828</b>	25,877	(148,899)
change in operating liabilities	36	<b>(106,762)</b>	(93,814)	164,757
elimination of exchange differences		<b>18,308</b>	24,571	4,479
dividends received from associates		<b>879</b>	757	694
contributions paid to defined benefit plans		<b>(664)</b>	(681)	(962)
tax paid		<b>(3,852)</b>	(3,573)	(4,696)
Net cash generated from/(used in) operating activities		<b>(1,122)</b>	(21,372)	44,977
<b>Cash flows from investing activities</b>				
Purchase of financial investments		<b>(438,376)</b>	(384,199)	(363,979)
Proceeds from the sale and maturity of financial investments		<b>399,636</b>	382,837	342,539
Purchase of property, plant and equipment		<b>(1,352)</b>	(1,477)	(1,952)
Proceeds from the sale of property, plant and equipment		<b>103</b>	88	441
Net cash inflow/(outflow) from disposal of customer and loan portfolios		<b>2,023</b>	(1,035)	6,518
Net investment in intangible assets		<b>(954)</b>	(903)	(834)
Proceeds from disposal of Ping An				7,413
Net cash inflow/(outflow) from disposal of other subsidiaries, businesses, associates and joint ventures		<b>8</b>	(272)	3,269
Net cash generated from/(used in) investing activities		<b>(38,912)</b>	(4,961)	(6,585)
<b>Cash flows from financing activities</b>				

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Issue of ordinary share capital	147	267	297
Net sales/(purchases) of own shares for market-making and investment purposes	331	(96)	(32)
Issue of other equity instruments	3,580	5,681	
Redemption of preference shares and other equity instruments	(463)	(234)	
Subordinated loan capital issued	3,180	3,500	1,989
Subordinated loan capital repaid	(2,157)	(3,163)	(1,662)
Dividends paid to shareholders of the parent company	(6,548)	(6,611)	(6,414)
Dividends paid to non-controlling interests	(697)	(639)	(586)
Dividends paid to holders of other equity instruments	(950)	(573)	(573)
Net cash used in financing activities	(3,577)	(1,868)	(6,981)
<b>Net increase/(decrease) in cash and cash equivalents</b>	<b>(43,611)</b>	(28,201)	31,411
Cash and cash equivalents at 1 January	301,301	346,281	315,308
Exchange differences in respect of cash and cash equivalents	(13,827)	(16,779)	(438)
<b>Cash and cash equivalents at 31 December</b>	<b>243,863</b>	301,301	346,281

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The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnotes, see page 346.*

HSBC HOLDINGS PLC

## Consolidated statement of changes in equity

for the year ended 31 December 2015

Paid up share capital \$m	Share premium \$m	Other equity instruments <sup>2</sup> \$m	Retained Earnings <sup>4,6</sup> \$m	Available-for-sale fair value reserve <sup>5</sup> \$m	Other reserves		Merger reserve <sup>6,7</sup> \$m	Total shareholders equity \$m
					Cash flow hedging reserve <sup>5</sup> \$m	Foreign exchange reserve <sup>5</sup> \$m		
609	11,918	11,532	137,144	2,143	58	(9,265)	27,308	190,447
			13,522					13,522
			73	(2,332)	(24)	(10,779)		(13,062)
				(2,332)	(24)			(2,332)
								(24)
			82					82
			(9)					(9)
						(10,779)		(10,779)
45	691		13,595	(2,332)	(24)	(10,779)		460
			(589)					147

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<b>188</b>	<b>(188)</b>	<b>3,580</b>	<b>3,162</b>					<b>3,162</b>
			<b>(10,660)</b>					<b>(10,660)</b>
			<b>757</b>					<b>757</b>
			<b>567</b>					<b>567</b>
<b>5,842</b>	<b>12,421</b>	<b>15,112</b>	<b>143,976</b>	<b>(189)</b>	<b>34</b>	<b>(20,044)</b>	<b>27,308</b>	<b>188,460</b>
4,415	11,135	5,851	128,728	97	(121)	(542)	27,308	181,871
			13,688					13,688
			2,066	2,025	189	(8,723)		(4,443)
				2,025				2,025
					189			189
			1,986					1,986
			80					80
						(8,723)		(8,723)
			15,754	2,025	189	(8,723)		9,245
60	917		(710)					267
134	(134)		2,709					2,709

		5,681						5,681
			(9,893)					(9,893)
			732					732
			(176)	21	(10)			(165)
609	11,918	11,532	137,144	2,143	58	(9,265)	27,308	190,447

HSBC HOLDINGS PLC

**Financial Statements** (continued)**Consolidated statement of changes in equity / HSBC Holdings balance sheet***Consolidated statement of changes in equity (continued)*

Paid up share capital \$m	Share premium \$m	Other equity instru- ments \$m	Retained Earnings <sup>4,6</sup> \$m	Available- for-sale fair value reserve \$m	Other reserves		Merger reserve <sup>6,7</sup> \$m	Total share- holders equity \$m
					Cash flow hedging reserve \$m	Foreign exchange reserve \$m		
9,238	10,084	5,851	120,347 16,204	1,649	13	752	27,308	175,242 16,204
			(561)	(1,577)	(128)	(1,294)		(3,560)
				(1,577)	(128)			(1,577) (128)
			(490)					(490)
			(71)					(71)
						(1,294)		(1,294)
60	1,168		15,643 (931)	(1,577)	(128)	(1,294)		12,644 297

117	(117)		2,523					2,523
			(9,510)					(9,510)
			630					630
			26	25	(6)			45
9,415	11,135	5,851	128,728	97	(121)	(542)	27,308	181,871

The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnotes, see page 346.*

HSBC HOLDINGS PLC

**HSBC Holdings balance sheet****at 31 December 2015**

	<i>Notes</i>	<b>2015</b> \$m	2014 \$m
<b>Assets</b>			
Cash at bank and in hand:			
balances with HSBC undertakings		242	249
Derivatives	16	2,467	2,771
Loans and advances to HSBC undertakings		44,350	43,910
Financial investments in HSBC undertakings		4,285	4,073
Prepayments, accrued income and other assets		265	125
Current tax assets		723	472
Investments in subsidiaries	21	97,770	96,264
Intangible assets		75	
Deferred tax assets		17	
<b>Total assets at 31 December</b>		<b>150,194</b>	147,864
<b>Liabilities and equity</b>			
<b>Liabilities</b>			
Amounts owed to HSBC undertakings		2,152	2,892
Financial liabilities designated at fair value	25	19,853	18,679
Derivatives	16	2,278	1,169
Debt securities in issue	26	960	1,009
Accruals, deferred income and other liabilities		1,642	1,398
Deferred tax liabilities			17
Subordinated liabilities	30	15,895	17,255
Total liabilities		42,780	42,419
<b>Equity</b>			
Called up share capital	35	9,842	9,609
Share premium account		12,421	11,918
Other equity instruments		15,020	11,476
Other reserves		37,907	37,456



Retained earnings	32,224	34,986
Total equity	107,414	105,445
<b>Total liabilities and equity at 31 December</b>	<b>150,194</b>	147,864

The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnote, see page 346.*

**Douglas Flint**

*Group Chairman*

**Iain Mackay**

*Group Finance Director*

HSBC HOLDINGS PLC

**Financial Statements** (continued)**HSBC Holdings statement of cash flows / HSBC Holdings statement of changes in equity****HSBC Holdings statement of cash flows****for the year ended 31 December 2015**

	<i>Notes</i>	<b>2015</b> \$m	2014 \$m
<b>Cash flows from operating activities</b>			
Profit before tax		4,282	6,228
Adjustments for:			
non-cash items included in profit before tax	36	114	52
change in operating assets	36	543	1,854
change in operating liabilities	36	(2,342)	(9,914)
tax received		470	133
Net cash generated from/(used in) operating activities		3,067	(1,647)
<b>Cash flows from investing activities</b>			
Net cash outflow from acquisition of or increase in stake of subsidiaries		(2,118)	(1,603)
Repayment of capital from subsidiaries		790	3,505
Net investment in intangible assets		(79)	
Net cash generated from/(used in) investing activities		(1,407)	1,902
<b>Cash flows from financing activities</b>			
Issue of ordinary share capital		678	924
Issue of other equity instruments		3,538	5,635
Subordinated loan capital issued		3,180	3,500
Subordinated loan capital repaid		(1,565)	(1,654)
Debt securities repaid			(1,634)
Dividends paid on ordinary shares		(6,548)	(6,611)
Dividends paid to holders of other equity instruments		(950)	(573)
Net cash used in financing activities		(1,667)	(413)
<b>Net decrease in cash and cash equivalents</b>		<b>(7)</b>	<b>(158)</b>
Cash and cash equivalents at 1 January		249	407
<b>Cash and cash equivalents at 31 December</b>	36	<b>242</b>	249

The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnote, see page 346.*

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## HSBC Holdings statement of changes in equity

for the year ended 31 December 2015

	Called up share capital \$m	Share premium \$m	Other equity instru- ments \$m	Retained earnings <sup>8</sup> \$m	Available- for-sale fair value reserve \$m	Other reserves Other paid-in capital <sup>9</sup> \$m	Merger and other reserves <sup>7</sup> \$m	Total share- holder equity \$m
1 January	9,609	11,918	11,476	34,986	240	2,089	35,127	105,441
Profit for the year				4,853				4,853
Other comprehensive income (net of tax)					(57)			(57)
Available-for-sale investments					(77)			(77)
Income tax					20			20
Other comprehensive income for the year				4,853	(57)			4,796
Shares issued under employee share plans	45	691		(59)				677
Shares issued in lieu of dividends and amounts arising thereon	188	(188)		3,162				3,162

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Capital securities			3,544					3,544
Dividends to shareholders				(10,660)				(10,660)
Provision for credit on contributions				157				157
Repurchase of own shares				180				180
Adjustment								
Exercise and purchase of share options				(508)		508		
Net cost of share-based payment arrangements				86				86
Income taxes on share-based payments				1				1
Equity investments								
Investments related to employees of subsidiaries under employee share plans				26				26
<b>31 December 2015</b>	<b>9,842</b>	<b>12,421</b>	<b>15,020</b>	<b>32,224</b>	<b>183</b>	<b>2,597</b>	<b>35,127</b>	<b>107,411</b>
31 January 2014	9,415	11,135	5,828	35,406	124	2,052	35,127	99,080
Profit for the year				6,527				6,527
Other comprehensive income (net of tax)								
Investments in available-for-sale								
Investments					116			116
Income tax					152			152
					(36)			(36)
Other comprehensive income for the year				6,527	116			6,643
Shares issued under employee share plans	60	917		(53)				924
Shares issued in lieu of dividends								
Dividend amounts								
Expenses thereon	134	(134)		2,709				2,709

Capital securities									
Dividends to	5,648								5,648
Shareholders				(9,893)					(9,893)
Contributions				104					104
Share repurchase				103					103
Exercise and									
Issuance of share				(37)		37			
Dividends									
Income tax on									
Share-based									
Compensation				74					74
Income taxes on									
Share-based									
Compensation				(2)					(2)
Equity									
Investments									
Attributable to									
Employees of									
Subsidiaries under									
Employee share									
Plans				48					48
31 December									
2014	9,609	11,918	11,476	34,986	240	2,089	35,127	105,440	

*Dividends per ordinary share at 31 December 2015 were \$0.50 (2014: \$0.49; 2013: \$0.48).*

The accompanying notes on pages 347 to 469 form an integral part of these financial statements<sup>1</sup>.

*For footnotes, see page 346.*

HSBC HOLDINGS PLC

**Financial Statements** (continued)**Footnotes****Footnotes to the Financial Statements**

- 1 *The audited sections of Risk on pages 101 to 226, the audited sections of Capital on pages 227 to 248 and the audited sections of Directors Remuneration Report on pages 285 to 321 are also an integral part of these financial statements.*
- 2 *During 2015, HSBC Holdings issued \$2,450m and 1,000 of Perpetual Subordinated Contingent Convertible Capital Securities, on which there were \$12m of external issuance costs, \$25m of intra-group issuance costs and \$19m of tax. In 2014, HSBC Holdings issued \$2,250m, \$1,500m and 1,500m of Perpetual Subordinated Contingent Convertible Capital Securities, on which there were \$13m of external issuance costs and \$33m of intra-group issuance costs. Under IFRSs these issuance costs and tax benefits are classified as equity.*
- 3 *Adjustment to bring changes between opening and closing balance sheet amounts to average rates. This is not done on a line-by-line basis, as details cannot be determined without unreasonable expense.*
- 4 *Retained earnings include 81,580,180 (\$1,604m) of own shares held within HSBC's Insurance business, retirement funds for the benefit of policyholders or beneficiaries within employee trusts for the settlement of shares expected to be delivered under employee share schemes or bonus plans, and the market-making activities in Markets (2014: 85,337,430 (\$641m); 2013: 85,997,271 (\$915m)).*
- 5 *At 31 December 2015, our operations in Brazil were classified as held for sale (see Note 23). The cumulative amount of other reserves attributable to these operations were as follows: available-for-sale fair value reserve debit of \$176m, cash flow hedging reserve credit of \$34m and foreign exchange reserve debit of \$2.6bn.*
- 6 *Cumulative goodwill amounting to \$5,138m has been charged against reserves in respect of acquisitions of subsidiaries prior to 1 January 1998, including \$3,469m charged against the merger reserve arising on the acquisition of HSBC Bank plc. The balance of \$1,669m has been charged against retained earnings.*
- 7 *Statutory share premium relief under Section 131 of the Companies Act 1985 (the Act) was taken in respect of the acquisition of HSBC Bank plc in 1992, HSBC France in 2000 and HSBC Finance Corporation in 2003 and the shares issued were recorded at their nominal value only. In HSBC's consolidated financial statements the fair value differences of \$8,290m in respect of HSBC France and \$12,768m in respect of HSBC Finance Corporation were recognised in the merger reserve. The merger reserve created on the acquisition of HSBC Finance Corporation subsequently became attached to HSBC Overseas Holdings (UK) Limited (HOHU), following a number of intra-group reorganisations. During 2009, pursuant to Section 131 of the Companies Act 1985, statutory share premium relief was taken in respect of the rights issue and \$15,796m was recognised in the merger reserve. The merger reserve includes the deduction of \$614m in respect of costs relating to the rights issue, of which \$149m was subsequently transferred to the income statement. Of this \$149m, \$121m was a loss arising from accounting for the agreement with the underwriters as a contingent forward contract. The merger reserve excludes the loss of \$344m on a forward foreign exchange contract associated with hedging the proceeds of the rights issue.*
- 8 *Retained earnings include 67,881 (\$1m) (2014: 179,419 (\$3m)) of own shares held to fund employee share plans.*
- 9

*Other paid-in capital arises from the exercise and lapse of share options granted to employees of HSBC Holdings subsidiaries.*

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## Notes on the Financial Statements

### **1 Basis of preparation and significant accounting policies**

#### **1 Basis of preparation and significant accounting policies**

##### **(a) Compliance with International Financial Reporting Standards**

International Financial Reporting Standards ( IFRSs ) comprise accounting standards issued or adopted by the International Accounting Standards Board ( IASB ) and interpretations issued or adopted by the IFRS Interpretations Committee ( IFRS IC ).

The consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings have been prepared in accordance with IFRSs as issued by the IASB and as endorsed by the European Union ( EU ). EU-endorsed IFRSs could differ from IFRSs as issued by the IASB if, at any point in time, new or amended IFRSs were not to be endorsed by the EU.

At 31 December 2015, there were no unendorsed standards effective for the year ended 31 December 2015 affecting these consolidated and separate financial statements, and there was no difference between IFRSs endorsed by the EU and IFRSs issued by the IASB in terms of their application to HSBC. Accordingly, HSBC's financial statements for the year ended 31 December 2015 are prepared in accordance with IFRSs as issued by the IASB.

##### **Standards adopted during the year ended 31 December 2015**

There were no new standards applied during the year ended 31 December 2015.

During 2015, HSBC adopted a number of interpretations and amendments to standards which had an insignificant effect on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

##### **(b) Differences between IFRSs and Hong Kong Financial Reporting Standards**

There are no significant differences between IFRSs and Hong Kong Financial Reporting Standards in terms of their application to HSBC and consequently there would be no significant differences had the financial statements been prepared in accordance with Hong Kong Financial Reporting Standards. The Notes on the Financial Statements, taken together with the Report of the Directors, include the aggregate of all disclosures necessary to satisfy IFRSs and Hong Kong reporting requirements.

##### **(c) Future accounting developments**

In addition to completing its projects on financial instrument accounting, revenue recognition and leasing, discussed below, the IASB is working on a project on insurance accounting which could represent significant changes to accounting requirements in the future.

### Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs through the Annual Improvements to IFRSs 2012–2014 cycle and in a series of stand-alone amendments, one of which has not yet been endorsed for use in the EU. HSBC has not early applied any of the amendments effective after 31 December 2015 and it expects they will have an insignificant effect, when applied, on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

### Major new IFRSs

The IASB has published IFRS 9 Financial Instruments, IFRS 15 Revenue from Contracts with Customers and IFRS 16 Leases. None of these IFRSs have yet been endorsed for use in the EU.

### IFRS 9 Financial Instruments

In July 2014, the IASB issued IFRS 9 Financial Instruments, which is the comprehensive standard to replace IAS 39 Financial Instruments: Recognition and Measurement, and includes requirements for classification and measurement of financial assets and liabilities, impairment of financial assets and hedge accounting.

#### *Classification and measurement*

The classification and measurement of financial assets will depend on how these are managed (the entity's business model) and their contractual cash flow characteristics. These factors determine whether the financial assets are measured at amortised cost, fair value through other comprehensive income (FVOCI) or fair value through profit or loss (FVPL). In many instances, the classification and measurement outcomes will be similar to IAS 39, although differences will arise. For example, under IFRS 9, embedded derivatives are not separated from host financial assets and equity securities are measured at FVPL or, in limited circumstances, fair value movements will be shown in OCI. The combined effect of the application of the business model and the contractual cash flow characteristics tests may result in some differences in the population of financial assets measured at amortised cost or fair value compared with IAS 39. The classification of financial liabilities is essentially unchanged. For certain liabilities measured at fair value, gains or losses relating to changes in the entity's own credit risk are to be included in other comprehensive income.

HSBC conducted an assessment of potential classification and measurement changes to financial assets based on the composition of the balance sheet as at 31 December 2014. This may not be fully representative of the impact as at 1 January 2018 because IFRS 9 requires that business models be assessed based on the facts and circumstances from the date of initial application. In addition, the contractual terms and conditions of the financial assets assessed as at 31 December 2014 may not reflect the contractual terms and conditions of HSBC's financial assets at transition. However, based on the assessment

Notes on the Financial Statements (continued)

**1 Basis of preparation and significant accounting policies**

of financial assets as at 31 December 2014 and expectations around changes to balance sheet composition, HSBC expects that generally:

loans and advances to banks and to customers and non-trading reverse repurchase agreements that are classified as loans and receivables under IAS 39 will be measured at amortised cost under IFRS 9;

financial assets designated at FVPL will remain at FVPL, because it is required under IFRS 9 or designation will continue;

debt securities classified as available for sale will primarily be measured at amortised cost or FVOCI, with a small minority at FVPL either because of their contractual cash flow characteristics or the business model within which they are held;

debt securities classified as held to maturity will be measured at amortised cost;

Treasury and other eligible bills classified as available for sale will be measured at amortised cost or FVOCI depending upon the business model in which they are held; and

all equity securities will remain measured at fair value. A significant majority will have fair value movements shown in profit or loss, while a minority will have fair value movements presented in other comprehensive income. The equity securities for which fair value movements will be shown in other comprehensive income are business facilitation and other similar investments where HSBC holds the investments other than to generate a capital return.

*Impairment*

The impairment requirements apply to financial assets measured at amortised cost and FVOCI, and lease receivables and certain loan commitments and financial guarantee contracts. At initial recognition, allowance (or provision in the case of commitments and guarantees) is required for expected credit losses ( ECL ) resulting from default events that are possible within the next 12 months ( 12-month ECL ). In the event of a significant increase in credit risk, allowance (or provision) is required for ECL resulting from all possible default events over the expected life of the financial instrument ( lifetime ECL ). Financial assets where 12-month ECL is recognised are considered to be stage 1 ; financial assets which are considered to have experienced a significant increase in credit risk are in stage 2 ; and financial assets

for which there is objective evidence of impairment so are considered to be in default or otherwise credit impaired are in stage 3 .

The assessment of whether credit risk has increased significantly since initial recognition is performed for each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument, rather than by considering an increase in ECL.

The assessment of credit risk and the estimation of ECL are required to be unbiased and probability-weighted, and should incorporate all available information which is relevant to the assessment including information about past events, current conditions and reasonable and supportable forecasts of economic conditions at the reporting date. In addition, the estimation of ECL should take into account the time value of money. As a result, the recognition and measurement of impairment is intended to be more forward-looking than under IAS 39 and the resulting impairment charge will tend to be more volatile. It will also tend to result in an increase in the total level of impairment allowances, since all financial assets will be assessed for at least 12-month ECL and the population of financial assets to which lifetime ECL applies is likely to be larger than the population for which there is objective evidence of impairment in accordance with IAS 39.

#### *Hedge accounting*

The general hedge accounting requirements aim to simplify hedge accounting, creating a stronger link with risk management strategy and permitting hedge accounting to be applied to a greater variety of hedging instruments and risks. The standard does not explicitly address macro hedge accounting strategies, which are being considered in a separate project. To remove the risk of any conflict between existing macro hedge accounting practice and the new general hedge accounting requirements, IFRS 9 includes an accounting policy choice to remain with IAS 39 hedge accounting.

Based on the analysis performed to date, HSBC expects to exercise the accounting policy choice to continue IAS 39 hedge accounting and therefore is not currently planning to change hedge accounting, although it will implement the revised hedge accounting disclosures required by the related amendments to IFRS 7 Financial Instruments: Disclosures .

#### *Transition*

The classification and measurement and impairment requirements are applied retrospectively by adjusting the opening balance sheet at the date of initial application, with no requirement to restate comparative periods.

The mandatory application date for the standard as a whole is 1 January 2018, but it is possible to apply the revised presentation for certain liabilities measured at fair value from an earlier date. HSBC intends to revise the presentation of fair value gains and losses relating to the entity's own credit risk on certain liabilities as soon as permitted by EU law. If this presentation was applied at 31 December 2015, the effect would be to decrease profit before tax with the opposite effect on other comprehensive income based on the change in fair value attributable to changes in HSBC's credit risk for the year, with no effect on net assets. Further information on the change in fair value attributable to changes in credit risk, including HSBC's credit risk, is disclosed in Note 25.

HSBC is assessing the impact that the financial asset classification and impairment requirements will have on the financial statements.

*IFRS 9 implementation programme*

Within HSBC, a joint Global Risk and Global Finance IFRS 9 Implementation Programme ( the Programme ) has been set up to prepare for implementation of IFRS 9 since 2012 and significant preparatory and design work has taken place. The Programme is sponsored by the Group Chief Risk Officer and Group Finance Director. A Steering Committee comprising senior management from Risk, Finance and HSBC Operations, Services and Technology has been established. In common with all significant change programmes in HSBC, the Programme is managed according to the Group's business transformation framework. Delivery of the required changes will be undertaken by individual workstreams, with Global Risk leading the work to calculate impairments and Global Finance leading the development of financial reporting systems and processes. Significant legal entities in the Group have established steering committees to manage implementation locally, within this global framework. Global businesses have been engaged but are not themselves responsible for the implementation activity.

To date, the Programme has been directed towards preliminary impact analysis, documenting Group accounting policy, developing the operating and system target operating models and developing risk modelling methodologies for the calculation of impairment. In addition, an impact assessment of the classification and measurement requirements was performed during 2015. The Programme's focus is now on the impairment models and processes which need to be developed by the end of 2016 as HSBC intends to perform a parallel run during 2017 to gain a better understanding of the potential effect of the new standard. The Programme has a defined governance framework to operate over the impairment process once it becomes live. The framework includes dedicated committees to review, challenge and sign off the assumptions used and the results in each significant legal entity, and second-line assurance capabilities for each key step in the process. An expert panel will be established to govern the setting of forward-looking economic assumptions used in the process. Governance over the impairment process is the responsibility of the Global Risk and Global Finance functions, operating within each member company of the Group. Global businesses are consulted but are not granted decision making power.

HSBC intends to quantify the potential impact of IFRS 9 once it is practicable to provide reliable estimates, which will be no later than in the *Annual Report and Accounts 2017*.

Until sufficient models have been developed and tested, HSBC will not have a reliable understanding of the potential impact on its financial statements and any consequential effects on regulatory capital requirements. In the absence of information on whether there will be any changes to the regulatory requirements, assumptions will have to be made about how the existing regulatory requirements will be interpreted when IFRS 9 is adopted. For example, the relationship between specific and general credit risk adjustments in accordance with Basel requirements and the IFRS 9 stages is unclear. The Basel Committee is considering the implications of the new accounting requirements for

existing regulatory requirements.

*Comparison of IAS 39 accounting policies with IFRS 9*

The accounting policies and critical accounting estimates and judgements for the impairment of loans and advances and available-for-sale financial assets (in accordance with IAS 39 Financial Instruments ) are set out in Note 1(j). Their equivalents for financial assets at amortised cost and at FVOCI (in accordance with IFRS 9) are being developed, but the following similarities and differences are likely to be important to understanding the potential effect of the change in accounting policy resulting from the implementation of IFRS 9 Financial Instruments :

**Amortised cost**

The accounting policies in accordance with IAS 39 generally make a distinction between individually significant loans and homogeneous groups of loans which are assessed collectively. This distinction has less relevance in developing IFRS 9 accounting policies. However, under IFRS 9, whether the loans are managed through wholesale credit risk systems or retail credit risk systems becomes the more relevant distinction because of differences in the types of information available and the way credit risk is managed.

**Stage 3**

Financial assets will be included in stage 3 when there is objective evidence that the loan is credit impaired. The objective evidence that is used is the same as the criteria used by HSBC to determine whether an individually significant loan is impaired in accordance with IAS 39 and is set out on page 355. Therefore, the population included in stage 3 is expected to be consistent with impaired loans under IAS 39 which are considered individually significant.

For wholesale loans, individual discounted cash flow calculations will continue to be performed and impairment losses determined as set out on page 355. Changes may be made to these calculations to ensure the measurement requirements of IFRS 9 are met. For example, the net realisable value of security will be adjusted for expected future changes in market prices.

In accordance with IAS 39, statistical methods are used to determine impairment losses on a collective basis for homogeneous groups of loans that are not considered individually significant using either roll rate methodologies or historical loss rate experience for loans. Under these methodologies, impairment allowances are recognised at a portfolio level. However, loans are classified as impaired for presentation purposes when they are more than 90 days past due or have been renegotiated for

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**Notes on the Financial Statements** (continued)**1 Basis of preparation and significant accounting policies**

credit risk reasons. For retail loans, an exception is made for individual loans that are in arrears by more than 90 days but have been individually assessed to have no indications of impairment, and these are not classified as impaired. Under IFRS 9, HSBC expects to determine stage 3 for these populations by considering the relevant objective evidence, primarily whether contractual payments of either principal or interest are past due for more than 90 days, or a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition, or the loan is otherwise considered to be in default. HSBC does not expect to rebut the presumption in IFRS 9 that loans which are 90 days past due are in default for retail loans, even where regulatory rules permit default to be defined based on 180 days past due. The impairment allowance is expected to be determined by the same calculation used for stage 2, with the probability of default set to 1. The result may, therefore, not be the same as that determined by the current statistical methods and the population disclosed as stage 3 will not necessarily correspond with that disclosed as impaired in accordance with IAS 39.

Except for retail portfolios with regulatory default definitions of 180 days, HSBC's intention is to align the definition of default with the regulatory definition as far as possible and for stage 3 to represent all loans which are considered defaulted or otherwise credit impaired.

The policy on the write-off of loans and advances included on page 357 is expected to remain unchanged.

As described on page 197, the contractual terms of a loan may be modified for a number of reasons, which include forbearance. Only some of the forbearance strategies result in loans being renegotiated. For such modifications, the current treatment as described on pages 197-198 and 357 will remain the same under IFRS 9, except for new loans recognised as a result of the original loan being derecognised following a renegotiation. These loans will be classified as originated credit-impaired and will retain this classification until derecognition. For all other modifications, the general policy on derecognition as described on page 401 will apply.

Other than originated credit-impaired loans, all other modified loans could be transferred out of stage 3 if they no longer exhibit any evidence of being credit impaired or, in the case of renegotiated loans, 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, as described on page 198. These loans could be transferred to stages 1 or 2 based on the mechanism as described below by comparing the risk of a default occurring at the reporting date (based on the modified contractual terms) and the risk of a default occurring at initial recognition (based on the original, unmodified contractual terms). Any amount written off as a result of the modification of contractual terms would not be reversed.

**Stage 2**

In accordance with IFRS 9, financial assets are considered to be in stage 2 when their credit risk has increased significantly since initial recognition so it is appropriate to recognise lifetime ECL. Since this is not a concept in IAS

39, it is likely to result in increased allowance as the result of the recognition of lifetime ECL for populations that are not considered to be credit impaired.

The analysis of credit risk is multifactor and the determination of whether a specific factor is relevant and its weight compared with other factors will depend on the type of product, the characteristics of the financial instrument and the borrower, and the geographical region. Therefore, it is not possible to provide a single set of criteria that will determine what is considered to be a significant increase in credit risk. Since the concept is relative and significance in part depends on the credit risk at initial recognition, credit quality disclosures that report credit grades as at the balance sheet date may not reflect the populations in stage 2 or those that are at risk of moving to stage 2.

For wholesale portfolios and significant retail portfolios, HSBC intends to consider whether credit risk has increased significantly since initial recognition using a combination of individual and collective information, and will reflect the increase in credit risk at the individual loan level to the extent practicable.

The main factor that will be considered is a lifetime probability of default ( PD ) or a 12-month PD where this provides a reasonable approximation of changes in the lifetime risk of default, adjusted to be consistent with the current economic conditions and the expected future economic conditions which are expected to affect credit risk. The PD will be derived from the customer risk rating for wholesale portfolios and from the credit scores for retail portfolios. The PD for wholesale is determined on an obligor level and for retail at the level of the individual facility. In situations where a 12-month PD would not be appropriate, for example, where the financial instrument only has significant payment obligations beyond the next 12 months, additional factors will be considered or adjustments made to ensure that the lifetime credit risk is appropriately considered.

The PDs will also be adjusted to incorporate the effect of economic assumptions, such as interest rates, unemployment rates and GDP forecasts that can be statistically related to changes in PD which have an impact beyond the next 12 months. These statistical relationships are expected to be established through the processes developed for stress testing. In addition, other relevant factors which may not be adequately reflected in the information used to derive PDs, including past due status and whether the financial asset is subject to additional monitoring through the watch list process for wholesale portfolios, will be taken into account.

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HSBC is in the process of calibrating and testing the thresholds or magnitude of change required and mechanisms for transfer from stage 1 to stage 2 (and vice versa) across different portfolios so it is not possible to provide further detail at this time. The aim is to establish the points where the change in credit risk is considered meaningful in risk management terms and to test these points against subsequent stage movements and defaults. Where less sophisticated default metrics are used or credit scores are not available, as tends to apply with the less significant retail portfolios, a consistent but simplified approach is expected to be used. In particular, for any retail portfolio, days past due will be considered in determining loans transferred to stage 2 and the more significant portfolios will supplement this information with additional mechanisms linked to PDs. HSBC expects to finalise the transfer criteria for the more significant portfolios during 2016.

#### Stage 1

In accordance with IAS 39 (see page 356), incurred but not yet identified impairment is recognised on individually assessed loans for which no evidence of impairment has been specifically identified by estimating a collective allowance determined after taking into account factors including the estimated period between impairment occurring and the loss being identified. This is assessed empirically on a periodic basis and may vary over time. Similarly, for homogeneous groups of loans and advances which are assessed under IAS 39 on a collective basis, the inherent loss is determined using risk factors including the period of time between loss identification and write-off which is regularly benchmarked against actual outcomes. Under IFRS 9, financial assets which are not considered to have significantly increased in credit risk have loss allowances measured at an amount equal to 12 months ECL. This 12-month time horizon is likely to be equal to or longer than the period estimated under IAS 39 (typically between 6 and 12 months), which will tend to result in IFRS 9 allowances being larger. In the absence of models able to calculate IFRS 9 allowances, it is not possible to estimate the difference.

#### *Methodologies applied to measure 12-month and lifetime expected credit losses*

ECLs are calculated using three main components, i.e. a probability of default ( PD ), a loss given default ( LGD ) and the exposure at default ( EAD ). For accounting purposes, the 12-month and lifetime PDs represent the probability of a default occurring over the next 12 months or the lifetime of the financial instruments, respectively, based on conditions existing at the balance sheet date and future economic conditions that affect credit risk. The LGD represents losses expected on default, taking into account the mitigating effect of collateral, its expected value when realised and the time value of money. The EAD represents the expected balance at default, taking into account the repayment of principal and interest from the balance sheet date to the default event together with any expected drawdown of a committed facility.

12-month ECL is calculated by multiplying the 12-month PD, LGD and EAD. Lifetime ECL is calculated using the lifetime PD rather than the 12-month PD.

*Credit loss modelling techniques*

HSBC plans to base the ECL calculations on the systems used to calculate Basel expected losses (ELs). This is considered to be most efficient given the similarities in the calculations. However, certain adjustments need to be made to the Basel risk components (PD, LGD, and EAD) to meet IFRS 9 requirements.

For wholesale portfolios and material residential mortgage and fixed-term loan portfolios, ECL will be calculated at the individual loan level. The main adjustments necessary to Basel risk components are explained in the table below:

<b>Model</b>	<b>Regulatory capital</b>	<b>IFRS 9</b>
<b>PD</b>	<p>Through the cycle (represents long-run average PD throughout a full economic cycle)</p> <p>The definition of default includes a backstop of 90+ days past due, although this has been modified to 180+ days past due for some portfolios, particularly UK and US mortgages</p>	<p>Point in time (based on current conditions, adjusted to take into account estimates of future conditions that will impact PD)</p> <p>Default backstop of 90+ days past due for all portfolios</p>
<b>EAD</b>	Cannot be lower than current balance	Amortisation captured for term products
<b>LGD</b>	<p>Downturn LGD (consistent losses expected to be suffered during a severe but plausible economic downturn)</p> <p>Regulatory floors may apply to mitigate risk of underestimating downturn LGD due to lack of historical data</p> <p>Discounted using cost of capital</p> <p>All collection costs included</p>	<p>Expected LGD (based on estimate of loss given default including the expected impact of future economic conditions such as changes in value of collateral)</p> <p>No floors</p> <p>Discounted using the original effective interest rate of the loan</p> <p>Only costs associated with obtaining/selling collateral included</p>
<b>Other</b>		Discounted back from point of default to balance sheet date

IFRS 9 PD and LGD estimates also have to be flexed to capture the effects of forward-looking macroeconomic variables. The aim is to use existing stress testing models to measure these effects. Transferring between stages will be applied at individual loan level and will also capture the effects of forward-looking macroeconomic variables.



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**Notes on the Financial Statements** (continued)**1 Basis of preparation and significant accounting policies**

For material non-term retail loans, transfer between stages will also be applied at individual loan level. However, loans will be aggregated into segments based on PD or other risk drivers for the purpose of ECL measurement, to make the calculations more efficient. For smaller portfolios where less information is available, simplified approaches will be applied which will result in more aggregated transfers between stages and ECL calculation. Such aggregation will affect the granularity of disclosure.

A new global committee, supported by Global Risk Strategy, internal economics experts and external economic forecasting services, will be established to consider and approve the forward-looking macroeconomic assumptions that should be applied, with the objective of developing unbiased internally coherent economic scenarios for each jurisdiction. This committee will also be charged with ensuring that ECL allowance meets the IFRS 9 measurement principle for unbiased and probability-weighted amounts derived by evaluating a range of possible outcomes. The calculation methodologies to meet this principle and review and challenge structures are in the process of being developed. In addition, local risk committees will review and challenge the impairment allowances recognised in the individual legal entity's financial statements.

*Fair value through other comprehensive income*

For financial assets measured at FVOCI, impairment determined in accordance with the policies and processes outlined above is recognised in profit or loss. The financial assets are recognised on the balance sheet at fair value so the amortised cost impairment allowance balance is disclosed as a memorandum item.

**IFRS 15 Revenue from Contracts with Customers**

In May 2014, the IASB issued IFRS 15 Revenue from Contracts with Customers. The original effective date of IFRS 15 has been delayed by one year and the standard is now effective for annual periods beginning on or after 1 January 2018 with early application permitted. IFRS 15 provides a principles-based approach for revenue recognition, and introduces the concept of recognising revenue for obligations as they are satisfied. The standard should be applied retrospectively, with certain practical expedients available. HSBC has assessed the impact of IFRS 15 and it expects that the standard will have no significant effect, when applied, on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

**IFRS 16 Leases**

In January 2016, the IASB issued IFRS 16 Leases with an effective date of annual periods beginning on or after 1 January 2019. IFRS 16 results in lessees accounting for most leases within the scope of the standard in a manner similar to the way in which finance leases are currently accounted for under IAS 17 Leases. Lessees will recognise a right of use asset and a corresponding financial liability on the balance sheet. The asset will be amortised over the length of the lease and the financial liability measured at amortised cost. Lessor accounting remains substantially the

same as in IAS 17. HSBC is currently assessing the impact of IFRS 16 and it is not practicable to quantify the effect as at the date of the publication of these financial statements.

**(d) Presentation of information**

Disclosures under IFRS 4 Insurance Contracts and IFRS 7 Financial Instruments: Disclosures concerning the nature and extent of risks relating to insurance contracts and financial instruments are included in the audited sections of the Report of the Directors: Risk on pages 101 to 226.

Capital disclosures under IAS 1 Presentation of Financial Statements are included in the audited sections of Report of the Directors: Capital on pages 227 to 248.

Disclosures relating to HSBC's securitisation activities and structured products are included in the audited section of Report of the Directors: Risk on pages 101 to 226.

In accordance with HSBC's policy to provide disclosures that help investors and other stakeholders understand the Group's performance, financial position and changes thereto, 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, HSBC provides additional disclosures having regard to the recommendations of the Enhanced Disclosures Task Force report Enhancing the Risk Disclosures of Banks issued in October 2012 and Impact of Expected Credit Loss Approaches on Bank Risk Disclosures issued in December 2015. The report 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. In addition, HSBC follows the British Bankers' Association Code for Financial Reporting Disclosure (the BBA Code). The BBA Code aims to increase the quality and comparability of UK banks' disclosures and sets out five disclosure principles together with supporting guidance. In line with the principles of the BBA Code, HSBC assesses good practice recommendations issued from time to time by relevant regulators and standard setters and will assess the applicability and relevance of such guidance, enhancing disclosures where appropriate.

In publishing the parent company financial statements together with the Group financial statements, HSBC Holdings has taken advantage of the exemption in section 408(3) of the Companies Act 2006 not to present its individual income statement and related notes.

HSBC's consolidated financial statements are presented in US dollars because the US dollar and currencies linked to it form the major currency bloc in which HSBC transacts and funds its business. The US dollar is also HSBC Holdings' functional currency because the US dollar and currencies linked to it are the most significant currencies relevant to the underlying transactions, events and conditions of its subsidiaries, as well as representing a significant proportion of its funds generated from financing activities.

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**(e) Critical accounting estimates and judgements**

The preparation of financial information requires the use of estimates and judgements about future conditions. In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of items listed below, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based, resulting in materially different conclusions from those reached by management for the purposes of the 2015 Financial Statements. Management's selection of HSBC's accounting policies which contain critical estimates and judgements is listed below; it reflects the materiality of the items to which the policies are applied and the high degree of judgement and estimation uncertainty involved:

Impairment of loans and advances: Note 1(j);

Deferred tax assets: Note 8;

Valuation of financial instruments: Note 13;

Impairment of interests in associates: Note 19;

Goodwill impairment: Note 20;

Provisions: Note 29.

**(f) Going concern**

The financial statements are prepared on a going concern basis, as the Directors are satisfied that the Group and parent company have the resources to continue in business for the foreseeable future. In making this assessment, the Directors have considered a wide range of information relating to present and future conditions, including future projections of profitability, cash flows and capital resources.

**(g) Consolidation and related disclosures**

HSBC controls and consequently consolidates an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Control is initially assessed based on consideration of all facts and circumstances, and is subsequently reassessed when there are significant changes to the initial setup.

Where an entity is governed by voting rights, HSBC would consolidate when it holds, directly or indirectly, the necessary voting rights to pass resolutions by the governing body. In all other cases, the assessment of control is more complex and requires judgement of other factors, including having exposure to variability of returns, power over relevant activities or holding the power as agent or principal.

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured at the fair value of the consideration, including contingent consideration, given at the date of exchange. Acquisition-related costs are recognised as an expense in the income statement in the period in which they are incurred. The acquired identifiable assets, liabilities and contingent liabilities are generally measured at their fair values at the date of acquisition. Goodwill is measured as the excess of the aggregate of the consideration transferred, the amount of non-controlling interest and the fair value of HSBC's previously held equity interest, if any, over the net of the amounts of the identifiable assets acquired and the liabilities assumed. The amount of non-controlling interest is measured either at fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets. For acquisitions achieved in stages, the previously held equity interest is remeasured at the acquisition-date fair value with the resulting gain or loss recognised in the income statement.

All intra-HSBC transactions are eliminated on consolidation.

The consolidated financial statements of HSBC also include the attributable share of the results and reserves of joint ventures and associates, based on either financial statements made up to 31 December or pro-rated amounts adjusted for any material transactions or events occurring between the date of financial statements available and 31 December.

#### **(h) Foreign currencies**

Transactions in foreign currencies are recorded in the functional currency at the rate of exchange prevailing on the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the rate of exchange at the balance sheet date. Any resulting exchange differences are included in the income statement. Non-monetary assets and liabilities that are measured at historical cost in a foreign currency are translated into the functional currency using the rate of exchange at the date of the initial transaction.

Non-monetary assets and liabilities measured at fair value in a foreign currency are translated into the functional currency using the rate of exchange at the date the fair value was determined. Any foreign exchange component of a gain or loss on a non-monetary item is recognised either in other comprehensive income or in the income statement depending on where the gain or loss on the underlying non-monetary item is recognised.

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**Notes on the Financial Statements** (continued)**1 - Basis of preparation and significant accounting policies**

In the consolidated financial statements, the assets and liabilities of branches, subsidiaries, joint ventures and associates whose functional currency is not US dollars are translated into the Group's presentation currency at the rate of exchange at the balance sheet date, while their results are translated into US dollars at the average rates of exchange for the reporting period. Exchange differences arising from the retranslation of opening foreign currency net assets, and the retranslation of the results for the reporting period from the average rate to the exchange rate at the period end, are recognised in other comprehensive income. Exchange differences on a monetary item that is part of a net investment in a foreign operation are recognised in the income statement of the separate financial statements and in other comprehensive income in consolidated financial statements. On disposal of a foreign operation, exchange differences previously recognised in other comprehensive income are reclassified to the income statement as a reclassification adjustment.

**(i) Loans and advances to banks and customers**

These include loans and advances originated by HSBC, not classified as held for trading or designated at fair value. They are recognised when cash is advanced to a borrower and are derecognised when either the borrower repays its obligations or the loans are sold or substantially all the risks and rewards of ownership are transferred. They are initially recorded at fair value plus any directly attributable transaction costs and are subsequently measured at amortised cost using the effective interest method, less impairment allowance.

Loans and advances are reclassified to Assets held for sale when they meet the criteria presented in Note 23, though their measurement remains in accordance with this policy.

HSBC may commit to underwrite loans on fixed contractual terms for specified periods of time. When the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. On drawdown, the loan is classified as held for trading. When HSBC intends to hold the loan, a provision on the loan commitment is only recorded where it is probable that HSBC will incur a loss. On inception, the loan to be held is recorded at its fair value and subsequently measured at amortised cost. For certain transactions, such as leveraged finance and syndicated lending activities, the cash advanced may not be the best evidence of the fair value of the loan. For these loans, where the initial fair value is lower than the cash amount advanced, the difference is charged to the income statement in other operating income. The write-down is recovered over the life of the loan through the recognition of interest income, unless the loan becomes impaired.

**(j) Impairment of loans and advances and available-for-sale financial assets****Critical accounting estimates and judgements**



## Impairment of loans and advances

Loan impairment allowances represent management's best estimate of losses incurred in the loan portfolios at the balance sheet date. Management is required to exercise judgement in making assumptions and estimates when calculating loan impairment allowances on both individually and collectively assessed loans and advances. See the Movement in impairment allowances by industry sector and by geographical region table on page 134 for a breakdown of individual and collective impairment allowances.

Collective impairment allowances are subject to estimation uncertainty, in part because it is not practicable to identify losses on an individual loan basis due to the large number of individually insignificant loans in the portfolio. The estimation methods include the use of statistical analyses of historical information, supplemented with significant management judgement, to assess whether current economic and credit conditions are such that the actual level of incurred losses is likely to be greater or less than historical experience.

Where changes in economic, regulatory or behavioural conditions result in the most recent trends in portfolio risk factors being not fully reflected in the statistical models, risk factors are taken into account by adjusting the impairment allowances derived solely from historical loss experience.

Risk factors include loan portfolio growth, product mix, unemployment rates, bankruptcy trends, geographical concentrations, loan product features, economic conditions such as national and local trends in housing markets, the level of interest rates, portfolio seasoning, account management policies and practices, changes in laws and regulations and other influences on customer payment patterns. Different factors are applied in different regions and countries to reflect local economic conditions, laws and regulations. The methodology and the assumptions used in calculating impairment losses are reviewed regularly in the light of differences between loss estimates and actual loss experience. For example, roll rates, loss rates and the expected timing of future recoveries are regularly benchmarked against actual outcomes to ensure they remain appropriate.

For individually assessed loans, judgement is required in determining whether there is objective evidence that a loss event has occurred and, if so, the measurement of the impairment allowance. In determining whether there is objective evidence that a loss event has occurred, judgement is exercised in evaluating all relevant information on indicators of impairment, including the consideration of whether payments are contractually past-due and the consideration of other factors indicating deterioration in the financial condition and outlook of borrowers affecting their ability to pay. A higher level of judgement is required for loans to borrowers showing signs of financial difficulty in market sectors experiencing economic stress, particularly where the likelihood of repayment is affected by the prospects for refinancing or the sale of a specified asset. For those loans where objective evidence of impairment exists, management determine the size of the allowance required based on a range of factors such as the realisable value of security, the likely dividend available on liquidation or bankruptcy, the viability of the customer's business model and the capacity to trade successfully out of financial difficulties and generate sufficient cash flow to service debt obligations.

HSBC might provide loan forbearance to borrowers experiencing financial difficulties by agreeing to modify the contractual payment terms of loans in order to improve the management of customer relationships, maximise collection opportunities or avoid default or repossession. Where forbearance activities are significant, higher levels of judgement and estimation uncertainty are involved in determining their effects on loan impairment allowances. Judgements are involved in differentiating the credit risk characteristics of forbearance cases, including

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those which return to performing status following renegotiation. Where collectively assessed loan portfolios include significant levels of loan forbearance, portfolios are segmented to reflect the different credit risk characteristics of forbearance cases, and estimates are made of the incurred losses inherent within each forbearance portfolio segment. Forbearance activities take place in both retail and wholesale loan portfolios, but our largest concentration is in the US, in HSBC Finance's CML portfolio.

The exercise of judgement requires the use of assumptions which are highly subjective and very sensitive to the risk factors, in particular to changes in economic and credit conditions across a large number of geographical areas. Many of the factors have a high degree of interdependency and there is no single factor to which our loan impairment allowances as a whole are sensitive.

### Impairment of loans and advances

Losses for impaired loans are recognised when there is objective evidence that impairment of a loan or portfolio of loans has occurred. Impairment allowances that are calculated on individual loans or on groups of loans assessed collectively are recorded as charges to the income statement and are recorded against the carrying amount of impaired loans on the balance sheet. Losses which may arise from future events are not recognised.

### Individually assessed loans and advances

The factors considered in determining whether a loan is individually significant for the purposes of assessing impairment include the size of the loan, the number of loans in the portfolio, the importance of the individual loan relationship and how this is managed. Loans that are determined to be individually significant based on the above and other relevant factors will be individually assessed for impairment, except when volumes of defaults and losses are sufficient to justify treatment under a collective methodology.

Loans considered as individually significant are typically to corporate and commercial customers, are for larger amounts and are managed on an individual basis. For these loans, HSBC considers on a case-by-case basis at each balance sheet date whether there is any objective evidence that a loan is impaired. The criteria used to make this assessment include:

known cash flow difficulties experienced by the borrower;

contractual payments of either principal or interest being past due for more than 90 days;

the probability that the borrower will enter bankruptcy or other financial realisation;

a concession granted to the borrower for economic or legal reasons relating to the borrower's financial difficulty that results in forgiveness or postponement of principal, interest or fees, where the concession is not insignificant; and

there has been deterioration in the financial condition or outlook of the borrower such that its ability to repay is considered doubtful.

For loans where objective evidence of impairment exists, impairment losses are determined considering the following factors:

HSBC's aggregate exposure to the customer;

the viability of the customer's business model and its capacity to trade successfully out of financial difficulties and generate sufficient cash flow to service debt obligations;

the amount and timing of expected receipts and recoveries;

the likely dividend available on liquidation or bankruptcy;

the extent of other creditors' commitments ranking ahead of, or *pari passu* with, HSBC and the likelihood of other creditors continuing to support the company;

the complexity of determining the aggregate amount and ranking of all creditor claims and the extent to which legal and insurance uncertainties are evident;

the realisable value of security (or other credit mitigants) and likelihood of successful repossession;

the likely costs of obtaining and selling collateral as part of foreclosure;

the ability of the borrower to obtain, and make payments in, the currency of the loan if not denominated in local currency; and

when available, the secondary market price of the debt.

The determination of the realisable value of security is based on the most recently updated market value at the time the impairment assessment is performed. The value is not adjusted for expected future changes in market prices, though adjustments are made to reflect local conditions such as forced sale discounts.

Impairment losses are calculated by discounting the expected future cash flows of a loan, which include expected future receipts of contractual interest, at the loan's original effective interest rate or an approximation thereof, and comparing the resultant present value with the loan's current carrying amount. The impairment allowances on individually significant accounts are reviewed at least quarterly and more regularly when circumstances require.

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**Notes on the Financial Statements** (continued)

**1 - Basis of preparation and significant accounting policies**

**Collectively assessed loans and advances**

Impairment is assessed collectively to cover losses which have been incurred but have not yet been identified on loans subject to individual assessment or for homogeneous groups of loans that are not considered individually significant. Retail lending portfolios are generally assessed for impairment collectively as the portfolios are generally large homogeneous loan pools.

*Incurred but not yet identified impairment*

Individually assessed loans for which no evidence of impairment has been specifically identified on an individual basis are grouped together according to their credit risk characteristics for a collective impairment assessment. These credit risk characteristics may include country of origination, type of business involved, type of products offered, security obtained or other relevant factors. This assessment captures impairment losses that HSBC has incurred as a result of events occurring before the balance sheet date which HSBC is not able to identify on an individual loan basis, and that can be reliably estimated. When information becomes available which identifies losses on individual loans within a group, those loans are removed from the group and assessed individually.

The collective impairment allowance is determined after taking into account:

historical loss experience in portfolios of similar credit risk characteristics (for example, by industry sector, loan grade or product);

the estimated period between a loss occurring and the loss being identified and evidenced by the establishment of an appropriate allowance against the individual loan; and

management's judgement as to whether current economic and credit conditions are such that the actual level of inherent losses at the balance sheet date is likely to be greater or less than that suggested by historical experience. The period between a loss occurring and its identification is estimated by management for each identified portfolio based on economic and market conditions, customer behaviour, portfolio management information, credit management techniques and collection and recovery experiences in the market. As it is assessed empirically on a periodic basis, the estimated period may vary over time as these factors change.

*Homogeneous groups of loans and advances*

Statistical methods are used to determine collective impairment losses for homogeneous groups of loans not considered individually significant. The methods that are used to calculate collective allowances are:

When appropriate empirical information is available, HSBC utilises roll-rate methodology, which employs statistical analyses of historical data and experience of delinquency and default to reliably estimate the amount of the loans that will eventually be written off as a result of the events occurring before the balance sheet date but which HSBC is not able to identify individually. Individual loans are grouped using ranges of past due days; statistical analysis is then used to estimate the likelihood that loans in each range will progress through the various stages of delinquency and become irrecoverable. Additionally, individual loans are segmented based on their credit characteristics as described above. In applying this methodology, adjustments are made to estimate the periods of time between a loss event occurring and its discovery, for example through a missed payment (known as the emergence period) and the period of time between discovery and write-off (known as the outcome period). Current economic conditions are also evaluated when calculating the appropriate level of allowance required to cover inherent loss. In certain highly-developed markets, sophisticated models also take into account behavioural and account management trends as revealed in, for example, bankruptcy and rescheduling statistics.

When the portfolio size is small or when information is insufficient or not reliable enough to adopt a roll-rate methodology, HSBC adopts a basic formulaic approach based on historical loss rate experience, or a discounted cash flow model. Where a basic formulaic approach is undertaken, the period between a loss event occurring and its identification is explicitly estimated by local management, and is typically between six and twelve months. The inherent loss within each portfolio is assessed on the basis of statistical models using historical data observations which are updated periodically to reflect recent portfolio and economic trends. When the most recent trends arising from changes in economic, regulatory or behavioural conditions are not fully reflected in the statistical models, they are taken into account by adjusting the impairment allowances derived from the statistical models to reflect these changes as at the balance sheet date.

#### **Write-off of loans and advances**

Loans (and the related impairment allowance accounts) are normally written off, either partially or in full, when there is no realistic prospect of recovery. Where loans are secured, this is generally after receipt of any proceeds from the realisation of security. In circumstances where the net realisable value of any collateral has been determined and there is no reasonable expectation of further recovery, write-off may be earlier.

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### **Reversals of impairment**

If the amount of an impairment loss decreases in a subsequent period, and the decrease can be related objectively to an event occurring after the impairment was recognised, the excess is written back by reducing the loan impairment allowance account accordingly. The write-back is recognised in the income statement.

### **Assets acquired in exchange for loans**

Non-financial assets acquired in exchange for loans as part of an orderly realisation are recorded as *Assets held for sale* and reported in *Other assets* if those assets are classified as held for sale. The asset acquired is recorded at the lower of its fair value less costs to sell and the carrying amount of the loan (net of impairment allowance) at the date of exchange. No depreciation is charged in respect of assets held for sale. Write-downs of the acquired asset to fair value less cost to sell and any reversals of previous write-downs are recognised in the income statement in *Other operating income*, together with any realised gains or losses on disposal.

### **Renegotiated loans**

Loans subject to collective impairment assessment whose terms have been renegotiated are no longer considered past due, but are treated as up to date loans for measurement purposes once a minimum number of payments required have been received. Where collectively assessed loan portfolios include significant levels of renegotiated loans, these loans are segregated from other parts of the loan portfolio for the purposes of collective impairment assessment to reflect their risk profile. Loans subject to individual impairment assessment, whose terms have been renegotiated, are subject to ongoing review to determine whether they remain impaired. The carrying amounts of loans that have been classified as renegotiated retain this classification until maturity or derecognition.

A loan that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement 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. Any new loans that arise following derecognition events will continue to be disclosed as renegotiated loans and are assessed for impairment as above.

### **Impairment of available-for-sale financial assets**

Available-for-sale financial assets are assessed at each balance sheet date for objective evidence of impairment. If such evidence exists as a result of one or more events that occurred after the initial recognition of the financial asset (a *loss event*), and that loss event has an impact which can be reliably measured on the estimated future cash flows of the financial asset, an impairment loss is recognised.



If the available-for-sale financial asset is impaired, the difference between its acquisition cost (net of any principal repayments and amortisation) and its current fair value, less any previous impairment loss recognised in the income statement, is recognised in the income statement.

Impairment losses are recognised in the income statement within Loan impairment charges and other credit risk provisions for debt instruments and within Gains less losses from financial investments for equities. The impairment methodologies for available-for-sale financial assets are set out as follows:

**Available-for-sale debt securities.** In assessing objective evidence of impairment at the reporting date, HSBC considers all available evidence, including observable data or information about events specifically relating to the securities which may result in a shortfall in the recovery of future cash flows. Financial difficulties of the issuer, as well as other factors such as information about the issuers liquidity, business and financial risk exposures, levels of and trends in default for similar financial assets, national and local economic trends and conditions, and the fair value of collateral and guarantees may be considered individually, or in combination, to determine if there is objective evidence of impairment.

In addition, the performance of underlying collateral and the extent and depth of market price declines is relevant when assessing objective evidence of impairment of available-for-sale ABSs. The primary indicators of potential impairment are considered to be adverse fair value movements and the disappearance of an active market for a security, while changes in credit ratings are of secondary importance.

**Available-for-sale equity securities.** Objective evidence of impairment may include specific information about the issuer as detailed above, but may also include information about significant changes in technology, markets, economics or the law that provides evidence that the cost of the equity securities may not be recovered.

A significant or prolonged decline in the fair value of the equity below its cost is also objective evidence of impairment. In assessing whether it is significant, the decline in fair value is evaluated against the original cost of the asset at initial recognition. In assessing whether it is prolonged, the decline is evaluated against the continuous period in which the fair value of the asset has been below its original cost at initial recognition.

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**Notes on the Financial Statements** (continued)**1 - Significant accounting policies / 2 - Net income from financial instruments at FV / 3 - Net insurance premium income**

Once an impairment loss has been recognised, the subsequent accounting treatment for changes in the fair value of that asset depends on the type of asset:

for an available-for-sale debt security, a subsequent decline in the fair value of the instrument is recognised in the income statement when there is objective evidence of impairment as a result of further decreases in the estimated future cash flows of the financial asset. Where there is no further objective evidence of impairment, the decline in the fair value of the financial asset is recognised in other comprehensive income. If the fair value of a debt security increases in a subsequent period, and the increase can be objectively related to an event occurring after the impairment loss was recognised in the income statement, or the instrument is no longer impaired, the impairment loss is reversed through the income statement;

for an available-for-sale equity security, all subsequent increases in the fair value of the instrument are treated as a revaluation and are recognised in other comprehensive income. Impairment losses recognised on the equity security are not reversed through the income statement. Subsequent decreases in the fair value of the available-for-sale equity security are recognised in the income statement to the extent that further cumulative impairment losses have been incurred.

**(k) Non-trading reverse repurchase and repurchase agreements**

When securities are sold subject to a commitment to repurchase them at a predetermined price ( repos ), they remain on the balance sheet and a liability is recorded in respect of the consideration received. Securities purchased under commitments to resell ( reverse repos ) are not recognised on the balance sheet and an asset is recorded in respect of the initial consideration paid.

Non-trading repos and reverse repos are measured at amortised cost. The difference between the sale and repurchase price or between the purchase and resale price is treated as interest and recognised in net interest income over the life of the agreement.

**(l) Operating income****Interest income and expense**

Interest income and expense for all financial instruments except for those classified as held for trading or designated at fair value (except for debt securities issued by HSBC and derivatives managed in conjunction with those debt securities) are recognised in Interest income and Interest expense in the income statement using the effective interest

method. The effective interest rate is the rate that exactly discounts estimated future cash receipts or payments through the expected life of the financial instrument or, where appropriate, a shorter period, to the net carrying amount of the financial asset or financial liability.

Interest on impaired financial assets is recognised using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

### Non-interest income and expense

**Fee income** is earned from a diverse range of services provided by HSBC to its customers. Fee income is accounted for as follows:

income earned on the execution of a significant act is recognised as revenue when the act is completed (for example, fees arising from negotiating or participating in the negotiation of a transaction for a third party, such as an arrangement for the acquisition of shares or other securities);

income earned from the provision of services is recognised as revenue as the services are provided (for example, asset management, portfolio and other management advisory and service fees); and

income which forms an integral part of the effective interest rate of a financial instrument is recognised as an adjustment to the effective interest rate (for example, certain loan commitment fees) and recorded in Interest income .

**Net trading income** comprises all gains and losses from changes in the fair value of financial assets and financial liabilities held for trading, together with the related interest income, expense and dividends.

**Dividend income** is recognised when the right to receive payment is established. This is the ex-dividend date for listed equity securities, and usually the date when shareholders approve the dividend for unlisted equity securities.

The accounting policies for **net income/(expense) from financial instruments designated at fair value** and for **net insurance premium income** are disclosed in Note 2 and Note 3.

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**Report of the Directors: Financial Review**
**1A Changes to comparative data**

The following sets out changes to comparative data from those presented in our 2014 Form 20-F.

**Note 11 Segmental analysis****Net operating income by global business**

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.

*As reported in 2015*

					Intra-HSBC		
	RBWM	CMB	GB&M	GPB	Other	items	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m
2014							
Net operating income	25,149	15,748	17,778	2,377	6,365	(6,169)	61,248
external	23,202	16,369	20,055	1,980	(358)		61,248
internal	1,947	(621)	(2,277)	397	6,723	(6,169)	
2013							
Net operating income	27,453	15,652	19,176	2,439	5,651	(5,726)	64,645
external	25,702	16,577	20,767	1,955	(356)		64,645
internal	1,751	(925)	(1,591)	484	6,007	(5,726)	

*Adjustments*

	RBWM	CMB	GB&M	GPB	Other	Intra- HSBC items	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m
2014							
Net operating income	555	(555)					
external	510	(510)					

internal	45	(45)
2013		
Net operating income	713	(713)
external	664	(664)
internal	49	(49)

*As reported in 2014*

	RBWM \$m	CMB \$m	GB&M \$m	GPB \$m	Other \$m	Intra- HSBC items \$m	Total \$m
2014							
Net operating income	24,594	16,303	17,778	2,377	6,365	(6,169)	61,248
external	22,692	16,879	20,055	1,980	(358)		61,248
internal	1,902	(576)	(2,277)	397	6,723	(6,169)	
2013							
Net operating income	26,740	16,365	19,176	2,439	5,651	(5,726)	64,645
external	25,038	17,241	20,767	1,955	(356)		64,645
internal	1,702	(876)	(1,591)	484	6,007	(5,726)	

**Note 32** Offsetting of financial assets and liabilities

The disclosure has been enhanced this year with Amounts not subject to enforceable netting arrangements being separately identified and presented. Collateral not determined to be currently enforceable has also been excluded. This resulted in a change in the basis of preparation. Prior period data have been adjusted impacting all columns other than amounts offset in the balance sheet in the disclosure. Set out below are the 2014 disclosures as reported in 2015, adjustments made to the 2014 balances, and the disclosure as reported in 2014.

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**Report of the Directors: Financial Review**
**Financial assets***As reported in 2015*

## Amounts subject to enforceable netting arrangements

Gross amounts \$m	Amounts offset \$m	Net amounts in the balance sheet \$m	Financial instruments \$m	Amounts not set off in the balance sheet		Net amount \$m	Amounts not subject to enforceable netting \$m
				Non-cash collateral \$m	Cash collateral \$m		
584,359	(250,465)	333,894	(262,856)	(7,655)	(41,750)	21,633	11,114
208,893	(88,676)	120,217	(5,117)	(114,394)	(249)	457	50,762
9,341	(390)	8,951		(8,951)			315
199,552	(88,286)	111,266	(5,117)	(105,443)	(249)	457	50,447
99,623	(37,527)	62,096	(55,989)			6,107	1,597
892,875	(376,668)	516,207	(323,962)	(122,049)	(41,999)	28,197	63,473

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							Amounts
		Net		Amounts not set off			not
Gross	Amounts	amounts in	Financial	Non-cash	Cash	Net	subject to
amounts	offset	the balance	instruments	collateral	collateral	amount	enforceable
\$m	\$m	sheet	\$m	\$m	\$m	\$m	netting
		\$m					\$m
(11,114)		(11,114)	8,184	(7,655)	510	(10,075)	11,114
(50,762)		(50,762)	161,841	(114,394)		(3,315)	50,762
(315)		(315)	9,256	(8,951)		(10)	315
(50,447)		(50,447)	152,585	(105,443)		(3,305)	50,447
(1,597)		(1,597)			310	(1,287)	1,597
(63,473)		(63,473)	170,025	(122,049)	820	(14,677)	63,473

*ended in 2014*

		Amounts		Amounts not set off			
Gross	Gross	presented		in the balance sheet			
amounts of	amounts	in the			Cash		
recognised	offset in	balance			collateral		
financial	the balance	sheet/Net			received/		
assets/	sheet/	amounts in					
Gross	Amounts	the	Financial	Non-cash	Cash	Net	Amounts
amounts <sup>1</sup>	offset <sup>1</sup>	balance	instruments	collateral <sup>1</sup>	collateral <sup>1</sup>	amount	not
\$m	\$m	sheet <sup>1</sup>	\$m	\$m	\$m	\$m	subject to
		\$m					enforceable
							netting <sup>1</sup>
							\$m
595,473	(250,465)	345,008	(271,040)		(42,260)	31,708	
259,655	(88,676)	170,979	(166,958)		(249)	3,772	

as:	9,656	(390)	9,266	(9,256)		10
assets						
ing	249,999	(88,286)	161,713	(157,702)	(249)	3,762
o						
ised	101,220	(37,527)	63,693	(55,989)	(310)	7,394
er	956,348	(376,668)	579,680	(493,987)	(42,819)	42,874

1 *Wording in italics represents column headings as presented in 2015.*

Footnotes presented on page 434 have also been updated to reflect the revised presentation.

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**Report of the Directors: Financial Review**
**Financial liabilities***As reported in 2015*

## Amounts subject to enforceable netting arrangements

Gross amounts \$m	Amounts offset \$m	Net amounts in the balance sheet \$m	Financial instruments \$m	Amounts not set off		Net amount \$m	Amounts
				in the balance sheet Non-cash collateral \$m	Cash collateral \$m		not subject to enforceable netting \$m
580,644	(250,465)	330,179	(262,864)	(9,465)	(39,571)	18,279	10,490
165,514	(88,676)	76,838	(8,934)	(67,793)	(105)	6	46,424
16,206	(390)	15,816		(15,813)		3	14
149,308	(88,286)	61,022	(8,934)	(51,980)	(105)	3	46,410
106,609	(37,527)	69,082	(55,989)			13,093	479
852,767	(376,668)	476,099	(327,787)	(77,258)	(39,676)	31,378	57,393

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Gross amounts \$m	Amounts offset \$m	Net amounts in the balance sheet \$m	Amounts not set off in the balance sheet			Net amount \$m	Amounts not subject to enforceable netting \$m
			Financial instruments \$m	Non-cash collateral \$m	Cash collateral \$m		
(10,490)		(10,490)	9,951	(9,465)	720	(9,289)	10,490
(46,424)		(46,424)	112,788	(67,793)		(1,429)	46,424
(14)		(14)	15,828	(15,813)		1	14
(46,410)		(46,410)	96,960	(51,980)		(1,430)	46,410
(479)		(479)				(479)	(479)
(57,393)		(57,393)	122,739	(77,258)	720	(11,192)	57,393

2014

Gross amounts of recognised financial liabilities/ Gross amounts <sup>1</sup> \$m	Gross amounts offset in the balance sheet/ Amounts offset <sup>1</sup> \$m	Amounts presented in the balance sheet/ Net amounts in the balance sheet <sup>1</sup> \$m	Amounts not set off in the balance sheet			Net amount \$m	Amounts not subject to enforceable netting <sup>1</sup> \$m
			Financial instruments \$m	Non-cash collateral <sup>1</sup> \$m	Cash collateral <sup>1</sup> \$m		
591,134	(250,465)	340,669	(272,815)		(40,291)	27,563	
211,938	(88,676)	123,262	(121,722)		(105)	1,435	

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16,220	(390)	15,830	(15,828)		2
195,718	(88,286)	107,432	(105,894)	(105)	1,433
107,088	(37,527)	69,561	(55,989)		13,572
910,160	(376,668)	533,492	(450,526)	(40,396)	42,570

1 *Wording in italics represents column headings as presented in 2015.*

Footnotes presented on page 434 have also been updated to reflect the revised presentation

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**Report of the Directors: Financial Review**

**Note 41 Related party transactions**

**Transactions and balances during the year with Key Management Personnel**

Certain balances with Key Management Personnel were inadvertently omitted from our 2014 Form 20-F. Comparative balances have been adjusted accordingly. Advances and credits at 31 December 2014 and the highest amounts outstanding during the year have increased by \$115m and \$120m, respectively (\$194m and \$227m were previously disclosed). Guarantees at 31 December 2014 and the highest amounts outstanding during the year have increased by \$78m and \$79m, respectively (no amounts were previously disclosed).

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## 2 Net income from financial instruments designated at fair value

### Accounting policy

Net income from financial instruments designated at fair value includes all gains and losses from changes in the fair value of financial assets and liabilities designated at fair value through profit or loss, including derivatives that are managed in conjunction with those financial assets and liabilities, and liabilities under investment contracts. Interest income, interest expense and dividend income in respect of those financial instruments are also included, except for interest arising from debt securities issued by HSBC and derivatives managed in conjunction with those debt securities, which is recognised in Interest expense .

### *Net income from financial instruments designated at fair value*

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Net income/(expense) arising on:			
financial assets held to meet liabilities under insurance and investment contracts	<b>531</b>	2,300	3,170
other financial assets designated at fair value	<b>89</b>	131	118
derivatives managed in conjunction with other financial assets designated at fair value	<b>13</b>	(19)	(26)
liabilities to customers under investment contracts	<b>633</b>	2,412	3,262
HSBC's long-term debt issued and related derivatives	<b>34</b>	(435)	(1,237)
changes in own credit spread on long-term debt	<b>863</b>	508	(1,228)
derivatives managed in conjunction with HSBC's issued debt securities	<b>1,002</b>	417	(1,246)
other changes in fair value	<b>(1,997)</b>	333	(3,743)
other financial liabilities designated at fair value	<b>1,858</b>	(242)	3,761
	<b>3</b>	(23)	(39)

derivatives managed in conjunction with other financial liabilities designated at fair value	(1)	11	10
	<b>899</b>	61	(2,494)
<b>Year ended 31 December</b>	<b>1,532</b>	2,473	768

**HSBC Holdings***Net income/(expense) arising on HSBC Holdings long-term debt issued and related derivatives*

	2015 \$m	2014 \$m	2013 \$m
Net income/(expense) arising on:			
changes in own credit spread on long-term debt	348	339	(695)
derivatives managed in conjunction with HSBC Holdings issued debt securities	(927)	126	(1,558)
other changes in fair value	855	(27)	1,213
<b>Year ended 31 December</b>	<b>276</b>	438	(1,040)

**3 Net insurance premium income****Accounting policy**

Premiums for life insurance contracts are accounted for when receivable, except in unit-linked insurance contracts where premiums are accounted for when liabilities are established.

Reinsurance premiums are accounted for in the same accounting period as the premiums for the direct insurance contracts to which they relate.

*Net insurance premium income*

	Non-linked insurance <sup>1</sup> \$m	Linked life insurance \$m	Investment contracts with DPF <sup>2</sup> \$m	Total \$m
Gross insurance premium income	7,506	1,409	2,097	11,012
Reinsurers' share of gross insurance premium income	(648)	(9)		(657)

**Year ended 31 December 2015**

**6,858**

**1,400**

**2,097**

**10,355**

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## Notes on the Financial Statements (continued)

**4 Net insurance claims / 5 Operating profit / 6 Employee compensation and benefits***Net insurance premium income (continued)*

	Non-linked insurance <sup>1</sup> \$m	Linked life insurance \$m	Investment contracts with DPF <sup>2</sup> \$m	Total \$m
Gross insurance premium income	7,705	2,195	2,470	12,370
Reinsurers' share of gross insurance premium income	(441)	(8)		(449)
Year ended 31 December 2014	7,264	2,187	2,470	11,921
Gross insurance premium income	7,002	3,012	2,384	12,398
Reinsurers' share of gross insurance premium income	(450)	(8)		(458)
Year ended 31 December 2013	6,552	3,004	2,384	11,940

1 *Includes non-life insurance.*

2 *Discretionary participation features.*

**4 Net insurance claims and benefits paid and movement in liabilities to policyholders****Accounting policy**

Gross insurance claims for life insurance contracts reflect the total cost of claims arising during the year, including claim handling costs and any policyholder bonuses allocated in anticipation of a bonus declaration.



Maturity claims are recognised when due for payment. Surrenders are recognised when paid or at an earlier date on which, following notification, the policy ceases to be included within the calculation of the related insurance liabilities. Death claims are recognised when notified.

Reinsurance recoveries are accounted for in the same period as the related claim.

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

	<b>Non-linked insurance<sup>1</sup> \$m</b>	<b>Linked life insurance \$m</b>	<b>Investment contracts with DPF<sup>2</sup> \$m</b>	<b>Total \$m</b>
Gross claims and benefits paid and movement in liabilities	7,746	1,398	2,728	11,872
claims, benefits and surrenders paid	3,200	1,869	2,101	7,170
movement in liabilities	4,546	(471)	627	4,702
Reinsurers' share of claims and benefits paid and movement in liabilities	(575)	(5)		(580)
claims, benefits and surrenders paid	(153)	(64)		(217)
movement in liabilities	(422)	59		(363)
<b>Year ended 31 December 2015</b>	<b>7,171</b>	<b>1,393</b>	<b>2,728</b>	<b>11,292</b>
Gross claims and benefits paid and movement in liabilities	7,770	2,765	3,188	13,723
claims, benefits and surrenders paid	3,575	1,499	2,215	7,289
movement in liabilities	4,195	1,266	973	6,434
Reinsurers' share of claims and benefits paid and movement in liabilities	(411)	33		(378)
claims, benefits and surrenders paid	(176)	(88)		(264)
movement in liabilities	(235)	121		(114)
Year ended 31 December 2014	7,359	2,798	3,188	13,345
Gross claims and benefits paid and movement in liabilities	6,892	3,379	3,677	13,948
claims, benefits and surrenders paid	3,014	1,976	2,308	7,298
movement in liabilities	3,878	1,403	1,369	6,650
Reinsurers' share of claims and benefits paid and movement in liabilities	(367)	111		(256)
claims, benefits and surrenders paid	(164)	(426)		(590)
movement in liabilities	(203)	537		334
Year ended 31 December 2013	6,525	3,490	3,677	13,692

- 1 *Includes non-life insurance.*
- 2 *Discretionary participation features.*

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## 5 Operating profit

Operating profit is stated after the following items of income, expense, gains and losses, and loan impairment charges and other credit risk provisions:

	2015 \$m	2014 \$m	2013 \$m
<b>Income</b>			
Interest recognised on impaired financial assets	934	1,137	1,261
Fees earned on financial assets or liabilities not held for trading nor designated at fair value, other than fees included in effective interest rate calculations on these types of assets and liabilities	8,736	9,438	9,799
Fees earned on trust and other fiduciary activities where HSBC holds or invests assets on behalf of its customers	3,052	3,253	3,176
Income from listed investments	5,760	6,726	5,432
Income from unlisted investments	5,581	5,874	6,860
<b>Expense</b>			
Interest on financial instruments, excluding interest on financial liabilities held for trading or designated at fair value	(13,680)	(15,322)	(14,610)
Fees payable on financial assets or liabilities not held for trading nor designated at fair value, other than fees included in effective interest rate calculations on these types of assets and liabilities	(1,251)	(1,427)	(1,396)
Fees payable relating to trust and other fiduciary activities where HSBC holds or invests assets on behalf of its customers	(166)	(185)	(171)
Payments under lease and sublease agreements	(1,190)	(1,548)	(1,425)
minimum lease payments	(1,058)	(1,199)	(1,098)
contingent rents and sublease payments	(132)	(349)	(327)
UK bank levy	(1,421)	(1,066)	(916)
Restructuring provisions	(430)	(147)	(179)
<b>Gains/(losses)</b>			
Impairment of available-for-sale equity securities	(111)	(373)	(175)
Gains/(losses) recognised on assets held for sale	(244)	220	(729)

Gains on the partial sale of shareholding in Industrial Bank	<b>1,372</b>		
Gains/(losses) arising from dilution of interest in Industrial Bank and other associates and joint ventures		(32)	1,051
Gains on disposal of HSBC Bank (Panama) S.A.			1,107
<b>Loan impairment charges and other credit risk provisions</b>	<b>(3,721)</b>	(3,851)	(5,849)
net impairment charge on loans and advances	<b>(3,592)</b>	(4,055)	(6,048)
release of available-for-sale debt securities	<b>17</b>	319	211
impairment in respect of other credit risk provisions	<b>(146)</b>	(115)	(12)
<b>6 Employee compensation and benefits</b>			

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Wages and salaries	<b>17,245</b>	17,477	16,879
Social security costs	<b>1,600</b>	1,666	1,594
Post-employment benefits	<b>1,055</b>	1,223	723
<b>Year ended 31 December</b>	<b>19,900</b>	20,366	19,196
<i>Average number of persons employed by HSBC during the year</i>			

	<b>2015</b>	2014	2013
Europe	<b>73,868</b>	74,024	75,334
Asia	<b>121,438</b>	116,492	114,216
Middle East and North Africa	<b>9,007</b>	8,616	9,181
North America	<b>21,506</b>	21,983	22,568
Latin America	<b>42,614</b>	43,652	47,496
<b>Year ended 31 December</b>	<b>268,433</b>	264,767	268,795

HSBC HOLDINGS PLC

## Notes on the Financial Statements (continued)

**6 Employee compensation and benefits***Reconciliation of total incentive awards granted to incentive awards in employee compensation and benefits*

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Total incentive awards approved and granted for the current year <sup>1</sup>	<b>3,462</b>	3,660	3,920
Less: deferred bonuses awarded for the current year, expected to be recognised in future periods	<b>(387)</b>	(359)	(436)
Total incentives awarded and recognised in the current year	<b>3,075</b>	3,301	3,484
Current year charges for deferred bonuses from previous years	<b>483</b>	425	427
Other	<b>(40)</b>	(114)	(164)
<b>Total incentive awards for the current year included in employee compensation and benefits</b>	<b>3,518</b>	3,612	3,747

1 This represents the amount of the Group variable pay pool that has been approved and granted. The total amount of Group variable pay pool approved by the Group Remuneration Committee is disclosed in the Directors Remuneration Report on page 304.

*Income statement charge: deferred bonuses*

	<b>Current year</b>		<b>Total</b>
	<b>bonus pool</b>	<b>Prior year bonus pools</b>	
	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>
<b>2015</b>			
Charge recognised in 2015	<b>253</b>	<b>483</b>	<b>736</b>
deferred share awards	<b>186</b>	<b>382</b>	<b>568</b>
deferred cash awards	<b>67</b>	<b>101</b>	<b>168</b>
Charge expected to be recognised in 2016 or later	<b>387</b>	<b>346</b>	<b>733</b>
deferred share awards	<b>260</b>	<b>279</b>	<b>539</b>
deferred cash awards	<b>127</b>	<b>67</b>	<b>194</b>

2014

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Charge recognised in 2014	245	425	670
deferred share awards	147	373	520
deferred cash awards	98	52	150
Charge expected to be recognised in 2015 or later	359	381	740
deferred share awards	250	334	584
deferred cash awards	109	47	156
2013			
Charge recognised in 2013	269	427	696
deferred share awards	188	354	542
deferred cash awards	81	73	154
Charge expected to be recognised in 2014 or later	436	306	742
deferred share awards	356	259	615
deferred cash awards	80	47	127

**Share-based payments**

**Accounting policy**

HSBC enters into both equity-settled and cash-settled share-based payment arrangements with its employees as compensation for services provided by employees. The cost of equity-settled share-based payment arrangements with employees is measured by reference to the fair value of equity instruments on the date they are granted and recognised as an expense on a straight-line basis over the vesting period, with a corresponding credit to Retained earnings .

For cash-settled share-based payment arrangements, the services acquired and liability incurred are measured at the fair value of the liability and recognised as the employees render service. Until settlement, the fair value of the liability is re-measured, with changes in fair value recognised in the income statement.

Fair value is determined by using appropriate valuation models. Vesting conditions include service conditions and performance conditions; any other features of the arrangement are non-vesting conditions. Market performance conditions and non-vesting conditions are taken into account when estimating the fair value of the award at the date of grant. Vesting conditions other than market performance conditions are not taken into account in the initial estimate of the fair value at the grant date. They are taken into account by adjusting the number of equity instruments included in the measurement of the transaction.

A cancellation that occurs during the vesting period is treated as an acceleration of vesting and is recognised immediately for the amount that would otherwise have been recognised for services over the vesting period.

Where HSBC Holdings enters into share-based payment arrangements involving employees of subsidiaries for which the subsidiaries are re-charged, the difference between the cost of the share-based payment arrangement and

the fair value of the equity instruments expected to be issued to satisfy those arrangements is recognised as an adjustment to Investment in subsidiaries over the vesting period.

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Wages and salaries include the effect of share-based payments arrangements, of which \$757m were equity settled (2014: \$732m; 2013: \$630m), as follows:

	2015 \$m	2014 \$m	2013 \$m
Restricted share awards	748	738	599
Savings-related and other share award option plans	43	36	63
<b>Year ended 31 December</b>	<b>791</b>	<b>774</b>	<b>662</b>

*HSBC share awards*

Award	Policy	Purpose
<b>Restricted share awards (including annual incentive awards delivered in shares) and GPSP</b>	<p>An assessment of performance over the relevant period ending on 31 December is used to determine the amount of the award to be granted.</p> <p>Deferred awards generally require employees to remain in employment over the vesting period and are not subject to performance conditions after the grant date.</p> <p>Deferred share awards generally vest over a period of three years and GPSP awards vest after five years.</p> <p>Vested shares may be subject to a retention requirement (restriction) post-vesting. GPSP awards are retained until</p>	<p>To drive and reward performance consistent with strategy and align to shareholder interests.</p> <p>Deferral provides an incentive for a longer-term commitment and the ability to apply malus.</p>



cessation of employment.

Awards granted from 2010 onwards are subject to a malus provision prior to vesting.

Awards granted to Material Risk Takers from 2015 onwards are subject to clawback post vesting.

<b>International Employee Share Purchase Plan</b> ( <b>ShareMatch</b> )	<p>The plan was first introduced in Hong Kong in 2013 and now includes employees based in 25 jurisdictions.</p> <p>Shares are purchased in the market each quarter up to a maximum value of £750, or the equivalent in local currency.</p> <p>Matching awards are added at a ratio of one free share for every three purchased.</p> <p>Matching awards vest subject to continued employment and the retention of the purchased shares for a maximum period of two years and nine months.</p>	<p>To align the interests of employees with the creation of shareholder value.</p>
--	--	--

*Movement on HSBC share awards*

	<b>2015</b>	2014
	<b>Number</b>	Number
	<b>(000s)</b>	(000s)
Restricted share awards outstanding at 1 January	<b>116,483</b>	116,932
Additions during the year	<b>80,749</b>	82,871
Released in the year	<b>(75,235)</b>	(78,224)
Forfeited in the year	<b>(3,332)</b>	(5,096)
<b>Restricted share awards outstanding at 31 December</b>	<b>118,665</b>	116,483
Weighted average fair value of awards granted (\$)	<b>9.67</b>	10.18



## Notes on the Financial Statements (continued)

**6 Employee compensation and benefits***HSBC share option plans*

Main plans	Policy	Purpose
<b>Savings-related share option plans</b> ( Sharesave )	<p>Two plans: the UK Plan and the International Plan. The last grant of options under the International Plan was in 2012.</p> <p>From 2014, eligible employees can save up to £500 per month with the option to use the savings to acquire shares.</p> <p>Exercisable within six months following either the third or fifth anniversaries of the commencement of a three-year or five-year contract, respectively.</p> <p>The exercise price is set at a 20% (2014: 20%) discount to the market value immediately preceding the date of invitation.</p>	To align the interests of employees with the creation of shareholder value.
<b>HSBC Holdings Group share option plan</b>	<p>Plan ceased in May 2005.</p> <p>Exercisable between the third and tenth anniversaries of the date of grant.</p>	Long-term incentive plan between 2000 and 2005 during which certain HSBC employees were awarded share options.

**Calculation of fair values**

The fair values of share options are calculated using a Black-Scholes model. The fair value of a share award is based on the share price at the date of the grant.

### *Movement on HSBC share option plans*

	Savings-related share option plans		HSBC Holdings Group share option plan	
	Number	WAEP <sup>1</sup>	Number	WAEP <sup>1</sup>
	(000s)	£	(000s)	£
Outstanding at 1 January 2015	66,366	4.89	6,374	7.29
Granted during the year <sup>2</sup>	52,629	4.05		
Exercised during the year <sup>3</sup>	(21,120)	4.45		
Expired during the year	(23,100)	5.11	(6,374)	7.29
<b>Outstanding at 31 December 2015</b>	<b>74,775</b>	<b>4.36</b>		
Weighted average remaining contractual life (years)	3.92			
Outstanding at 1 January 2014	93,760	4.04	55,026	7.23
Granted during the year <sup>2</sup>	28,689	5.19		
Exercised during the year <sup>3</sup>	(50,393)	3.48	(1)	7.22
Expired during the year	(5,690)	4.81	(48,651)	7.22
Outstanding at 31 December 2014	66,366	4.89	6,374	7.29
Weighted average remaining contractual life (years)	2.66		0.30	

1 *Weighted average exercise price.*

2 *The weighted average fair value of options granted during the year was \$1.09 (2014: \$1.90).*

3 *The weighted average share price at the date the options were exercised was \$8.50 (2014: \$9.91) and \$0 (2014: \$9.49) for the savings-related share option plans and HSBC Holdings Group share option plan, respectively.*

### **Post-employment benefit plans**

#### **Accounting policy**

HSBC operates a number of pension and other post-employment benefit plans throughout the world. These plans include both defined benefit and defined contribution plans and various other post-employment benefits such as post-employment healthcare.

Payments to defined contribution plans and state-managed retirement benefit plans, where HSBC's obligations under the plans are equivalent to a defined contribution plan, are charged as an expense as the employees render service.

The defined benefit pension costs and the present value of defined benefit obligations are calculated at the reporting date by the schemes' actuaries using the projected unit credit method. The net charge to the income statement mainly comprises the service cost and the net interest on the net defined benefit asset or liability and is presented in operating expenses.

The past service cost, which is charged immediately to the income statement, is the change in the present value of the defined benefit obligation for employee service in prior periods resulting from a plan amendment (the introduction or withdrawal of, or changes to, a defined benefit plan) or curtailment (a significant reduction by the entity in the number of employees covered by a plan). A settlement is a transaction that eliminates all further legal and constructive obligations for part or all of the benefits provided under a defined benefit plan, other than a payment of benefits to, or on behalf of, employees that is set out in the terms of the plan and included in the actuarial assumptions.

Re-measurements of the net defined benefit asset or liability, which comprise actuarial gains and losses, return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in other comprehensive income.

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Actuarial gains and losses comprise experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred), as well as the effects of changes in actuarial assumptions.

The net defined benefit asset or liability represents the present value of defined benefit obligations reduced by the fair value of plan assets. Any net defined benefit surplus is limited to the present value of available refunds and reductions in future contributions to the plan.

The cost of obligations arising from other post-employment defined benefit plans, such as defined benefit health-care plans, are accounted for on the same basis as defined benefit pension plans.

The Group operates a number of pension plans throughout the world. Some are defined benefit plans, of which the largest is the HSBC Bank (UK) Pension Scheme ( the principal plan ). The Pension Risk section on page 189 and the Appendix to Risk on page 225 contain details about the characteristics, risks and amount, timing and uncertainty of future cash flows and policies and practices associated with the principal plan.

*Income statement charge*

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Defined benefit pension plans	<b>256</b>	469	54
Defined contribution pension plans	<b>793</b>	687	597
Pension plans	<b>1,049</b>	1,156	651
Defined benefit and contribution healthcare plans	<b>6</b>	67	72
<b>Year ended 31 December</b>	<b>1,055</b>	1,223	723

*Net assets/(liabilities) recognised on the balance sheet in respect of defined benefit plans*

Fair value of	Present value of	Effect of	Total
---------------	------------------	-----------	-------

	plan assets	defined benefit obligations	limit on plan surpluses	
	\$m	\$m	\$m	\$m
Defined benefit pension plans	41,424	(38,326)	(14)	3,084
Defined benefit healthcare plans	141	(762)		(621)
<b>At 31 December 2015</b>	<b>41,565</b>	<b>(39,088)</b>	<b>(14)</b>	<b>2,463</b>
Total employee benefit liabilities (within Accruals, deferred income and other liabilities )				(2,809)
Total employee benefit assets (within Prepayments, accrued income and other assets )				5,272
Defined benefit pension plans	44,824	(42,062)	(17)	2,745
Defined benefit healthcare plans	179	(1,104)		(925)
At 31 December 2014	45,003	(43,166)	(17)	1,820
Total employee benefit liabilities (within Accruals, deferred income and other liabilities )				(3,208)
Total employee benefit assets (within Prepayments, accrued income and other assets )				5,028

*Cumulative actuarial gains/(losses) recognised in other comprehensive income*

	2015 \$m	2014 \$m	2013 \$m
At 1 January	(2,026)	(4,445)	(3,844)
HSBC Bank (UK) Pension Scheme	121	2,764	(1,524)
Other plans	(55)	(274)	796
Healthcare plans	94	(88)	143
Change in the effect of limit on plan surpluses	(30)	17	(16)
Total actuarial gains/(losses) recognised in other comprehensive income	130	2,419	(601)
<b>At 31 December</b>	<b>(1,896)</b>	<b>(2,026)</b>	<b>(4,445)</b>

*HSBC pension plans*

	2015 %	2014 %	2013 %
Percentage of HSBC employees:			
enrolled in defined contribution plans	66	66	64
enrolled in defined benefit plans	22	22	23
covered by HSBC pension plans	88	88	87

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## Notes on the Financial Statements (continued)

**6 Employee compensation and benefits**

## Defined benefit pension plans

*Net asset/(liability) under defined benefit pension plans*

	Present value of defined						Net defined benefit	
	Fair value of plan assets		benefit obligation		Effect of the asset ceiling		asset/(liability)	
	The		The		The		The	
	principal	Other	principal	Other	principal	Other	principal	Other
plan	plans	plan	plans	plan	plans	plan	plans	
\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	
<b>At 1 January 2015</b>	<b>35,244</b>	<b>9,580</b>	<b>(30,480)</b>	<b>(11,582)</b>		<b>(17)</b>	<b>4,764</b>	<b>(2,019)</b>
Current service cost			(129)	(268)			(129)	(268)
Past service cost and gains/(losses) from settlements		(3)	(53)	71			(53)	68
Service cost		(3)	(182)	(197)			(182)	(200)
Net interest income/(cost) on the net defined benefit asset/(liability)	<b>1,265</b>	<b>322</b>	<b>(1,088)</b>	<b>(371)</b>		<b>(2)</b>	<b>177</b>	<b>(51)</b>
Re-measurement effects recognised in other comprehensive income	<b>(1,521)</b>	<b>(394)</b>	<b>1,642</b>	<b>339</b>		<b>(30)</b>	<b>121</b>	<b>(85)</b>
return on plan assets (excluding interest income)	<b>(1,521)</b>	<b>(394)</b>					<b>(1,521)</b>	<b>(394)</b>
actuarial gains/(losses)			<b>1,392</b>	<b>339</b>		<b>(30)</b>	<b>1,392</b>	<b>309</b>
other changes			<b>250</b>				<b>250</b>	
Exchange differences	<b>(1,704)</b>	<b>(458)</b>	<b>1,443</b>	<b>529</b>		<b>35</b>	<b>(261)</b>	<b>106</b>
Contributions by HSBC	<b>376</b>	<b>279</b>					<b>376</b>	<b>279</b>

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normal	159	227				159	227
special	217	52				217	52
Contributions by employees	17	35	(17)	(35)			
Benefits paid	(970)	(590)	970	649			59
Administrative costs and taxes paid by plan	(37)	(17)	37	17			
<b>At 31 December 2015</b>	<b>32,670</b>	<b>8,754</b>	<b>(27,675)</b>	<b>(10,651)</b>		<b>(14)</b>	<b>4,995</b>
Present value of defined benefit obligation relating to:							
actives			(6,310)	(5,350)			
deferreds			(7,919)	(2,239)			
pensioners			(13,446)	(3,062)			
At 1 January 2014	31,665	8,957	(29,629)	(10,838)		(30)	2,036
Current service cost			(228)	(257)			(228)
Past service cost and gains/(losses) from settlements		(5)	(26)	11			(26)
Service cost		(5)	(254)	(246)			(254)
Net interest income/(cost) on the net defined benefit asset/(liability)	1,386	370	(1,291)	(425)		(4)	95
Re-measurement effects recognised in other comprehensive income	4,864	845	(2,100)	(1,034)		17	2,764
return on plan assets (excluding interest income)	4,864	845					4,864
actuarial losses			(2,317)	(987)			(2,317)
other changes			217	(47)		17	217
Exchange differences	(2,112)	(316)	1,838	357			(274)
Contributions by HSBC	397	278					397
normal	265	239					265
special	132	39					132
Contributions by employees	38	17	(38)	(17)			
Benefits paid	(954)	(543)	954	598			55
Administrative costs and taxes paid by plan	(40)	(23)	40	23			
<b>At 31 December 2014</b>	<b>35,244</b>	<b>9,580</b>	<b>(30,480)</b>	<b>(11,582)</b>		<b>(17)</b>	<b>4,764</b>
Present value of defined benefit obligation relating to:							
actives			(9,782)	(5,605)			
deferreds			(8,799)	(2,498)			

pensioners

(11,899)

(3,479)

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HSBC expects to make \$458m of contributions to defined benefit pension plans during 2016. Benefits expected to be paid from the plans to retirees over each of the next five years, and in aggregate for the five years thereafter, are as follows:

*Benefits expected to be paid from plans*

	2016 \$m	2017 \$m	2018 \$m	2019 \$m	2020 \$m	2021-2025 \$m
The principal plan <sup>1</sup>	1,006	1,040	1,075	1,109	1,204	6,425
Other plans <sup>1</sup>	482	466	476	511	530	2,692

<sup>1</sup> The duration of the defined benefit obligation is 17.0 years for the principal plan under the disclosure assumptions adopted (2014: 19.8 years) and 13.9 years for all other plans combined (2014: 14.2 years).

*Fair value of plan assets by asset classes*

31 December 2015				31 December 2014		
Value \$m	Quoted	No quoted	Thereof HSBC <sup>1</sup> \$m	Quoted	No quoted	Value \$m
	market price in active market \$m	market price in active market \$m		market price in active market \$m	market price in active market \$m	
32,670	29,370	3,300	513	35,244	31,355	3,889
5,730	4,990	740		5,502	4,557	945
22,704	22,704			22,965	22,965	

res	1,011		1,011	513	1,369	52	1,317
	3,225	1,676	1,549		5,408	3,781	1,627
	8,754	7,882	872	148	9,580	6,390	3,190
	2,434	1,900	534	1	2,534	1,778	756
	5,719	5,458	261	2	6,376	4,109	2,267
res	7		7	1	(100)	(8)	(92)
	594	524	70	144	770	511	259

1 The fair value of plan assets includes derivatives entered into with HSBC Bank plc as detailed in Note 41.

### Post-employment defined benefit plans principal actuarial financial assumptions

HSBC determines the discount rates to be applied to its obligations in consultation with the plans' local actuaries, on the basis of current average yields of high quality (AA-rated or equivalent) debt instruments with maturities consistent with those of the defined benefit obligations.

#### Key actuarial assumptions for the principal plan

	Rate of				
	Discount	Inflation	increase for	Rate of	Interest
	rate	rate	pension pay	increase	credit rate
	%	%	%	%	%
<b>UK</b>					
At 31 December 2015	3.70	3.20	3.00	3.70	n/a
At 31 December 2014	3.70	3.20	3.00	3.70	n/a
At 31 December 2013	4.45	3.60	3.30	4.10	n/a

#### Mortality tables and average life expectancy at age 65 for the principal plan

	Mortality table	Life expectancy at age 65 for a male member currently:		Life expectancy at age 65 for a female member currently:	
		Aged 65	Aged 45	Aged 65	Aged 45
		<b>UK</b>			
At 31 December 2015	SAPS S1 <sup>1</sup>	23.6	25.0	24.9	26.7
At 31 December 2014	SAPS S1 <sup>1</sup>	23.6	25.2	25.0	26.9

- 1 *Self-administered Pension Scheme ( SAPS ) Light Table with a multiplier of 1.01 for male pensioners and 1.02 for female pensioners. Improvements are projected in accordance with Continuous Mortality Investigation ( CMI ) core projection model 2015 (2014: CMI 2014) with a long-term rate of improvement of 1.25% pa.*

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## Notes on the Financial Statements (continued)

**6 Employee compensation and benefits / 7 Auditors remuneration / 8 Tax****Actuarial assumption sensitivities***The effect of changes in key assumptions on the principal plan*

	HSBC Bank (UK) Pension Scheme	
	2015	2014
	\$m	\$m
<b>Discount rate</b>		
Change in pension obligation at year-end from a 25bps increase	(1,107)	(1,420)
Change in pension obligation at year-end from a 25bps decrease	1,180	1,523
Change in 2016 pension cost from a 25bps increase	(58)	(75)
Change in 2016 pension cost from a 25bps decrease	55	73
<b>Rate of inflation</b>		
Change in pension obligation at year-end from a 25bps increase	747	1,026
Change in pension obligation at year-end from a 25bps decrease	(855)	(1,184)
Change in 2016 pension cost from a 25bps increase	28	44
Change in 2016 pension cost from a 25bps decrease	(31)	(48)
<b>Rate of increase for pensions in payment and deferred pensions</b>		
Change in pension obligation at year-end from a 25bps increase	990	1,188
Change in pension obligation at year-end from a 25bps decrease	(937)	(1,127)
Change in 2016 pension cost from a 25bps increase	37	50
Change in 2016 pension cost from a 25bps decrease	(34)	(45)
<b>Rate of pay increase</b>		
Change in pension obligation at year-end from a 25bps increase	119	237
Change in pension obligation at year-end from a 25bps decrease	(119)	(232)
Change in 2016 pension cost from a 25bps increase	4	12
Change in 2016 pension cost from a 25bps decrease	(4)	(11)
<b>Mortality</b>		
Change in pension obligation from each additional year of longevity assumed	670	768

**HSBC Holdings**

Employee compensation and benefit expense in respect of HSBC Holdings employees in 2015 amounted to \$908m (2014: \$681m). The average number of persons employed during 2015 was 2,656 (2014: 2,070). Employees who are members of defined benefit pension plans are principally members of either the HSBC Bank (UK) Pension Scheme or the HSBC International Staff Retirement Benefits Scheme. HSBC Holdings pays contributions to such plans for its

own employees in accordance with the schedules of contributions determined by the trustees of the plans and recognises these contributions as an expense as they fall due. During 2015, most employees were transferred to the ServCo group (see page 242). Their remuneration and numbers have been included in the narrative above as they have been seconded back to HSBC Holdings on an interim basis.

## Directors' emoluments

Details of directors' emoluments, pensions and their interests are disclosed in the Director Remuneration Report on page 318.

## 7 Auditors' remuneration

	2015 \$m	2014 \$m	2013 \$m
Audit fees payable to PwC/KPMG <sup>1</sup>	62.0	40.6	43.4
Other audit fees payable	1.2	1.2	1.1
<b>Year ended 31 December</b>	<b>63.2</b>	41.8	44.5

<sup>1</sup> PwC became the Group's principal auditor in 2015. KPMG was the principal auditor during 2014. The following fees were payable by HSBC to the Group's principal auditor:

### Fees payable by HSBC to PwC/KPMG<sup>1</sup>

	2015 \$m	2014 \$m	2013 \$m
Fees for HSBC Holdings' statutory audit <sup>2</sup>	13.1	13.4	12.9
relating to current year	13.1	13.4	12.6
relating to prior year			0.3
Fees for other services provided to HSBC	85.1	62.5	67.5
Audit of HSBC's subsidiaries <sup>3</sup>	48.9	27.2	30.5
Audit-related assurance services <sup>4</sup>	16.6	22.6	27.4
Taxation-related services:			
taxation compliance services	1.0	1.5	1.3
taxation advisory services	0.9	0.8	1.3
Other assurance services <sup>5</sup>	2.8	0.7	0.5
Other non-audit services <sup>5</sup>	14.9	9.7	6.5
<b>Year ended 31 December</b>	<b>98.2</b>	75.9	80.4

<sup>1</sup> PwC became the Group's principal auditor in 2015. KPMG was the principal auditor during 2014.



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- 2 Fees payable to KPMG and PwC for the statutory audit of the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings. They include amounts payable for services relating to the consolidation returns of HSBC Holdings subsidiaries which are clearly identifiable as being in support of the Group audit opinion. Excluded from fees are those payable to KPMG related to the transition of the audit to PwC of \$1.2m.
- 3 Fees payable for the statutory audit of the financial statements of HSBC's subsidiaries, including the 2015 changes in scope and additional procedures performed due to the technology systems and data access controls matter.
- 4 Including services for assurance and other services that relate to statutory and regulatory filings, including comfort letters and interim reviews.
- 5 Including other permitted services relating to advisory, corporate finance transactions, etc.
- No fees were payable by HSBC to PwC or KPMG as principal auditor for the following types of services: internal audit services and services related to litigation, recruitment and remuneration.

*Fees payable by HSBC's associated pension schemes to PwC/KPMG<sup>1</sup>*

	<b>2015</b>	2014	2013
	<b>\$000</b>	\$000	\$000
Audit of HSBC's associated pension schemes	<b>352</b>	322	379
Audit related assurance services	<b>5</b>	5	5
<b>Year ended 31 December</b>	<b>357</b>	327	384

1 PwC became the Group's principal auditor in 2015. KPMG was the principal auditor during 2014.

No fees were payable by HSBC's associated pension schemes to PwC or KPMG as principal auditor for the following types of services: audit-related assurance services, internal audit services, other assurance services, services related to corporate finance transactions, valuation and actuarial services, litigation, recruitment and remuneration, and information technology.

In addition to the above, the estimated fees paid to PwC by third parties other than HSBC amount to \$2.4m (KPMG 2014: \$3.6m; KPMG 2013: \$5.3m). In these cases, HSBC is connected with the contracting party and may therefore be involved in appointing PwC. These fees arise from services such as auditing mutual funds managed by HSBC and reviewing the financial position of corporate concerns which borrow from HSBC.

Fees payable for non-audit services for HSBC Holdings are not disclosed separately because such fees are disclosed on a consolidated basis for the HSBC Group.

## 8 Tax

### Accounting policy

Income tax comprises current tax and deferred tax. Income tax is recognised in the income statement except to the extent that it relates to items recognised in other comprehensive income or directly in equity, in which case it is recognised in the same statement in which the related item appears.

Current tax is the tax expected to be payable on the taxable profit for the year, calculated using tax rates enacted or substantively enacted by the balance sheet date, and any adjustment to tax payable in respect of previous years. HSBC provides for potential current tax liabilities that may arise on the basis of the amounts expected to be paid to the tax authorities. Current tax assets and liabilities are offset when HSBC intends to settle on a net basis and the legal right to offset exists.

Deferred tax is recognised on temporary differences between the carrying amounts of assets and liabilities in the balance sheet and the amounts attributed to such assets and liabilities for tax purposes. Deferred tax liabilities are generally recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which deductible temporary differences can be utilised.

Deferred tax is calculated using the tax rates expected to apply in the periods in which the assets will be realised or the liabilities settled, based on tax rates and laws enacted, or substantively enacted, by the balance sheet date. Deferred tax assets and liabilities are offset when they arise in the same tax reporting group and relate to income taxes levied by the same taxation authority, and when HSBC has a legal right to offset.

Deferred tax relating to actuarial gains and losses on post-employment benefits is recognised in other comprehensive income. Deferred tax relating to share-based payment transactions is recognised directly in equity to the extent that the amount of the estimated future tax deduction exceeds the amount of the related cumulative remuneration expense. Deferred tax relating to fair value re-measurements of available-for-sale investments and cash flow hedging instruments is charged or credited directly to other comprehensive income and is subsequently recognised in the income statement when the deferred fair value gain or loss is recognised in the income statement.



## Notes on the Financial Statements (continued)

**8 Tax / 9 Dividends**

## Critical accounting estimates and judgements

**Deferred tax assets**

The recognition of a deferred tax asset relies on an assessment of the probability and sufficiency of future taxable profits, future reversals of existing taxable temporary differences and ongoing tax planning strategies. In the absence of a history of taxable profits, the most significant judgements relate to expected future profitability and to the applicability of tax planning strategies, including corporate reorganisations.

In previous years the US deferred tax recognition relied on capital support from HSBC Holdings plc due to significant losses in the past. The US has been profitable in recent years and the improved performance is expected to continue, so the US deferred tax recognition is now based on projections of future business profits.

## Tax expense

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Current tax			
for this year	<b>3,882</b>	4,477	4,050
adjustments in respect of prior years	<b>(85)</b>	(527)	(109)
	<b>3,797</b>	3,950	3,941
Deferred tax			
origination and reversal of temporary differences	<b>(26)</b>	25	824
effect of changes in tax rates	<b>(153)</b>	(477)	739
	<b>110</b>	83	93

adjustments in respect of prior years	17	419	(8)
<b>Year ended 31 December</b>	<b>3,771</b>	3,975	4,765

1 Current tax included Hong Kong profits tax of \$1,294m (2014: \$1,135m; 2013: \$1,133m). The Hong Kong tax rate applying to the profits of subsidiaries assessable in Hong Kong was 16.5% (2014: 16.5%; 2013: 16.5%). Other overseas subsidiaries and overseas branches provided for taxation at the appropriate rates in the countries in which they operated.

#### Tax reconciliation

The tax charged to the income statement differs from the tax charge that would apply if all profits had been taxed at the UK corporation tax rate as follows:

	2015		2014		2013	
	\$m	%	\$m	%	\$m	%
Profit before tax	18,867		18,680		22,565	
<b>Tax expense</b>						
Tax at 20.25% (2014: 21.5%; 2013: 23.25%)	3,821	20.25	4,016	21.5	5,246	23.25
Effect of differently taxed overseas profits	71	0.4	33	0.2	(177)	(0.8)
Adjustments in respect of prior period liabilities	(68)	(0.4)	(108)	(0.6)	(117)	(0.5)
Deferred tax temporary differences not recognised/(previously not recognised)	(205)	(1.1)	(154)	(0.8)	332	1.5
Effect of profits in associates and joint ventures	(508)	(2.7)	(547)	(2.9)	(543)	(2.4)
Tax effect of disposal of Ping An					(111)	(0.5)
Tax effect of reclassification of Industrial Bank					(317)	(1.4)
Non-taxable income and gains	(728)	(3.9)	(668)	(3.5)	(871)	(3.9)
Permanent disallowables	978	5.2	969	5.1	647	2.9
Change in tax rates	110	0.6	22	0.1	93	0.4
Local taxes and overseas withholding taxes	416	2.2	434	2.3	551	2.4
Other items	(116)	(0.6)	(22)	(0.1)	32	0.1
<b>Year ended 31 December</b>	<b>3,771</b>	<b>20.0</b>	3,975	21.3	4,765	21.1

The Group's profits are taxed at different rates depending on the country in which the profits arise. The key applicable tax rates include Hong Kong (16.5%), USA (35%) and UK (20.25%). If the Group's profits were taxed at the statutory rates of the countries in which the profits arise then the tax rate for the year would have been 20.65%. The effective tax rate for the year was 20.0% (2014: 21.3%) and is in line with expectations. We expect the effective tax rate to increase due to the introduction of the 8% surcharge on UK banking profits in 2016.

Accounting for taxes involves some estimation because the tax law is uncertain and the application requires a degree of judgement, which authorities may dispute. Liabilities are recognised based on best estimates of the probable outcome, taking into account external advice where appropriate. We do not expect significant liabilities to arise in excess of the amounts provided. HSBC only recognises current and deferred tax assets where recovery is probable.

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*Movement of deferred tax assets and liabilities*

	Loan impairment provisions \$m	Unused tax losses and tax credits \$m	Derivatives, FVOD <sup>1</sup> and other investments \$m	Insurance business \$m	Expense provisions \$m	Other \$m	Total \$m
<b>Assets</b>	<b>2,264</b>	<b>1,332</b>	<b>1,764</b>		<b>1,244</b>	<b>836</b>	<b>7,440</b>
<b>Liabilities</b>			<b>(233)</b>	<b>(861)</b>		<b>(759)</b>	<b>(1,853)</b>
<b>At 1 January 2015</b>	<b>2,264</b>	<b>1,332</b>	<b>1,531</b>	<b>(861)</b>	<b>1,244</b>	<b>77</b>	<b>5,587</b>
<b>Income statement</b>	<b>45</b>	<b>379</b>	<b>(557)</b>	<b>(143)</b>	<b>418</b>	<b>(116)</b>	<b>26</b>
<b>Other comprehensive income</b>			<b>22</b>		<b>156</b>	<b>321</b>	<b>499</b>
<b>Equity</b>						<b>4</b>	<b>4</b>
<b>Reclassification to Assets Held for Sale</b>	<b>(673)</b>	<b>(186)</b>	<b>76</b>	<b>87</b>	<b>(386)</b>	<b>(136)</b>	<b>(1,218)</b>
<b>Foreign exchange and other adjustments</b>	<b>(285)</b>	<b>(137)</b>	<b>98</b>	<b>(139)</b>	<b>(161)</b>	<b>17</b>	<b>(607)</b>
<b>At 31 December 2015</b>	<b>1,351</b>	<b>1,388</b>	<b>1,170</b>	<b>(1,056)</b>	<b>1,271</b>	<b>167</b>	<b>4,291</b>
<b>Assets</b>	<b>1,351</b>	<b>1,388</b>	<b>1,400</b>		<b>1,271</b>	<b>1,050</b>	<b>6,460<sup>2</sup></b>
<b>Liabilities</b>			<b>(230)</b>	<b>(1,056)</b>		<b>(883)</b>	<b>(2,169)<sup>2</sup></b>
<b>Assets</b>	<b>2,837</b>	<b>978</b>	<b>1,383</b>		<b>1,398</b>	<b>1,748</b>	<b>8,344</b>



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Liabilities			(213)	(840)		(745)	(1,798)
At 1 January							
2014	2,837	978	1,170	(840)	1,398	1,003	6,546
Income statement	(408)	396	361	(76)	(86)	(212)	(25)
Other comprehensive income			(12)			(680)	(692)
Equity						(20)	(20)
Foreign exchange and other adjustments	(165)	(42)	12	55	(68)	(14)	(222)
At 31 December							
2014	2,264	1,332	1,531	(861)	1,244	77	5,587
Assets	2,264	1,332	1,764		1,244	836	7,440 <sup>2</sup>
Liabilities			(233)	(861)		(759)	(1,853) <sup>2</sup>

1 *Fair value of own debt.*

2 *After netting off balances within countries, the balances as disclosed in the accounts are as follows: deferred tax assets \$6,051m (2014: \$7,111m); and deferred tax liabilities \$1,760m (2014:\$1,524m).*

The net deferred tax asset of \$4.3bn (2014: \$5.6bn) includes \$4.5bn (2014: \$4.1bn) deferred tax assets relating to the US. In applying judgement in recognising deferred tax assets, management has critically assessed all available information, including future business profit projections and the track record of meeting forecasts. On the basis of this assessment, management expects substantially all the US deferred tax assets to be utilised by 2021. The fall in net deferred tax assets since 31 December 2014 is mainly attributable to the reclassification of \$1.2bn Brazilian net deferred tax balances to assets held for sale.

### Unrecognised deferred tax

The amount of temporary differences, unused tax losses and tax credits for which no deferred tax asset is recognised in the balance sheet was \$15.5bn (2014: \$22.6bn). These amounts included unused state losses arising in the Group's US operations of \$11.3bn (2014: \$14.1bn). Of the total amounts unrecognised, \$3.1bn (2014: \$4.2bn) had no expiry date, \$0.9bn (2014: \$0.9bn) was scheduled to expire within 10 years and the remaining is expected to expire after 10 years.

Deferred tax is not recognised in respect of the Group's investments in subsidiaries and branches where HSBC is able to control the timing of remittance or other realisation and where remittance or realisation is not probable in the foreseeable future. The aggregate temporary differences relating to unrecognised deferred tax liabilities arising on investments in subsidiaries and branches is \$9.1bn – the corresponding unrecognised deferred tax liability is \$0.6bn.

## 9 Dividends

*Dividends to shareholders of the parent company*

	2015			2014			2013		
	Per share \$	Total \$m	Settled in scrip \$m	Per share \$	Total \$m	Settled in scrip \$m	Per share \$	Total \$m	Settled in scrip \$m
<b>Dividends paid on ordinary shares</b>									
In respect of previous year:									
fourth interim dividend	<b>0.20</b>	<b>3,845</b>	<b>2,011</b>	0.19	3,582	1,827	0.18	3,339	540
In respect of current year:									
first interim dividend	<b>0.10</b>	<b>1,951</b>	<b>231</b>	0.10	1,906	284	0.10	1,861	167
second interim dividend	<b>0.10</b>	<b>1,956</b>	<b>160</b>	0.10	1,914	372	0.10	1,864	952
third interim dividend	<b>0.10</b>	<b>1,958</b>	<b>760</b>	0.10	1,918	226	0.10	1,873	864
<b>Total</b>	<b>0.50</b>	<b>9,710</b>	<b>3,162</b>	0.49	9,320	2,709	0.48	8,937	2,523
Total dividends on preference shares classified as equity (paid quarterly)	<b>62.00</b>	<b>90</b>		62.00	90		62.00	90	

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## Notes on the Financial Statements (continued)

**9 Dividends / 10 Earnings per share / 11 Segmental analysis***Total coupons on capital securities classified as equity*

	First call date	2015		2014	2013
		Per security	Total \$m	Total \$m	Total \$m
Perpetual subordinated capital securities <sup>1,3</sup>					
\$2,200m	Apr 2013	\$2.032	179	179	179
\$3,800m	Dec 2015	\$2.000	304	304	304
Perpetual subordinated contingent convertible securities <sup>2,3</sup>					
\$2,250m	Sep 2024	\$63.750	143		
\$1,500m	Jan 2020	\$56.250	70		
1,500m	Sep 2022	52.500	86		
\$2,450m	Mar 2025	\$63.750	78		
<b>Total</b>			<b>860</b>	483	483

1 Discretionary coupons are paid quarterly on the perpetual subordinated capital securities, in denominations of \$25 per security.

2 Discretionary coupons are paid semi-annually on the perpetual subordinated contingent convertible securities, in denominations of 1,000 per security.

3 Further details of these securities can be found in Note 35.

The Directors declared after the end of the year a fourth interim dividend in respect of the financial year ended 31 December 2015 of \$0.21 per ordinary share, a distribution of approximately \$4,134m. The fourth interim dividend will be payable on 20 April 2016 to holders of record on 4 March 2016 on the Principal Register in the UK, the Hong Kong or the Bermuda Overseas Branch registers. No liability was recorded in the financial statements in respect of the fourth interim dividend for 2015.

On 15 January 2016, HSBC paid a coupon on the \$2,200m subordinated capital securities of \$0.508 per security, a distribution of \$45m. On 19 January 2016, HSBC paid a coupon on the \$1,500m subordinated contingent convertible securities of \$28.125 per security, a distribution of \$42m. No liability was recorded in the balance sheet at 31 December 2015 in respect of these coupon payments.

In September 2015, HSBC issued a 1,000m subordinated contingent convertible securities as set out in Note 35 which is classified as equity under IFRSs. Coupons are paid semi-annually and to date no payments have fallen due.

**10 Earnings per share**

Basic earnings per ordinary share is calculated by dividing the profit attributable to ordinary shareholders of the parent company by the weighted average number of ordinary shares outstanding, excluding own shares held. Diluted earnings per ordinary share is calculated by dividing the basic earnings, which require no adjustment for the effects of dilutive potential ordinary shares, by the weighted average number of ordinary shares outstanding, excluding own shares held, plus the weighted average number of ordinary shares that would be issued on conversion of dilutive potential ordinary shares.

*Profit attributable to the ordinary shareholders of the parent company*

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Profit attributable to shareholders of the parent company	<b>13,522</b>	13,688	16,204
Dividend payable on preference shares classified as equity	<b>(90)</b>	(90)	(90)
Coupon payable on capital securities classified as equity	<b>(860)</b>	(483)	(483)
<b>Year ended 31 December</b>	<b>12,572</b>	13,115	15,631

*Basic and diluted earnings per share*

	<b>2015</b>			2014			2013		
	<b>Profit</b>	<b>Number</b>	<b>Per</b>	Profit	Number	Per	Profit	Number	Per
	<b>\$m</b>	<b>(millions)</b>	<b>\$</b>	\$m	(millions)	\$	\$m	(millions)	\$
Basic <sup>1</sup>	<b>12,572</b>	<b>19,380</b>	<b>0.65</b>	13,115	18,960	0.69	15,631	18,530	0.84
Effect of dilutive potential ordinary shares		<b>137</b>			96			124	
Diluted <sup>1</sup>	<b>12,572</b>	<b>19,517</b>	<b>0.64</b>	13,115	19,056	0.69	15,631	18,654	0.84

<sup>1</sup> Weighted average number of ordinary shares outstanding (basic) or assuming dilution (diluted).

The weighted average number of dilutive potential ordinary shares excluded 7m employee share options that were anti-dilutive (2014: 6m; 2013: 60m).



## 11 Segmental analysis

### Accounting policy

HSBC has a matrix management structure. HSBC's chief operating decision-maker is the Group Management Board (GMB) which operates as a general management committee under the direct authority of the Board. The GMB regularly reviews operating activity on a number of bases, including by geographical region and by global business. HSBC considers that geographical operating segments represent the most appropriate information for the users of the financial statements to best evaluate the nature and financial effects of the business activities in which HSBC engages, and the economic environments in which it operates. This reflects the importance of geographical factors on business strategy and performance, the allocation of capital resources, and the role of geographical regional management in executing strategy. As a result, HSBC's operating segments are considered to be geographical regions.

Geographical information is classified by the location of the principal operations of the subsidiary or, for The Hongkong and Shanghai Banking Corporation, HSBC Bank plc, HSBC Bank Middle East and HSBC Bank USA, by the location of the branch responsible for reporting the results or providing funding.

Measurement of segmental assets, liabilities, income and expenses is in accordance with the Group's accounting policies. Segmental income and expenses include transfers between segments and these transfers are conducted at arm's length. Shared costs are included in segments on the basis of the actual recharges made. The expense of the UK bank levy is included in the Europe geographical region as HSBC regards the levy as a cost of carrying on business and being headquartered in the UK.

### Products and services

HSBC provides a comprehensive range of banking and related financial services to its customers in its five geographical regions. HSBC's operating segments are Europe, Asia, Middle East and North Africa, North America and Latin America. The products and services offered to customers are organised by global business.

Retail Banking and Wealth Management ( RBWM ) offers a broad range of products and services to meet the personal banking and wealth management needs of individual customers. Typically, customer offerings include personal banking products (current and savings accounts, mortgages and personal loans, credit cards, debit cards and local and international payment services) and wealth management services (insurance and investment products, global asset management services and financial planning services).

Commercial Banking ( CMB ) offers a broad range of products and services to serve the needs of our commercial customers, including small and medium-sized enterprises, mid-market enterprises and corporates. These include credit and lending, international trade and receivables finance, treasury management and liquidity solutions (payments and cash management and commercial cards), commercial insurance and investments. CMB also offers its customers access to products and services offered by other global businesses, for example Global Banking and Markets ( GB&M ), which include foreign exchange products, raising capital on debt and equity markets and advisory services.

GB&M provides tailored financial solutions to major government, corporate and institutional clients and private investors worldwide. The client-focused business lines deliver a full range of banking capabilities including financing, advisory and transaction services, a markets business that provides services in credit, rates, foreign exchange, equities, money markets and securities services, and principal investment activities.

Global Private Banking ( GPB ) provides a range of services to high net worth individuals and families with complex and international needs within the Group s priority markets.

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## Notes on the Financial Statements (continued)

**11 Segmental analysis***Profit/(loss) for the year*

	Europe \$m	Asia \$m	MENA \$m	North America \$m	Latin America \$m	Intra- HSBC items \$m	Total \$m
<b>2015</b>							
Net interest income	10,005	12,184	1,531	4,532	4,318	(39)	32,531
Net fee income	4,891	6,032	633	2,018	1,131		14,705
Net trading income	4,060	3,090	325	545	664	39	8,723
Other income	2,102	3,997	76	562	479	(3,375)	3,841
Net operating income <sup>1</sup>	21,058	25,303	2,565	7,657	6,592	(3,375)	59,800
Loan impairment (charges)/recoveries and other credit risk provisions	(690)	(693)	(299)	(544)	(1,495)		(3,721)
Net operating income	20,368	24,610	2,266	7,113	5,097	(3,375)	56,079
Employee compensation and benefits	(7,872)	(6,105)	(718)	(3,113)	(2,092)		(19,900)
General and administrative expenses	(10,849)	(4,164)	(478)	(3,168)	(2,378)	3,375	(17,662)
Depreciation and impairment of property, plant and equipment	(552)	(410)	(26)	(165)	(116)		(1,269)
Amortisation and impairment of intangible assets	(460)	(210)	(12)	(55)	(200)		(937)
Total operating expenses	(19,733)	(10,889)	(1,234)	(6,501)	(4,786)	3,375	(39,768)
Operating profit	635	13,721	1,032	612	311		16,311
Share of profit in associates and joint ventures	8	2,042	505	2	(1)		2,556
Profit before tax	643	15,763	1,537	614	310		18,867
Tax expense	(1,095)	(2,346)	(336)	80	(74)		(3,771)



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<b>Profit/(loss) for the year</b>	<b>(452)</b>	<b>13,417</b>	<b>1,201</b>	<b>694</b>	<b>236</b>		<b>15,096</b>
2014							
Net interest income	10,611	12,273	1,519	5,015	5,310	(23)	34,705
Net fee income	6,042	5,910	650	1,940	1,415		15,957
Net trading income	2,534	2,622	314	411	856	23	6,760
Other income	2,384	2,872	65	786	691	(2,972)	3,826
Net operating income <sup>1</sup>	21,571	23,677	2,548	8,152	8,272	(2,972)	61,248
Loan impairment (charges)/recoveries and other credit risk provisions	(764)	(647)	6	(322)	(2,124)		(3,851)
Net operating income	20,807	23,030	2,554	7,830	6,148	(2,972)	57,397
Employee compensation and benefits	(8,191)	(5,862)	(676)	(3,072)	(2,565)		(20,366)
General and administrative expenses	(11,076)	(3,959)	(500)	(3,108)	(2,894)	2,972	(18,565)
Depreciation and impairment of property, plant and equipment	(543)	(389)	(28)	(180)	(242)		(1,382)
Amortisation and impairment of intangible assets	(407)	(217)	(12)	(69)	(231)		(936)
Total operating expenses	(20,217)	(10,427)	(1,216)	(6,429)	(5,932)	2,972	(41,249)
Operating profit	590	12,603	1,338	1,401	216		16,148
Share of profit in associates and joint ventures	6	2,022	488	16			2,532
Profit before tax	596	14,625	1,826	1,417	216		18,680
Tax expense	(853)	(2,542)	(339)	(195)	(46)		(3,975)
Profit/(loss) for the year	(257)	12,083	1,487	1,222	170		14,705

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*Profit/(loss) for the year (continued)*

	Europe \$m	Asia \$m	MENA \$m	North America \$m	Latin America \$m	Intra- HSBC items \$m	Total \$m
2013							
Net interest income	10,693	11,432	1,486	5,742	6,186		35,539
Net fee income	6,032	5,936	622	2,143	1,701		16,434
Net trading income	4,423	2,026	357	948	936		8,690
Other income/(expense)	(181)	5,038	38	(30)	1,745	(2,628)	3,982
Net operating income <sup>1</sup>	20,967	24,432	2,503	8,803	10,568	(2,628)	64,645
Loan impairment (charges)/recoveries and other credit risk provisions	(1,530)	(498)	42	(1,197)	(2,666)		(5,849)
Net operating income	19,437	23,934	2,545	7,606	7,902	(2,628)	58,796
Employee compensation and benefits	(7,175)	(5,666)	(634)	(3,098)	(2,623)		(19,196)
General and administrative expenses	(9,479)	(3,660)	(607)	(3,051)	(2,896)	2,628	(17,065)
Depreciation and impairment of property, plant and equipment	(559)	(392)	(35)	(176)	(202)		(1,364)
Amortisation and impairment of intangible assets	(400)	(218)	(13)	(91)	(209)		(931)
Total operating expenses	(17,613)	(9,936)	(1,289)	(6,416)	(5,930)	2,628	(38,556)
Operating profit	1,824	13,998	1,256	1,190	1,972		20,240
Share of profit in associates and joint ventures	1	1,855	438	31			2,325

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Profit before tax	1,825	15,853	1,694	1,221	1,972		22,565
Tax expense	(1,279)	(2,170)	(328)	(313)	(675)		(4,765)
Profit for the year	546	13,683	1,366	908	1,297		17,800

1 Net operating income before loan impairment charges and other credit risk provisions, also referred to as revenue.

*Other information about the profit/(loss) for the year*

	Europe \$m	Asia \$m	MENA \$m	North America \$m	Latin America \$m	Intra- HSBC items \$m	Total \$m
<b>2015</b>							
Net operating income <sup>1</sup>	<b>21,058</b>	<b>25,303</b>	<b>2,565</b>	<b>7,657</b>	<b>6,592</b>	<b>(3,375)</b>	<b>59,800</b>
external	<b>19,778</b>	<b>23,477</b>	<b>2,559</b>	<b>7,386</b>	<b>6,600</b>		<b>59,800</b>
inter-segment	<b>1,280</b>	<b>1,826</b>	<b>6</b>	<b>271</b>	<b>(8)</b>	<b>(3,375)</b>	
Profit for the year							
includes the following significant non-cash items:							
Depreciation, amortisation and impairment	<b>1,013</b>	<b>620</b>	<b>38</b>	<b>195</b>	<b>315</b>		<b>2,181</b>
Loan impairment losses gross of recoveries and other credit risk provisions	<b>1,082</b>	<b>858</b>	<b>331</b>	<b>618</b>	<b>1,641</b>		<b>4,530</b>
Changes in fair value of long-term debt and related derivatives	<b>671</b>	<b>5</b>	<b>6</b>	<b>181</b>			<b>863</b>
<b>2014</b>							
Net operating income <sup>1</sup>	21,571	23,677	2,548	8,152	8,272	(2,972)	61,248
external	20,450	22,071	2,524	7,937	8,266		61,248
inter-segment	1,121	1,606	24	215	6	(2,972)	
Profit for the year							
includes the following significant non-cash items:							
Depreciation, amortisation and impairment	950	606	40	182	473		2,251
Loan impairment losses gross of recoveries and other credit risk provisions	1,066	800	37	437	2,466		4,806

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Changes in fair value of long-term debt and related derivatives	614	(4)	(3)	(99)			508
2013							
Net operating income <sup>1</sup>	20,967	24,432	2,503	8,803	10,568	(2,628)	64,645
external	20,108	22,853	2,497	8,569	10,618		64,645
inter-segment	859	1,579	6	234	(50)	(2,628)	
Profit for the year includes the following significant non-cash items:							
Depreciation, amortisation and impairment	957	610	48	303	412		2,330
Loan impairment losses gross of recoveries and other credit risk provisions	2,165	665	45	1,321	2,949		7,145
Changes in fair value of long-term debt and related derivatives	(936)	(1)	(3)	(288)			(1,228)

<sup>1</sup> Net operating income before loan impairment charges and other credit risk provisions, also referred to as revenue.

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## Notes on the Financial Statements (continued)

**11 Segmental analysis / 12 Trading assets***Balance sheet information*

	Europe \$m	Asia \$m	MENA \$m	North America \$m	Latin America \$m	Intra- HSBC items \$m	Total \$m
<b>At 31 December 2015</b>							
Loans and advances to customers	392,041	356,375	29,894	128,851	17,293		924,454
Interests in associates and joint ventures	198	15,720	3,176	45			19,139
<b>Total assets</b>	<b>1,129,365</b>	<b>889,747</b>	<b>59,236</b>	<b>393,960</b>	<b>86,262</b>	<b>(148,914)</b>	<b>2,409,656</b>
Customer accounts	497,876	598,620	36,468	135,152	21,470		1,289,586
Total liabilities	1,067,127	813,466	49,126	355,506	75,827	(148,914)	2,212,138
Capital expenditure incurred <sup>1</sup>	1,182	725	34	198	187		2,326
<b>At 31 December 2014</b>							
Loans and advances to customers	409,733	362,955	29,063	129,787	43,122		974,660
Interests in associates and joint ventures	175	14,958	2,955	83	10		18,181
<b>Total assets</b>	<b>1,290,926</b>	<b>878,723</b>	<b>62,417</b>	<b>436,859</b>	<b>115,354</b>	<b>(150,140)</b>	<b>2,634,139</b>
Customer accounts	545,959	577,491	39,720	138,884	48,588		1,350,642

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Total liabilities	1,223,371	807,998	52,569	398,356	102,007	(150,140)	2,434,161
Capital expenditure incurred <sup>1</sup>	1,168	637	25	208	348		2,386
At 31 December 2013							
Loans and advances to customers	456,110	336,897	27,211	127,953	43,918		992,089
Interests in associates and joint ventures	169	13,822	2,575	74			16,640
Total assets	1,392,959	831,791	60,810	432,035	113,999	(160,276)	2,671,318
Customer accounts	581,933	548,483	38,683	140,809	51,389		1,361,297
Total liabilities	1,326,537	770,938	50,706	393,635	99,319	(160,276)	2,480,859
Capital expenditure incurred <sup>1</sup>	907	1,236	32	265	385		2,825

1 Expenditure incurred on property, plant and equipment and other intangible assets. Excludes assets acquired as part of business combinations and goodwill.

Other financial information

Net operating income by global business

	RBWM <sup>3</sup> \$m	CMB <sup>3</sup> \$m	GB&M \$m	GPB \$m	Other <sup>1</sup> \$m	Intra-HSBC items \$m	Total \$m
<b>2015</b>							
Net operating income <sup>2</sup>	<b>23,516</b>	<b>14,870</b>	<b>18,233</b>	<b>2,172</b>	<b>7,604</b>	<b>(6,595)</b>	<b>59,800</b>
external	<b>20,941</b>	<b>15,021</b>	<b>20,994</b>	<b>1,888</b>	<b>956</b>		<b>59,800</b>
internal	<b>2,575</b>	<b>(151)</b>	<b>(2,761)</b>	<b>284</b>	<b>6,648</b>	<b>(6,595)</b>	
<b>2014</b>							
Net operating income <sup>2</sup>	25,149	15,748	17,778	2,377	6,365	(6,169)	61,248
external	23,202	16,369	20,055	1,980	(358)		61,248
internal	1,947	(621)	(2,277)	397	6,723	(6,169)	
<b>2013</b>							

Net operating income <sup>2</sup>	27,453	15,652	19,176	2,439	5,651	(5,726)	64,645
external	25,702	16,577	20,767	1,955	(356)		64,645
internal	1,751	(925)	(1,591)	484	6,007	(5,726)	

*Information by country*

	2015		2014		2013	
	External net operating income <sup>2,4</sup>	Non-current assets <sup>5</sup>	External net operating income <sup>2,4</sup>	Non-current assets <sup>5</sup>	External net operating income <sup>2,4</sup>	Non-current assets <sup>5</sup>
	\$m	\$m	\$m	\$m	\$m	\$m
UK	14,132	7,581	14,392	8,671	13,347	17,481
Hong Kong	14,447	10,979	12,656	12,376	12,031	12,170
USA	5,541	4,066	5,736	5,685	6,121	4,189
France	2,706	9,326	2,538	10,301	3,111	11,565
Brazil	3,546	28	4,817	1,403	5,364	1,715
Other countries	19,428	27,503	21,109	28,273	24,671	27,879
<b>Year ended/at 31 December</b>	<b>59,800</b>	<b>59,483</b>	<b>61,248</b>	<b>66,709</b>	<b>64,645</b>	<b>74,999</b>

1 The main items reported in *Other* are certain property activities, unallocated investment activities, centrally held investment companies, movements in fair value of own debt and HSBC's holding company and financing operations. *Other* also includes gains and losses on the disposal of certain significant subsidiaries or business units.

2 Net operating income before loan impairment charges and other credit risk provisions, also referred to as revenue.

3 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.

4 External net operating income is attributed to countries on the basis of the location of the branch responsible for reporting the results or advancing the funds.

5 Non-current assets consist of property, plant and equipment, goodwill, other intangible assets, interests in associates and joint ventures and certain other assets expected to be recovered more than 12 months after the reporting period.

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## 12 Trading assets

### Accounting policy

Financial assets are classified as held for trading if they have been acquired principally for the purpose of selling 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. They are recognised on trade date, when HSBC enters into contractual arrangements with counterparties, and are normally derecognised when sold. They are initially measured at fair value, with transaction costs taken to the income statement. Subsequent changes in their fair values and interest are recognised in the income statement in Net trading income .

### Trading assets

	2015 \$m	2014 \$m
Trading assets:		
not subject to repledge or resale by counterparties	192,204	247,586
which may be repledged or resold by counterparties	32,633	56,607
<b>At 31 December</b>	<b>224,837</b>	<b>304,193</b>
Treasury and other eligible bills	7,829	16,170
Debt securities	99,038	141,532
Equity securities	66,491	75,249
Trading securities at fair value	173,358	232,951
Loans and advances to banks <sup>1</sup>	22,303	27,581
Loans and advances to customers <sup>1</sup>	29,176	43,661
<b>At 31 December</b>	<b>224,837</b>	<b>304,193</b>



Loans and advances to banks and customers include settlement accounts, stock borrowing, reverse repos and other amounts.

*Trading securities valued at fair value<sup>1</sup>*

	2015 \$m	2014 \$m
US Treasury and US Government agencies <sup>2</sup>	14,833	25,880
UK Government	10,177	9,280
Hong Kong Government	6,495	6,946
Other government	48,567	78,774
Asset-backed securities <sup>3</sup>	3,135	3,494
Corporate debt and other securities	23,660	33,328
Equity securities	66,491	75,249
<b>At 31 December</b>	<b>173,358</b>	<b>232,951</b>

1 Included within these figures are debt securities issued by banks and other financial institutions of \$16,403m (2014: \$22,399m), of which \$1,034m (2014: \$2,949m) are guaranteed by various governments.

2 Includes securities that are supported by an explicit guarantee issued by the US Government.

3 Excludes asset-backed securities included under US Treasury and US Government agencies.

*Trading securities listed on a recognised exchange and unlisted*

	Treasury			Total \$m
	and other eligible bills \$m	Debt securities \$m	Equity securities \$m	
Fair value				
Listed <sup>1</sup>	295	71,184	66,152	137,631
Unlisted <sup>2</sup>	7,534	27,854	339	35,727
<b>At 31 December 2015</b>	<b>7,829</b>	<b>99,038</b>	<b>66,491</b>	<b>173,358</b>
Fair value				
Listed <sup>1</sup>	1,311	98,028	74,542	173,881
Unlisted <sup>2</sup>	14,859	43,504	707	59,070
At 31 December 2014	16,170	141,532	75,249	232,951

1 Included within listed investments are \$5,722m (2014: \$5,956m) of securities listed in Hong Kong.

2 Unlisted treasury and other eligible bills primarily comprise treasury bills not listed on an exchange but for which there is a liquid market.



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Notes on the Financial Statements (continued)

**13 Fair values of financial instruments carried at fair value**

**13 Fair values of financial instruments carried at fair value**

Accounting policy

All financial instruments are recognised initially at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of a financial instrument on initial recognition is generally its transaction price (that is, the fair value of the consideration given or received). However, sometimes the fair value will be based on other observable current market transactions in the same instrument, without modification or repackaging, or on a valuation technique whose variables include only data from observable markets, such as interest rate yield curves, option volatilities and currency rates. When such evidence exists, HSBC recognises a trading gain or loss at inception ( day 1 gain or loss ), being the difference between the transaction price and the fair value. When significant unobservable parameters are used, the entire day 1 gain or loss is deferred and is recognised in the income statement over the life of the transaction until the transaction matures or is closed out, the valuation inputs become observable or HSBC enters into an offsetting transaction.

The fair value of financial instruments is generally measured on an individual basis. However, in cases where HSBC manages a group of financial assets and liabilities according to its net market or credit risk exposure, the fair value of the group of financial instruments is measured on a net basis but the underlying financial assets and liabilities are presented separately in the financial statements, unless they satisfy the IFRSs offsetting criteria as described in Note 32.

Critical accounting estimates and judgements

Valuation of financial instruments

The best evidence of fair value is a quoted price in an actively traded principal market. The fair values of financial instruments that are quoted in active markets are based on bid prices for assets held and offer prices for liabilities issued. When a financial instrument has a quoted price in an active market, the fair value of the total holding of the financial instrument is calculated as the product of the number of units and the quoted price. The judgement as to whether a market is active may include, but is not restricted to, consideration of factors such as the magnitude and frequency of trading activity, the availability of prices and the size of bid/offer spreads. The bid/offer spread represents the difference in prices at which a market participant would be willing to buy compared with the price at which they would be willing to sell. Valuation techniques may incorporate assumptions about factors that other market participants would use in their valuations, including:

- the likelihood and expected timing of future cash flows on the instrument. Judgement may be required to assess the counterparty's ability to service the instrument in accordance with its contractual terms. Future cash flows may be sensitive to changes in market rates;

- selecting an appropriate discount rate for the instrument. Judgement is required to assess what a market participant would regard as the appropriate spread of the rate for an instrument over the appropriate risk-free rate; and

- judgement to determine what model to use to calculate fair value in areas where the choice of valuation model is particularly subjective, for example, when valuing complex derivative products.

A range of valuation techniques is employed, dependent on the instrument type and available market data. Most valuation techniques are based upon discounted cash flow analyses, in which expected future cash flows are calculated and discounted to present value using a discounting curve. Prior to considering credit risk, the expected future cash flows may be known, as would be the case for the fixed leg of an interest rate swap, or may be uncertain and require projection, as would be the case for the floating leg of an interest rate swap. Projection utilises market forward curves, if available. In option models, the probability of different potential future outcomes must be considered. In addition, the value of some products is dependent on more than one market factor, and in these cases it will typically be necessary to consider how movements in one market factor may affect the other market factors. The model inputs necessary to perform such calculations include interest rate yield curves, exchange rates, volatilities, correlations and prepayment and default rates. For interest rate derivatives with collateralised counterparties and in significant currencies, HSBC uses a discounting curve that reflects the overnight interest rate.

The majority of valuation techniques employ only observable market data. However, certain financial instruments are valued on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them the measurement of fair value is more judgemental. An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's inception profit or greater than 5% of the instrument's valuation is driven by unobservable inputs. Unobservable in this context means that there is little or no current market data available from which to determine the price at which an arm's length transaction would be likely to occur. It generally does not mean that there is no

data available at all upon which to base a determination of fair value (consensus pricing data may, for example, be used).

### Control framework

Fair values are subject to a control framework designed to ensure that they are either determined or validated by a function independent of the risk taker.

For all financial instruments where fair values are determined by reference to externally quoted prices or observable pricing inputs to models, independent price determination or validation is utilised. In inactive markets HSBC will source alternative market information to validate the financial instrument's fair value, with greater weight given to information that is considered to be more relevant and reliable. The factors that are considered in this regard are, *inter alia*:

- the extent to which prices may be expected to represent genuine traded or tradeable prices;
- the degree of similarity between financial instruments;
- the degree of consistency between different sources;
- the process followed by the pricing provider to derive the data;
- the elapsed time between the date to which the market data relates and the balance sheet date; and
- the manner in which the data was sourced.

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For fair values determined using valuation models, the control framework may include, as applicable, development or validation by independent support functions of (i) the logic within valuation models; (ii) the inputs to these models; (iii) any adjustments required outside the valuation models; and (iv) where possible, model outputs. Valuation models are subject to a process of due diligence and calibration before becoming operational and are calibrated against external market data on an ongoing basis.

Changes in fair value are generally subject to a profit and loss analysis process. This process disaggregates changes in fair value into three high level categories; (i) portfolio changes, such as new transactions or maturing transactions, (ii) market movements, such as changes in foreign exchange rates or equity prices, and (iii) other, such as changes in fair value adjustments (see further below).

The majority of financial instruments measured at fair value are in GB&M. GB&M's fair value governance structure is illustrated below as an example:

### **Financial liabilities measured at fair value**

In certain circumstances, HSBC records its own debt in issue at fair value, based on quoted prices in an active market for the specific instrument concerned, where available. An example of this is where own debt in issue is hedged with interest rate derivatives. When quoted market prices are unavailable, the own debt in issue is valued using valuation techniques, the inputs for which are either based upon quoted prices in an inactive market for the instrument or are estimated by comparison with quoted prices in an active market for similar instruments. In both cases, the fair value includes the effect of applying the credit spread which is appropriate to HSBC's liabilities. The change in fair value of issued debt securities attributable to the Group's own credit spread is computed as follows: for each security at each reporting date, an externally verifiable price is obtained or a price is derived using credit spreads for similar securities for the same issuer. Then, using discounted cash flow, each security is valued using a Libor-based discount curve. The difference in the valuations is attributable to the Group's own credit spread. This methodology is applied consistently across all securities.

Structured notes issued and certain other hybrid instrument liabilities are included within trading liabilities and are measured at fair value. The credit spread applied to these instruments is derived from the spreads at which HSBC issues structured notes.

Gains and losses arising from changes in the credit spread of liabilities issued by HSBC reverse over the contractual life of the debt, provided that the debt is not repaid at a premium or a discount.

**Fair value hierarchy**

Fair values of financial assets and liabilities are determined according to the following hierarchy:

*Level 1 valuation technique using quoted market price:* financial instruments with quoted prices for identical instruments in active markets that HSBC can access at the measurement date.

*Level 2 valuation technique using observable inputs:* financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or similar instruments in inactive markets and financial instruments valued using models where all significant inputs are observable.

*Level 3 valuation technique with significant unobservable inputs:* financial instruments valued using valuation techniques where one or more significant inputs are unobservable.

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## Notes on the Financial Statements (continued)

**13 Fair values of financial instruments carried at fair value**

The following table sets out the financial instruments by fair value hierarchy.

*Financial instruments carried at fair value and bases of valuation*

	Valuation techniques			Total \$m
	Quoted market price Level 1 \$m	Using observable inputs Level 2 \$m	With significant unobservable inputs Level 3 \$m	
<b>Recurring fair value measurements at 31 December 2015</b>				
Assets				
Trading assets	133,095	84,886	6,856	224,837
Financial assets designated at fair value	18,947	4,431	474	23,852
Derivatives	1,922	284,292	2,262	288,476
Financial investments: available for sale	262,929	117,197	4,727	384,853
Liabilities				
Trading liabilities	41,462	95,867	4,285	141,614
Financial liabilities designated at fair value	5,260	61,145	3	66,408
Derivatives	2,243	277,618	1,210	281,071
<b>Recurring fair value measurements at 31 December 2014</b>				
Assets				
Trading assets	180,446	117,279	6,468	304,193
Financial assets designated at fair value	23,697	4,614	726	29,037
Derivatives	4,366	337,718	2,924	345,008
Financial investments: available for sale	241,464	131,264	4,988	377,716
Liabilities				
Trading liabilities	62,385	122,048	6,139	190,572
Financial liabilities designated at fair value	3,792	72,361		76,153
Derivatives	4,649	334,113	1,907	340,669



The decrease in Level 1 and Level 2 trading assets and liabilities during the period reflects a decrease in inventory across a wide range of securities. The decrease in Level 2 derivative assets and liabilities is driven by participation in portfolio compression exercises and market movement.

*Transfers between Level 1 and Level 2 fair values*

	Assets Designated at fair value				Liabilities Designated at fair value			
	Available for sale	through		Available for sale	through			
	\$m	Held for trading	profit or loss	\$m	Held for trading	profit or loss	Derivatives	
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	
<b>At 31 December 2015</b>								
Transfers from Level 1 to Level 2		67		56	1,563	857	100	
Transfers from Level 2 to Level 1		487		2	515	2		
<b>At 31 December 2014</b>								
Transfers from Level 1 to Level 2	2,702	18,149			22,964			
Transfers from Level 2 to Level 1								

*Fair value adjustments*

Fair value adjustments are adopted when HSBC considers that there are additional factors that would be considered by a market participant which are not incorporated within the valuation model. HSBC classifies fair value adjustments as either risk-related or model-related. The majority of these adjustments relate to GB&M.

Movements in the level of fair value adjustments do not necessarily result in the recognition of profits or losses within the income statement. For example, as models are enhanced, fair value adjustments may no longer be required. Similarly, fair value adjustments will decrease when the related positions are unwound, but this may not result in profit or loss.

*Global Banking and Markets fair value adjustments*

<b>Type of adjustment</b>	<b>2015</b>	2014
	<b>\$m</b>	\$m
Risk-related	<b>1,402</b>	1,958
bid-offer	<b>477</b>	539
uncertainty	<b>95</b>	357
credit valuation adjustment	<b>853</b>	871
debit valuation adjustment	<b>(465)</b>	(270)
funding fair value adjustment	<b>442</b>	460
other	<b>0</b>	1
Model-related	<b>97</b>	57
model limitation	<b>92</b>	52
other	<b>5</b>	5
Inception profit (Day 1 P&L reserves) (Note 16)	<b>97</b>	114
<b>At 31 December</b>	<b>1,596</b>	2,129

Fair value adjustments declined by \$533m during the year. The most significant movement was a decline of \$262m in respect of the uncertainty category, driven by the reclassification to model limitation of an adjustment relating to derivative discounting assumptions. This adjustment reduced significantly following contract renegotiations with certain counterparties. The debit valuation adjustment increased by \$195m as a result of the widening of HSBC's credit spreads.

**Risk-related adjustments****Bid-offer**

IFRS 13 Fair value measurement requires use of the price within the bid-offer spread that is most representative of fair value. Valuation models will typically generate mid-market values. The bid-offer adjustment reflects the extent to which bid-offer costs would be incurred if substantially all residual net portfolio market risks were closed using available hedging instruments or by disposing of or unwinding the position.

**Uncertainty**

Certain model inputs may be less readily determinable from market data, and/or the choice of model itself may be more subjective. In these circumstances, there exists a range of possible values that the financial instrument or

market parameter may assume and an adjustment may be necessary to reflect the likelihood that in estimating the fair value of the financial instrument, market participants would adopt more conservative values for uncertain parameters and/or model assumptions than those used in the valuation model.

#### **Credit valuation adjustment**

The CVA is an adjustment to the valuation of over-the-counter ( OTC ) derivative contracts to reflect within fair value the possibility that the counterparty may default and that HSBC may not receive the full market value of the transactions (see below).

#### **Debit valuation adjustment**

The DVA is an adjustment to the valuation of OTC derivative contracts to reflect within fair value the possibility that HSBC may default, and that HSBC may not pay full market value of the transactions (see below).

#### **Funding fair value adjustment**

The funding fair value adjustment ( FFVA ) is calculated by applying future market funding spreads to the expected future funding exposure of any uncollateralised component of the OTC derivative portfolio. This includes the uncollateralised component of collateralised derivatives in addition to derivatives that are fully uncollateralised. The expected future funding exposure is calculated by a simulation methodology, where available. The expected future funding exposure is adjusted for events that may terminate the exposure such as the default of HSBC or the counterparty. The FFVA and DVA are calculated independently.

#### **Model-related adjustments**

##### **Model limitation**

Models used for portfolio valuation purposes may be based upon a simplifying set of assumptions that do not capture all material market characteristics. Additionally, markets evolve, and models that were adequate in the past may require development to capture all material market characteristics in current market conditions. In these circumstances, model limitation adjustments are adopted. As model development progresses, model limitations are addressed within the valuation models and a model limitation adjustment is no longer needed.

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**Notes on the Financial Statements** (continued)**13 Fair values of financial instruments carried at fair value****Inception profit (Day 1 P&L reserves)**

Inception profit adjustments are adopted when the fair value estimated by a valuation model is based on one or more significant unobservable inputs. The accounting for inception profit adjustments is discussed on page 378.

**Credit valuation adjustment/debit valuation adjustment methodology**

HSBC calculates a separate CVA and DVA for each HSBC legal entity, and within each entity for each counterparty to which the entity has exposure. HSBC calculates the CVA by applying the probability of default ( PD ) of the counterparty, conditional on the non-default of HSBC, to HSBC's expected positive exposure to the counterparty and multiplying the result by the loss expected in the event of default. Conversely, HSBC calculates the DVA by applying the PD of HSBC, conditional on the non-default of the counterparty, to the expected positive exposure of the counterparty to HSBC and multiplying the result by the loss expected in the event of default. Both calculations are performed over the life of the potential exposure.

For most products HSBC uses a simulation methodology to calculate the expected positive exposure to a counterparty. This incorporates a range of potential exposures across the portfolio of transactions with the counterparty over the life of the portfolio. The simulation methodology includes credit mitigants such as counterparty netting agreements and collateral agreements with the counterparty.

For certain types of exotic derivatives where the products are not currently supported by the simulation, or for derivative exposures in smaller trading locations where the simulation tool is not yet available, HSBC adopts alternative methodologies.

The methodologies do not, in general, account for wrong-way risk. Wrong-way risk arises when the underlying value of the derivative prior to any CVA is positively correlated to the probability of default by the counterparty. When there is significant wrong-way risk, a trade-specific approach is applied to reflect the wrong-way risk within the valuation.

With the exception of certain central clearing parties, we include all third-party counterparties in the CVA and DVA calculations and do not net these adjustments across Group entities. We review and refine the CVA and DVA methodologies on an ongoing basis.

**Fair value valuation bases**

*Financial instruments measured at fair value using a valuation technique with significant unobservable inputs* Level 3

	Available		Assets			Liabilities			
	for sale \$m	Held for trading \$m	At fair value <sup>1</sup> \$m	Deriva- tives \$m	Total \$m	Held for trading \$m	At fair value <sup>1</sup> \$m	Deriva- tives \$m	Total \$m
Private equity including strategic investments	3,443	55	453		3,951	35			35
Asset-backed securities	1,053	531			1,584				
Loans held for securitisation		30			30				
Structured notes		4			4	4,250			4,250
Derivatives with monolines				196	196				
Other derivatives				2,066	2,066			1,210	1,210
Other portfolios	231	6,236	21		6,488		3		3
<b>At 31 December 2015</b>	<b>4,727</b>	<b>6,856</b>	<b>474</b>	<b>2,262</b>	<b>14,319</b>	<b>4,285</b>	<b>3</b>	<b>1,210</b>	<b>5,498</b>
Private equity including strategic investments	3,120	164	432		3,716	47			47
Asset-backed securities	1,462	616			2,078				
Loans held for securitisation		39			39				
Structured notes		2			2	6,092			6,092
Derivatives with monolines				239	239			1	1
Other derivatives				2,685	2,685			1,906	1,906
Other portfolios	406	5,647	294		6,347				
<b>At 31 December 2014</b>	<b>4,988</b>	<b>6,468</b>	<b>726</b>	<b>2,924</b>	<b>15,106</b>	<b>6,139</b>		<b>1,907</b>	<b>8,046</b>

1 Designated at fair value through profit or loss.

Level 3 instruments are present in both ongoing and legacy businesses. Loans held for securitisation, derivatives with monolines, certain other derivatives and predominantly all Level 3 ABSs are legacy positions. HSBC has the capability to hold these positions.

### Private equity including strategic investments

HSBC's private equity and strategic investments are generally classified as available for sale and are not traded in active markets. In the absence of an active market, an investment's fair value is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects and other factors, as well as by reference to market valuations for similar entities quoted in an active market, or the price at which similar companies have changed ownership.

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### **Asset-backed securities**

While quoted market prices are generally used to determine the fair value of these securities, valuation models are used to substantiate the reliability of the limited market data available and to identify whether any adjustments to quoted market prices are required. For ABSs including residential mortgage-backed securities, the valuation uses an industry standard model and the assumptions relating to prepayment speeds, default rates and loss severity based on collateral type, and performance, as appropriate. The valuations output is benchmarked for consistency against observable data for securities of a similar nature.

### **Loans, including leveraged finance and loans held for securitisation**

Loans held at fair value are valued from broker quotes and/or market data consensus providers when available. In the absence of an observable market, the fair value is determined using alternative valuation techniques. These techniques include discounted cash flow models, which incorporate assumptions regarding an appropriate credit spread for the loan, derived from other market instruments issued by the same or comparable entities.

### **Structured notes**

The fair value of structured notes valued using a valuation technique with significant unobservable inputs is derived from the fair value of the underlying debt security, and the fair value of the embedded derivative is determined as described in the paragraph below on derivatives.

Level 3 structured notes principally comprise equity-linked notes which are issued by HSBC and provide the counterparty with a return that is linked to the performance of certain equity securities, and other portfolios. The notes are classified as Level 3 due to the unobservability of parameters such as long-dated equity volatilities and correlations between equity prices, between equity prices and interest rates and between interest rates and foreign exchange rates.

### **Derivatives**

OTC (i.e. non-exchange traded) derivatives are valued using valuation models. Valuation models calculate the present value of expected future cash flows, based upon no-arbitrage principles. For many vanilla derivative products, such as interest rate swaps and European options, the modelling approaches used are standard across the industry. For more complex derivative products, there may be some differences in market practice. Inputs to valuation models are determined from observable market data wherever possible, including prices available from exchanges, dealers, brokers or providers of consensus pricing. Certain inputs may not be observable in the market directly, but can be determined from observable prices via model calibration procedures or estimated from historical data or other sources. Examples of inputs that may be unobservable include volatility surfaces, in whole or in part, for less commonly traded

option products, and correlations between market factors such as foreign exchange rates, interest rates and equity prices.

Derivative products valued using valuation techniques with significant unobservable inputs include certain types of correlation products, such as foreign exchange basket options, equity basket options, foreign exchange interest rate hybrid transactions and long-dated option transactions. Examples of the latter are equity options, interest rate and foreign exchange options and certain credit derivatives. Credit derivatives include certain tranching CDS transactions.

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## Notes on the Financial Statements (continued)

**13 Fair values of financial instruments carried at fair value****Reconciliation of fair value measurements in Level 3 of the fair value hierarchy**

The following table provides a reconciliation of the movement between opening and closing balances of Level 3 financial instruments, measured at fair value using a valuation technique with significant unobservable inputs:

*Movement in Level 3 financial instruments*

	Assets Designated at fair value				Liabilities		
	Available for sale \$m	Held for trading \$m	through profit or loss \$m	Derivatives \$m	Designated at fair value Held for trading \$m	through profit or loss \$m	Derivatives \$m
At 1 January 2015	4,988	6,468	726	2,924	6,139		1,907
Total gains/(losses) recognised in profit or loss trading income/(expense) excluding net interest income	(34)	109	30	95	(573)	(1)	(209)
net income from other financial instruments designated at fair value gains less losses from financial investments	(269)	109	30		(573)	(1)	(209)
loan impairment charges and other credit risk provisions	235						
Total gains/(losses) recognised in other comprehensive income <sup>1</sup>	226	(192)	(11)	(126)	(118)	(1)	(64)
	393						

available-for-sale investments:							
fair value gains				(4)			
cash flow hedges: fair value gains/(losses)				(122)	(118)	(1)	(64)
exchange differences	(167)	(192)	(11)				
Purchases	594	1,745	250		2	9	
New issuances					1,471		
Sales	(757)	(1,206)	(50)		(66)	(4)	
Settlements	(32)	(146)	(135)	(38)	(1,260)		(241)
Transfers out	(1,471)	(206)	(336)	(1,015)	(1,743)		(283)
Transfers in	1,213	284		422	433		100
<b>At 31 December 2015</b>	<b>4,727</b>	<b>6,856</b>	<b>474</b>	<b>2,262</b>	<b>4,285</b>	<b>3</b>	<b>1,210</b>
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 December 2015	235	(9)	12	89	384	(1)	267
trading income/(expense) excluding net interest income		(9)		89	384		267
net income/(expense) from other financial instruments designated at fair value			12			(1)	
loan impairment charges and other credit risk provisions	235						

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	Assets				Liabilities Designated		
	Available for sale	Held for trading	Designated at fair value through profit or loss	Derivatives	Held for trading	at fair value through profit or loss	Derivatives
	\$m	\$m	\$m	\$m	\$m	\$m	\$m
At 1 January 2014	7,245	5,347	608	2,502	7,514		2,335
Total gains/(losses) recognised in profit or loss trading income/(expense) excluding net interest income net income from other financial instruments designated at fair value gains less losses from financial investments loan impairment charges and other credit risk provisions	174	194	56	959	(25)		(5)
Total gains/(losses) recognised in other comprehensive income <sup>1</sup> available-for-sale investments: fair value gains/(losses) cash flow hedges: fair value gains/(losses) exchange differences	126	(178)	(16)	(126)	(123)		54
Purchases	208						
New issuances				(9)			34
Sales	(82)	(178)	(16)	(117)	(123)		20
Settlements	1,505	705	273		(31)		
	(1,237)	(481)	(149)		2,067		
	(1,255)	(49)	(78)	27	(1,655)		(69)

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Transfers out	(3,027)	(112)		(544)	(1,918)	(527)
Transfers in	1,457	1,042	32	106	310	119
At 31 December 2014	4,988	6,468	726	2,924	6,139	1,907
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 December 2014	(24)	1	46	946	(122)	134
trading income/(expense) excluding net interest income		1		946	(122)	134
net income from other financial instruments designated at fair value			46			
loan impairment charges and other credit risk provisions	(24)					

1 *Included in Available-for-sale investments: fair value gains/(losses) and Exchange differences in the consolidated statement of comprehensive income.*

In 2015 movement of Level 3 available-for-sale assets are driven by ABS activity, predominantly in the securities investment conduits. Transfers out of Level 3 available-for-sale assets demonstrates increased confidence in pricing and price coverage, and transfers in reflect limited availability of third-party prices. Increase in Level 3 held for trading assets is driven by an increase in recently-issued syndicated loans. The decline in Level 3 held for trading liabilities reflects a decline in the outstanding balance of Level 3 equity-linked notes, both as a result of market movement and reduced issuance. The decline in Level 3 derivative assets and liabilities reflects market movement.

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## Notes on the Financial Statements (continued)

**13 Fair values of financial instruments carried at fair value**

## Effect of changes in significant unobservable assumptions to reasonably possible alternatives

*Sensitivity of Level 3 fair values to reasonably possible alternative assumptions*

	Reflected in		Reflected in	
	profit or loss		other comprehensive income	
	Favourable	Unfavourable	Favourable	Unfavourable
	changes	changes	changes	changes
	\$m	\$m	\$m	\$m
Derivatives, trading assets and trading liabilities <sup>1</sup>	335	(215)		
Financial assets and liabilities designated at fair value	24	(24)		
Financial investments: available for sale	35	(30)	230	(243)
<b>At 31 December 2015</b>	<b>394</b>	<b>(269)</b>	<b>230</b>	<b>(243)</b>
Derivatives, trading assets and trading liabilities <sup>1</sup>	296	(276)		
Financial assets and liabilities designated at fair value	37	(47)		
Financial investments: available for sale	51	(67)	270	(350)
At 31 December 2014	384	(390)	270	(350)

1 Derivatives, trading assets and trading liabilities are presented as one category to reflect the manner in which these financial instruments are risk managed.

The effect of favourable changes is broadly unchanged over the period. The decrease in the effect of unfavourable changes reflects increased price certainty in respect of private equity and certain legacy funding structures, offset by greater syndicated loan uncertainty as a result of the increased Level 3 balance.

*Sensitivity of fair values to reasonably possible alternative assumptions by Level 3 instrument type*

	Reflected in profit or loss		Reflected in other comprehensive income	
	Favourable	Unfavourable	Favourable	Unfavourable
	changes \$m	changes \$m	changes \$m	changes \$m
Private equity including strategic investments	54	(53)	152	(171)
Asset-backed securities	18	(12)	57	(51)
Loans held for securitisation	1	(1)		
Structured notes	15	(11)		
Derivatives with monolines	11	(11)		
Other derivatives	179	(87)		
Other portfolios	116	(94)	21	(21)
<b>At 31 December 2015</b>	<b>394</b>	<b>(269)</b>	<b>230</b>	<b>(243)</b>
Private equity including strategic investments	77	(110)	172	(255)
Asset-backed securities	49	(22)	60	(55)
Loans held for securitisation	1	(1)		
Structured notes	14	(9)		
Derivatives with monolines	11	(11)		
Other derivatives	129	(155)		
Other portfolios	103	(82)	38	(40)
At 31 December 2014	384	(390)	270	(350)

Favourable and unfavourable changes are determined on the basis of sensitivity analysis. The sensitivity analysis aims to measure a range of fair values consistent with the application of a 95% confidence interval. Methodologies take account of the nature of the valuation technique employed, as well as the availability and reliability of observable proxy and historical data. When the available data is not amenable to statistical analysis, the quantification of uncertainty is judgemental, but remains guided by the 95% confidence interval.

When the fair value of a financial instrument is affected by more than one unobservable assumption, the above table reflects the most favourable or the most unfavourable change from varying the assumptions individually.

### Key unobservable inputs to Level 3 financial instruments

The table below lists key unobservable inputs to Level 3 financial instruments, and provides the range of those inputs as at 31 December 2015. The core range of inputs is the estimated range within which 90% of the inputs fall. A further description of the categories of key unobservable inputs is given below.

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*Quantitative information about significant unobservable inputs in Level 3 valuations*

	Fair value		Valuation technique	Key unobservable inputs	Full range of inputs		Core range of inputs		
	Assets \$m	Liabilities \$m			Lower	Higher	Lower	Higher	
Private equity including strategic investments	3,951	35	See notes on page 389	See notes on page 389	n/a	n/a	n/a	n/a	
Asset-backed securities	1,584								
CLO/CDØ	511			Prepayment	1%				
			Model	Discounted cash flow rate		6%	1%	6%	
			Market proxy	Bid quotes	3	147	54	117	
Other ABSs	1,073								
Loans held for securitisation	30								
Structured notes	4	4,250							
equity-linked notes		3,719	Model	Option model	Equity volatility	12%	72%	19%	43%
			Model	Option model	Equity correlation	35%	93%	43%	79%
fund-linked notes		13	Model	Option model	Fund volatility	6%	8%	6%	8%
FX-linked notes		166	Model	Option model	FX volatility	5%	35%	5%	20%
other	4	352							
Derivatives with monolines	196		Model	Discounted cash flow	Credit spread	4%	4%	4%	4%
Other derivatives	2,066	1,210							

Interest rate derivatives:									
securitisation									
swaps	250	455	Model	Discounted cash flow	Prepayment	0%	90%	14%	71%
long-dated									
swaptions	1,237	119	Model	Option model	IR volatility	3%	66%	20%	41%
other	176	65							
FX derivatives:									
FX options	180	186	Model	Option model	FX volatility	0.5%	35%	5%	14%
other	10	5							
Equity derivatives:									
long-dated									
single stock									
options	135	191	Model	Option model	Equity volatility	8%	104%	18%	44%
other	39	170							
Credit derivatives:									
other	39	19							
Other portfolios	6,488	3							
structured									
certificates	4,434		Model	Discounted cash flow	Credit volatility	2%	4%	2%	4%
EM corporate									
debt	210								
other	1,844	3	Market proxy		Bid quotes	70	124	100	123
At 31 December 2015	14,319	5,498							

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## Notes on the Financial Statements (continued)

**13 Fair values of financial instruments carried at fair value***Quantitative information about significant unobservable inputs in Level 3 valuations (continued)*

	Fair value		Valuation technique	Key unobservable inputs	Full range of inputs		Core range of inputs		
	Assets \$m	Liabilities \$m			Lower	Higher	Lower	Higher	
Private equity including strategic investments	3,716	47	See notes on page 389	See notes on page 389	n/a	n/a	n/a	n/a	
Asset-backed securities	2,078								
CLO/CDO	1,122			Prepayment rate	1%				
			Model	Discounted cash flow		6%	1%	6%	
			Market proxy	Bid quotes	0	100	54	85	
Other ABSs	956								
Loans held for securitisation	39								
Structured notes	2	6,092							
equity-linked notes		4,744	Model	Option model	Equity volatility	0.2%	65%	18%	38%
			Model	Option model	Equity correlation	27%	92%	44%	79%
fund-linked notes		562	Model	Option model	Fund volatility	6%	8%	6%	8%
FX-linked notes	2	477	Model	Option model	FX volatility	2%	70%	4%	16%
other		309							
Derivatives with monolines	239	1	Model	Discounted cash flow	Credit spread	3%	5%	4%	4%
	2,685	1,906							

Other derivatives									
Interest rate derivatives:									
securitisation					Prepayment				
swaps	449	1,023	Model	Discounted cash flowrate		0%	50%	6%	18%
long-dated									
swaptions	1,044	152	Model	Option model	IR volatility	2%	59%	16%	36%
other	755	151							
FX derivatives:									
FX options	89	95	Model	Option model	FX volatility	0.1%	70%	4%	14%
other	7	7							
Equity derivatives:									
long-dated									
single stock					Equity				
options	192	256	Model	Option model	volatility	9%	65%	16%	40%
other	34	162							
Credit derivatives:									
other	115	60							
Other portfolios	6,347								
structured					Credit				
certificates	4,420		Model	Discounted cash flow	volatility	0.8%	3%	0.8%	3%
EM corporate									
debt	372		Market proxy		Credit spread	1%	4%	1%	3%
other	1,555		Market proxy		Bid quotes	58	131	106	130
<b>At</b>									
<b>31 December</b>									
<b>2014</b>	15,106	8,046							

1 Collateralised loan obligation/collateralised debt obligation.

2 Includes a range of smaller asset holdings.

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### **Private equity including strategic investments**

Given the bespoke nature of the analysis in respect of each holding, it is not practical to quote a range of key unobservable inputs.

### **Prepayment rates**

Prepayment rates are a measure of the anticipated future speed at which a loan portfolio will be repaid in advance of the due date. They are an important input into modelled values of ABSs. A modelled price may be used where insufficient observable market prices exist to enable a market price to be determined directly. Prepayment rates are also an important input into the valuation of derivatives linked to securitisations. They vary according to the nature of the loan portfolio and expectations of future market conditions, and may be estimated using a variety of evidence, such as prepayment rates implied from proxy observable security prices, current or historical prepayment rates and macroeconomic modelling.

### **Market proxy**

Market proxy pricing may be used for an instrument for which specific market pricing is not available, but evidence is available in respect of instruments that have some characteristics in common. In some cases it might be possible to identify a specific proxy, but more generally evidence across a wider range of instruments will be used to understand the factors that influence current market pricing and the manner of that influence.

The range of prices used as inputs into a market proxy pricing methodology may therefore be wide. This range is not indicative of the uncertainty associated with the price derived for an individual security.

### **Volatility**

Volatility is a measure of the anticipated future variability of a market price, tending to increase in stressed market conditions and decrease in calmer market conditions. It is an important input in the pricing of options. In general, the higher the volatility, the more expensive the option will be. This reflects both the higher probability of an increased return from the option and the potentially higher costs that HSBC may incur in hedging the risks associated with the option. If option prices become more expensive, this increases the value of HSBC's long option positions (i.e. the positions in which HSBC has purchased options), while HSBC's short option positions (i.e. the positions in which HSBC has sold options) suffer losses.

Volatility varies by underlying reference market price, and by strike and maturity of the option. Volatility also varies over time. As a result, it is difficult to make general statements regarding volatility levels.

Certain volatilities, typically those of a longer-dated nature, are unobservable. The unobservable volatility is then estimated from observable data. The range of unobservable volatilities quoted in the table on page 387 reflects the wide variation in volatility inputs by reference market price. The core range is significantly narrower than the full range because these examples with extreme volatilities occur relatively rarely within the HSBC portfolio. For any single unobservable volatility, the uncertainty in the volatility determination is significantly less than the range quoted above.

### **Correlation**

Correlation is a measure of the inter-relationship between two market prices and is expressed as a number between minus one and one. A positive correlation implies that the two market prices tend to move in the same direction, with a correlation of one implying that they always move in the same direction. A negative correlation implies that the two market prices tend to move in opposite directions, with a correlation of minus one implying that the two market prices always move in opposite directions. Correlation is used to value more complex instruments where the payout is dependent upon more than one market price. There is a wide range of instruments for which correlation is an input, and consequently a wide range of both same-asset correlations (e.g. equity-equity correlation) and cross-asset correlations (e.g. foreign exchange rate-interest rate correlation) is used. In general, the range of same-asset correlations will be narrower than the range of cross-asset correlations.

Correlation may be unobservable. Unobservable correlations may be estimated based upon a range of evidence, including consensus pricing services, HSBC trade prices, proxy correlations and examination of historical price relationships.

The range of unobservable correlations quoted in the table reflects the wide variation in correlation inputs by market price pair. For any single unobservable correlation, the uncertainty in the correlation determination is likely to be less than the range quoted above.

### **Credit spread**

Credit spread is the premium over a benchmark interest rate required by the market to accept lower credit quality. In a discounted cash flow model, the credit spread increases the discount factors applied to future cash flows, thereby reducing the value of an asset. Credit spreads may be implied from market prices. Credit spreads may not be observable in more illiquid markets.

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## Notes on the Financial Statements (continued)

**14 Fair values of financial instruments not carried at fair value****Inter-relationships between key unobservable inputs**

Key unobservable inputs to Level 3 financial instruments may not be independent of each other. As described above, market variables may be correlated. This correlation typically reflects the manner in which different markets tend to react to macroeconomic or other events. Furthermore, the effect of changing market variables upon the HSBC portfolio will depend on HSBC's net risk position in respect of each variable.

**HSBC Holdings**

The following table provides an analysis of the basis for valuing financial assets and financial liabilities measured at fair value in the financial statements:

***Basis of valuing HSBC Holdings' financial assets and liabilities measured at fair value***

	2015 \$m	2014 \$m
<b>Valuation technique using observable inputs: Level 2</b>		
Assets at 31 December		
Derivatives	2,467	2,771
Available for sale	4,285	4,073
Liabilities at 31 December		
Designated at fair value	19,853	18,679
Derivatives	2,278	1,169

**14 Fair values of financial instruments not carried at fair value*****Fair values of financial instruments not carried at fair value and bases of valuation***

Carrying	Quoted	Fair value		Total
		Valuation techniques Using	With	

	amount	market	observable	significant	
		price	inputs	unobservable	
		Level	Level 2	inputs	
		1		Level 3	
	\$m	\$m	\$m	\$m	\$m
<b>Assets and liabilities not held for sale at 31 December 2015</b>					
Assets					
Loans and advances to banks	90,401		88,156	2,255	90,411
Loans and advances to customers	924,454		12,412	910,057	922,469
Reverse repurchase agreements non-trading	146,255		145,307	959	146,266
Financial investments: debt securities	44,102	1,163	44,076	19	45,258
Liabilities					
Deposits by banks	54,371		54,295	76	54,371
Customer accounts	1,289,586		1,280,368	9,421	1,289,789
Repurchase agreements non-trading	80,400		80,400		80,400
Debt securities in issue	88,949		89,023		89,023
Subordinated liabilities	22,702		24,344	649	24,993

Assets and liabilities not held for sale at 31 December 2014

Assets					
Loans and advances to banks	112,149		109,087	3,046	112,133
Loans and advances to customers	974,660		13,598	959,239	972,837
Reverse repurchase agreements non-trading	161,713		160,600	1,123	161,723
Financial investments: debt securities	37,751	1,418	37,671	74	39,163
Liabilities					
Deposits by banks	77,426		77,300	98	77,398
Customer accounts	1,350,642		1,336,865	13,730	1,350,595
Repurchase agreements non-trading	107,432		107,432		107,432
Debt securities in issue	95,947	146	94,325	1,932	96,403
Subordinated liabilities	26,664		28,806	1,248	30,054

Fair values are determined according to the hierarchy set out in Note 13.

Other financial instruments not carried at fair value are typically short-term in nature and re-price to current market rates frequently. Accordingly, their carrying amount is a reasonable approximation of fair value. This includes cash and balances at central banks, items in the course of collection from and transmission to other banks, Hong Kong Government certificates of indebtedness and Hong Kong currency notes in circulation, all of which are measured at amortised cost.



*Carrying amount and fair value of loans and advances to customers by industry sector*

	Carrying amount at 31 December		
	Not impaired	Impaired	Total
	\$m	\$m	\$m
<b>2015</b>			
Loans and advances to customers	<b>907,698</b>	<b>16,756</b>	<b>924,454</b>
personal	<b>361,716</b>	<b>9,487</b>	<b>371,203</b>
corporate and commercial	<b>485,933</b>	<b>7,145</b>	<b>493,078</b>
financial	<b>60,049</b>	<b>124</b>	<b>60,173</b>
<b>2014</b>			
Loans and advances to customers	954,710	19,950	974,660
personal	377,154	11,800	388,954
corporate and commercial	527,168	8,016	535,184
financial	50,388	134	50,522
	Fair value at 31 December		
	Not impaired	Impaired	Total
	\$m	\$m	\$m
<b>2015</b>			
Loans and advances to customers	<b>906,696</b>	<b>15,773</b>	<b>922,469</b>
personal	<b>359,559</b>	<b>9,024</b>	<b>368,583</b>
corporate and commercial	<b>487,196</b>	<b>6,592</b>	<b>493,788</b>
financial	<b>59,941</b>	<b>157</b>	<b>60,098</b>
<b>2014</b>			
Loans and advances to customers	954,347	18,490	972,837
personal	375,615	10,721	386,336
corporate and commercial	528,361	7,642	536,003
financial	50,371	127	50,498

Loans and advances to customers are classified as not impaired or impaired in accordance with the criteria described



on page 128.

*Analysis of loans and advances to customers by geographical segment*

	2015		2014	
	Carrying amount \$m	Fair value \$m	Carrying amount \$m	Fair value \$m
<b>Loans and advances to customers</b>				
Europe	392,041	392,540	409,733	413,373
Asia	356,375	355,249	362,955	361,412
Middle East and North Africa	29,894	29,614	29,063	28,658
North America	128,851	127,532	129,787	126,232
Latin America	17,293	17,534	43,122	43,162
<b>At 31 December</b>	<b>924,454</b>	<b>922,469</b>	974,660	972,837
<b>Valuation</b>				

The fair value measurement is HSBC's estimate of the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It does not reflect the economic benefits and costs that HSBC expects to flow from the instruments' cash flows over their expected future lives. Other reporting entities may use different valuation methodologies and assumptions in determining fair values for which no observable market prices are available.

Fair values of the following assets and liabilities are estimated for the purpose of disclosure as described below:

**Loans and advances to banks and customers**

The fair value of loans and advances is based on observable market transactions, where available. In the absence of observable market transactions, fair value is estimated using valuation models that incorporate a range of input assumptions. These assumptions may include value estimates from third-party brokers which reflect over-the-counter trading activity, forward looking discounted cash flow models using assumptions which HSBC believes are consistent with those which would be used by market participants in valuing such loans, and trading inputs from other market participants which include observed primary and secondary trades.

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**Notes on the Financial Statements** (continued)

**14 Fair values of financial instruments not carried at fair value / 15 Financial assets designated at fair value**

Loans are grouped, as far as possible, into homogeneous groups and stratified by loans with similar characteristics to improve the accuracy of estimated valuation outputs. The stratification of a loan book considers all material factors including vintage, origination period, estimates of future interest rates, prepayment speeds, delinquency rates, loan-to-value ratios, the quality of collateral, default probability, and internal credit risk ratings.

The fair value of a loan reflects both loan impairments at the balance sheet date and estimates of market participants expectations of credit losses over the life of the loans, and the fair value effect of re-pricing between origination and the balance sheet date.

The fair value of loans and advances to customers in North America was lower than the carrying amount, primarily in the US, reflecting the market conditions at the balance sheet date. This was due to the challenging economic conditions during the past number of years, including house price depreciation, rising unemployment, changes in consumer behaviour, changes in discount rates and the lack of financing options available to support the purchase of loans and advances. The relative fair values increased during 2015, largely due to improved conditions in the housing industry driven by increased property values and, to a lesser extent, lower required market yields and increased investor demand for these types of loans and advances.

The fair value of loans and advances to customers in Europe is now broadly in line with carrying value, as new business from both new and existing customers reflects the current low interest rate environment.

**Financial investments**

The fair values of listed financial investments are determined using bid market prices. The fair values of unlisted financial investments are determined using valuation techniques that take into consideration the prices and future earnings streams of equivalent quoted securities.

**Deposits by banks and customer accounts**

Fair values are estimated using discounted cash flows, applying current rates offered for deposits of similar remaining maturities. The fair value of a deposit repayable on demand is approximated by its carrying value.

**Debt securities in issue and subordinated liabilities**

Fair values are determined using quoted market prices at the balance sheet date where available, or by reference to quoted market prices for similar instruments.

**Repurchase and reverse repurchase agreements non-trading**

Fair values are estimated by using discounted cash flows, applying current rates. Fair values approximate carrying amounts as their balances are generally short dated.

### HSBC Holdings

The methods used by HSBC Holdings to determine fair values of financial instruments for the purpose of measurement and disclosure are described above.

#### *Fair values of HSBC Holdings financial instruments not carried at fair value on the balance sheet*

	2015		2014	
	Carrying amount \$m	Fair value <sup>1</sup> \$m	Carrying amount \$m	Fair value <sup>1</sup> \$m
<b>Assets at 31 December</b>				
Loans and advances to HSBC undertakings	44,350	45,180	43,910	45,091
<b>Liabilities at 31 December</b>				
Amounts owed to HSBC undertakings	2,152	2,152	2,892	2,906
Debt securities in issue	960	1,224	1,009	1,357
Subordinated liabilities	15,895	18,297	17,255	20,501

<sup>1</sup> Fair values were determined using valuation techniques with observable inputs (Level 2).

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## 15 Financial assets designated at fair value

### Accounting policy

Financial instruments, other than those held for trading, are classified in this category if they meet one or more of the criteria set out below, and are so designated irrevocably at inception. HSBC may designate financial instruments at fair value when the designation:

eliminates or significantly reduces measurement or recognition inconsistencies that would otherwise arise from measuring financial instruments or recognising gains and losses on different bases from related positions. Under this criterion, the main class of financial assets designated by HSBC are financial assets under unit-linked insurance and unit-linked investment contracts. Liabilities to customers under linked contracts are determined based on the fair value of the assets held in the linked funds. If no fair value designation was made for the related assets, the assets would be classified as available for sale, with changes in fair value recorded in other comprehensive income. The related financial assets and liabilities are managed and reported to management on a fair value basis. Designation at fair value of the financial assets and related liabilities allows the changes in fair values to be recorded in the income statement and presented in the same line;

applies to groups of financial instruments that are managed, and their performance evaluated, on a fair value basis in accordance with a documented risk management or investment strategy, and where information about the groups of financial instruments is reported to management on that basis. For example, certain financial assets are held to meet liabilities under non-linked insurance contracts. HSBC has documented risk management and investment strategies designed to manage and monitor the market risk of those assets on a net basis, after considering non-linked liabilities. Fair value measurement is also consistent with the regulatory reporting requirements under the appropriate regulations for those insurance operations; and

relates to financial instruments containing one or more non-closely related embedded derivatives.

Designated financial assets are recognised at fair value when HSBC enters into contracts with counterparties, which is generally on trade date, and are normally derecognised when sold. Subsequent changes in fair values are recognised in the income statement in Net income from financial instruments designated at fair value .

*Financial assets designated at fair value*

	2015 \$m	2014 \$m
Financial assets designated at fair value:		
not subject to repledge or resale by counterparties	23,852	28,357
which may be repledged or resold by counterparties		680
<b>At 31 December</b>	<b>23,852</b>	<b>29,037</b>
Treasury and other eligible bills	396	56
Debt securities	4,341	8,891
Equity securities	18,995	20,006
Securities designated at fair value	23,732	28,953
Loans and advances to banks and customers	120	84
<b>At 31 December</b>	<b>23,852</b>	<b>29,037</b>

*Securities designated at fair value<sup>1</sup>*

	2015 \$m	2014 \$m
US Treasury and US Government agencies <sup>2</sup>	145	8
UK Government	103	140
Hong Kong Government	33	40
Other government	1,020	4,088
Asset-backed securities <sup>3</sup>	25	18
Corporate debt and other securities	3,411	4,653
Equities	18,995	20,006
<b>At 31 December</b>	<b>23,732</b>	<b>28,953</b>

1 Included within these figures are debt securities issued by banks and other financial institutions of \$1,536m (2014: \$1,388m), of which \$35m (2014: \$24m) are guaranteed by various governments.

2 Includes securities that are supported by an explicit guarantee issued by the US Government.

3 Excludes asset-backed securities included under US Treasury and US Government agencies.

*Securities listed on a recognised exchange and unlisted*

Treasury	Debt	Equity securities	Total
----------	------	----------------------	-------

	and other		securities	
	eligible bills			
	\$m	\$m	\$m	\$m
Fair value				
Listed <sup>1</sup>		2,458	11,690	14,148
Unlisted	396	1,883	7,305	9,584
<b>At 31 December 2015</b>	<b>396</b>	<b>4,341</b>	<b>18,995</b>	<b>23,732</b>

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## Notes on the Financial Statements (continued)

**16 Derivatives***Securities listed on a recognised exchange and unlisted (continued)*

	Treasury and other eligible bills \$m	Debt securities \$m	Equity securities \$m	Total \$m
Fair value				
Listed <sup>1</sup>	5	2,731	13,837	16,573
Unlisted	51	6,160	6,169	12,380
At 31 December 2014	56	8,891	20,006	28,953

<sup>1</sup> Included within listed investments are \$1,181m of investments listed on a recognised exchange in Hong Kong (2014: \$1,361m).

**16 Derivatives****Accounting policy****Derivatives**

Derivatives are financial instruments that derive their value from the price of underlying items such as equities, bonds, interest rates, foreign exchange, credit spreads, commodities and equity or other indices. Derivatives are recognised initially, and are subsequently measured, at fair value. Fair values of derivatives are obtained either from quoted market prices or by using valuation techniques. Derivatives are classified as assets when their fair value is positive or as liabilities when their fair value is negative.

Embedded derivatives are bifurcated from the host contract when their economic characteristics and risks are not clearly and closely related to those of the host non-derivative contract, their terms would otherwise meet the definition of a stand-alone derivative and the combined contract is not held for trading or designated at fair value. The bifurcated embedded derivatives are measured at fair value with changes therein recognised in the income statement.

Derivative assets and liabilities arising from different transactions are only offset for accounting purposes if the offsetting criteria presented in Note 32 are met.

Gains and losses from changes in the fair value of derivatives, that do not qualify for hedge accounting are reported in Net trading income . Gains and losses on derivatives managed in conjunction with financial instruments designated at fair value are reported in Net income from financial instruments designated at fair value together with the gains and losses on the economically hedged items. Where the derivatives are managed with debt securities issued by HSBC that are designated at fair value, the contractual interest is shown in Interest expense together with the interest payable on the issued debt.

### **Hedge accounting**

When derivatives are designated in hedge relationships, HSBC classifies them as either: (i) hedges of the change in fair value of recognised assets or liabilities or firm commitments ( fair value hedges ); (ii) hedges of the variability in highly probable future cash flows attributable to a recognised asset or liability, or a forecast transaction ( cash flow hedges ); or (iii) a hedge of a net investment in a foreign operation ( net investment hedges ).

HSBC formally designates and documents each hedge relationship from inception, setting out the risk management objective and strategy for undertaking the hedge along with the specifically identified hedging instrument, hedged item or transaction, the nature of the risk being hedged and the method for assessing hedge effectiveness. The method selected to assess hedge effectiveness will depend on the risk management strategy.

To qualify for hedge accounting, HSBC requires that a hedge must be expected to be highly effective at inception and on an ongoing basis for the duration of the hedge relationship with each hedge relationship subject to an ongoing retrospective and prospective hedge effectiveness assessment.

### *Fair value hedge*



Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recorded in the income statement, along with changes in the fair value of the hedged assets or liabilities attributable to the hedged risk.

If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting is discontinued; the cumulative adjustment to the carrying amount of the hedged item is amortised to the income statement on a recalculated effective interest rate over the residual period to maturity, unless the hedged item has been derecognised, in which case it is recognised in the income statement immediately.

*Cash flow hedge*

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in other comprehensive income; the ineffective portion of the change in fair value is recognised immediately in the income statement within Net trading income .

The accumulated gains and losses recognised in other comprehensive income are reclassified to the income statement in the same periods in which the hedged item affects profit or loss. In hedges of forecast transactions that result in recognition of a non-financial asset or liability, previous gains and losses recognised in other comprehensive income are included in the initial measurement of the asset or liability.

When a hedge relationship is discontinued, any cumulative gain or loss recognised in other comprehensive income remains in equity until the forecast transaction is recognised in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss previously recognised in other comprehensive income is immediately reclassified to the income statement.

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*Net investment hedge*

Hedges of net investments in foreign operations are accounted for in a similar way to cash flow hedges. A gain or loss on the effective portion of the hedging instrument is recognised in other comprehensive income; the residual change in fair value is recognised immediately in the income statement. Gains and losses previously recognised in other comprehensive income are reclassified to the income statement on the disposal, or part disposal, of the foreign operation.

*Derivatives that do not qualify for hedge accounting*

Non-qualifying hedges are derivatives entered into as economic hedges of assets and liabilities for which hedge accounting was not applied.

*Fair values of derivatives by product contract type held by HSBC*

	Assets			Liabilities		
	Trading \$m	Hedging \$m	Total \$m	Trading \$m	Hedging \$m	Total \$m
Foreign exchange	95,201	1,140	96,341	94,843	755	95,598
Interest rate	277,496	1,658	279,154	267,609	3,758	271,367
Equities	8,732		8,732	10,383		10,383
Credit	6,961		6,961	6,884		6,884
Commodity and other	3,148		3,148	2,699		2,699
Gross total fair values	391,538	2,798	394,336	382,418	4,513	386,931
Offset (Note 32)			(105,860)			(105,860)
<b>At 31 December 2015</b>			<b>288,476</b>			<b>281,071</b>

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Foreign exchange	95,584	1,728	97,312	95,187	572	95,759
Interest rate	471,379	1,864	473,243	463,456	4,696	468,152
Equities	11,694		11,694	13,654		13,654
Credit	9,340		9,340	10,061		10,061
Commodity and other	3,884		3,884	3,508		3,508
Gross total fair values	591,881	3,592	595,473	585,866	5,268	591,134
Offset (Note 32)			(250,465)			(250,465)
At 31 December 2014			345,008			340,669

Derivative assets and liabilities decreased during 2015, primarily driven by portfolio compression exercises, with a corresponding decrease in the offset amount.

*Fair values of derivatives by product contract type held by HSBC Holdings with subsidiaries*

	Assets			Liabilities		
	Trading \$m	Hedging \$m	Total \$m	Trading \$m	Hedging \$m	Total \$m
Foreign exchange	390		390	2,065	213	2,278
Interest rate	1,600	477	2,077			
<b>At 31 December 2015</b>	<b>1,990</b>	<b>477</b>	<b>2,467</b>	<b>2,065</b>	<b>213</b>	<b>2,278</b>
Foreign exchange	680		680	1,066	103	1,169
Interest rate	1,607	484	2,091			
At 31 December 2014	2,287	484	2,771	1,066	103	1,169

*Use of derivatives*

For details regarding use of derivatives, see page 171 under Market Risk.

*Trading derivatives*

Most of HSBC's derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Trading activities include market-making and risk management. Market-making entails quoting bid and offer prices to other market participants for the purpose of generating revenues based on spread and volume. Risk management activity is undertaken to manage the risk arising from client transactions, with the principal purpose of retaining client margin. Other derivatives classified as held for trading include non-qualifying hedging derivatives.

Substantially all of HSBC Holdings' derivatives entered into with subsidiaries are managed in conjunction with financial liabilities designated at fair value.

The notional contract amounts of derivatives held for trading purposes indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.



## Notes on the Financial Statements (continued)

**16 Derivatives***Notional contract amounts of derivatives held for trading purposes by product type*

	HSBC		HSBC Holdings	
	2015 \$m	2014 \$m	2015 \$m	2014 \$m
Foreign exchange	5,658,030	5,548,075	19,036	15,595
Interest rate	14,462,113	22,047,278	10,150	8,650
Equities	501,834	568,932		
Credit	463,344	550,197		
Commodity and other	51,683	77,565		
<b>At 31 December</b>	<b>21,137,004</b>	<b>28,792,047</b>	<b>29,186</b>	<b>24,245</b>
<b>Credit derivatives</b>				

HSBC trades credit derivatives through its principal dealing operations and acts as a principal counterparty to a broad range of users, structuring transactions to produce risk management products for its customers or making markets in certain products. Risk is typically controlled through entering into offsetting credit derivative contracts with other counterparties.

HSBC manages the credit risk arising on buying and selling credit derivative protection by including the related credit exposures within its overall credit limit structure for the relevant counterparty. Trading of credit derivatives is restricted to a small number of offices within the major centres which have the control infrastructure and market skills to manage effectively the credit risk inherent in the products.

Credit derivatives are also deployed to a limited extent for the risk management of the Group's loan portfolios. The notional contract amount of credit derivatives of \$463bn (2014: \$550bn) consisted of protection bought of \$237bn (2014: \$272bn) and protection sold of \$226bn (2014: \$278bn). The credit derivative business operates within the market risk management framework described on page 211.

**Derivatives valued using models with unobservable inputs**

The difference between the fair value at initial recognition (the transaction price) and the value that would have been derived had valuation techniques used for subsequent measurement been applied at initial recognition, less subsequent releases, is as follows:

*Unamortised balance of derivatives valued using models with significant unobservable inputs*

	<b>2015</b>	2014
	<b>\$m</b>	\$m
Unamortised balance at 1 January	<b>114</b>	167
Deferral on new transactions	<b>196</b>	177
Recognised in the income statement during the year:	<b>(207)</b>	(234)
amortisation	<b>(121)</b>	(114)
subsequent to unobservable inputs becoming observable	<b>(2)</b>	(13)
maturity, termination or offsetting derivative risk hedged	<b>(84)</b>	(107)
Exchange differences	<b>(6)</b>	4
<b>Unamortised balance at 31 December<sup>1</sup></b>	<b>97</b>	<b>114</b>

<sup>1</sup> *This amount is yet to be recognised in the consolidated income statement.*

**Hedge accounting derivatives**

HSBC uses derivatives (principally interest rate swaps) for hedging purposes in the management of its asset and liability portfolios and structural positions. This enables HSBC to optimise the overall cost to the Group of accessing debt capital markets, and to mitigate the market risk which would otherwise arise from structural imbalances in the maturity and other profiles of its assets and liabilities.

The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.

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*Notional contract amounts of derivatives designated in qualifying hedge accounting relationships by product type*

	HSBC				HSBC Holdings	
	2015		2014		2015	2014
	Cash flow	Fair value	Cash flow	Fair value	Fair value	Fair value
	hedge	hedge	hedge	hedge	hedge	hedge
	\$m	\$m	\$m	\$m	\$m	\$m
Foreign exchange	32,128	196	25,340		1,120	1,120
Interest rate	107,796	105,127	190,902	90,338	5,132	5,477
<b>At 31 December</b>	<b>139,924</b>	<b>105,323</b>	<b>216,242</b>	<b>90,338</b>	<b>6,252</b>	<b>6,597</b>
<b>Fair value hedges</b>						

HSBC's fair value hedges principally consist of interest rate swaps that are used to protect against changes in the fair value of fixed-rate long-term financial instruments due to movements in market interest rates.

*Fair values of derivatives designated as fair value hedges*

	2015		2014	
	Assets	Liabilities	Assets	Liabilities
	\$m	\$m	\$m	\$m
<b>HSBC</b>				
Foreign exchange	2			
Interest rate	672	3,395	387	4,012
<b>At 31 December</b>	<b>674</b>	<b>3,395</b>	<b>387</b>	<b>4,012</b>
<b>HSBC Holdings</b>				
Foreign exchange		213		103
Interest rate	477		484	
<b>At 31 December</b>	<b>477</b>	<b>213</b>	<b>484</b>	<b>103</b>

*Gains or losses arising from fair value hedges*

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
<b>HSBC</b>			
Gains/(losses):			
on hedging instruments	<b>40</b>	(2,542)	1,997
on the hedged items attributable to the hedged risk	<b>(51)</b>	2,561	(1,932)
<b>Year ended 31 December</b>	<b>(11)</b>	19	65
<b>HSBC Holdings</b>			
Gains/(losses):			
on hedging instruments	<b>(4)</b>	423	14
on the hedged items attributable to the hedged risk	<b>6</b>	(422)	(21)
<b>Year ended 31 December</b>	<b>2</b>	1	(7)

**Cash flow hedges**

HSBC's cash flow hedges consist principally of interest rate swaps, futures and cross-currency swaps that are used to protect against exposures to variability in future interest cash flows on non-trading assets and liabilities which bear interest at variable rates or which are expected to be re-funded or reinvested in the future. The amounts and timing of future cash flows, representing both principal and interest flows, are projected for each portfolio of financial assets and liabilities on the basis of their contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate principal balances and interest cash flows across all portfolios over time form the basis for identifying gains and losses on the effective portions of derivatives designated as cash flow hedges of forecast transactions.

*Fair values of derivatives designated as cash flow hedges*

	<b>2015</b>		2014	
	Assets	Liabilities	Assets	Liabilities
	\$m	\$m	\$m	\$m
Foreign exchange	<b>1,027</b>	<b>748</b>	1,673	572
Interest rate	<b>986</b>	<b>363</b>	1,477	684
<b>At 31 December</b>	<b>2,013</b>	<b>1,111</b>	3,150	1,256

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## Notes on the Financial Statements (continued)

**16 Derivatives / 17 Financial investments**

*Forecast principal balances on which interest cash flows are expected to arise*

	<b>3 months or less</b>	<b>More than 3 months but less than 1 year</b>	<b>5 years or less but more than 1 year</b>	<b>More than 5 years</b>
	\$m	\$m	\$m	\$m
Net cash inflows/(outflows) exposure				
Assets	94,256	93,528	62,664	971
Liabilities	(16,241)	(17,179)	(11,681)	(3,326)
<b>At 31 December 2015</b>	<b>78,015</b>	<b>76,349</b>	<b>50,983</b>	<b>(2,355)</b>
Net cash inflows/(outflows) exposure				
Assets	131,694	122,728	79,529	959
Liabilities	(60,814)	(46,582)	(36,371)	(8,169)
At 31 December 2014	70,880	76,146	43,158	(7,210)

This table reflects the interest rate repricing profile of the underlying hedged items.

During the year to 31 December 2015 a gain of \$15m (2014: gain of \$34m; 2013: gain of \$22m) was recognised due to hedge ineffectiveness.

**Hedges of net investments in foreign operations**

The Group applies hedge accounting in respect of certain consolidated net investments. Hedging is undertaken using forward foreign exchange contracts or by financing with foreign currency borrowings.

At 31 December 2015, the fair values of outstanding financial instruments designated as hedges of net investments in foreign operations were assets of \$111m (2014: \$55m), liabilities of \$12m (2014: \$1m) and notional contract values of \$4,210m (2014: \$3,525m).

Ineffectiveness recognised in Net trading income in the year ended 31 December 2015 was nil (2014 and 2013: nil).

**17 Financial investments**

**Accounting policy**

Treasury bills, debt securities and equity securities intended to be held on a continuing basis, other than those designated at fair value, are classified as available for sale or held to maturity. They are recognised on the trade date when HSBC enters into contractual arrangements to purchase those instruments, and are normally derecognised when either the securities are sold or redeemed.

(i) Available-for-sale financial assets are initially measured at fair value plus direct and incremental transaction costs. They are subsequently remeasured at fair value, and changes therein are recognised in other comprehensive income until the assets are either sold or become impaired. When available-for-sale financial assets are sold, cumulative gains or losses previously recognised in other comprehensive income are recognised in the income statement as Gains less losses from financial investments .

Interest income is recognised over a debt security's expected life. Premiums and/or discounts arising on the purchase of dated debt securities are included in the interest recognised. Dividends from equity assets are recognised in the income statement when the right to receive payment is established.

(ii) Held-to-maturity investments are non-derivative financial assets with fixed or determinable payments and fixed maturities that HSBC positively intends and is able to hold to maturity. Held-to-maturity investments are initially recorded at fair value plus any directly attributable transaction costs, and are subsequently measured at amortised cost, less any impairment losses.

The accounting policy relating to impairments of available-for-sale securities is presented in Note 1.

Available-for-sale financial assets are reclassified to held to maturity if there is a change in intention or ability to hold those assets to maturity due to a change in the way they are managed. The fair value on reclassification becomes the new amortised cost and the assets are subsequently carried at amortised cost rather than fair value.

**Financial investments****2015**

2014

**\$m**

\$m

Financial investments:

not subject to repledge or resale by counterparties	<b>420,905</b>	380,419
which may be repledged or resold by counterparties	<b>8,050</b>	35,048
<b>At 31 December</b>	<b>428,955</b>	415,467

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*Carrying amount and fair value of financial investments*

	2015		2014	
	Carrying amount \$m	Fair value \$m	Carrying amount \$m	Fair value \$m
Treasury and other eligible bills	104,551	104,551	81,517	81,517
available for sale	104,551	104,551	81,517	81,517
Debt securities	318,569	319,725	323,256	324,668
available for sale	274,467	274,467	285,505	285,505
held to maturity	44,102	45,258	37,751	39,163
Equity securities	5,835	5,835	10,694	10,694
available for sale	5,835	5,835	10,694	10,694
<b>At 31 December</b>	<b>428,955</b>	<b>430,111</b>	<b>415,467</b>	<b>416,879</b>

*Financial investments at amortised cost and fair value*

	Amortised	Fair
	cost <sup>1</sup> \$m	value <sup>2</sup> \$m
US Treasury	61,585	61,779
US Government agencies <sup>3</sup>	22,910	22,843
US Government sponsored entities <sup>3</sup>	10,365	10,627
UK Government	27,250	27,316
Hong Kong Government	53,676	53,674
Other government	141,329	143,370
Asset-backed securities <sup>4</sup>	14,239	13,375
Corporate debt and other securities	89,860	91,292
Equities	4,057	5,835
<b>At 31 December 2015</b>	<b>425,271</b>	<b>430,111</b>

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US Treasury	33,931	34,745
US Government agencies <sup>3</sup>	18,326	18,516
US Government sponsored entities <sup>3</sup>	9,339	9,761
UK Government	28,680	29,758
Hong Kong Government	43,573	43,574
Other government	159,846	163,402
Asset-backed securities <sup>4</sup>	20,911	19,177
Corporate debt and other securities	84,387	87,252
Equities	7,421	10,694
At 31 December 2014	406,414	416,879
US Treasury	50,369	50,421
US Government agencies <sup>3</sup>	19,211	18,771
US Government sponsored entities <sup>3</sup>	5,263	5,445
UK Government	23,565	23,580
Hong Kong Government	49,570	49,579
Other government	153,619	156,208
Asset-backed securities <sup>4</sup>	25,961	24,115
Corporate debt and other securities	87,469	88,999
Equities	8,081	9,140
At 31 December 2013	423,108	426,258

1 Represents the amortised cost or cost basis of the financial investment.

2 Included within Fair value figures are debt securities issued by banks and other financial institutions of \$61bn (2014: \$54bn; 2013: \$55bn), of which \$18bn (2014: \$9bn; 2013: \$9bn) are guaranteed by various governments.

3 Includes securities that are supported by an explicit guarantee issued by the US Government.

4 Excludes asset-backed securities included under US Government agencies and sponsored entities.

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## Notes on the Financial Statements (continued)

**17 Financial investments / 18 Assets charges as security and collateral accepted***Financial investments listed and unlisted*

	Treasury and other eligible bills available for sale \$m	Debt securities available for sale \$m	Debt securities held to maturity \$m	Equity securities available for sale \$m	Total \$m
Carrying amount					
Listed <sup>1</sup>	6,151	170,271	9,565	842	186,829
Unlisted <sup>2</sup>	98,400	104,196	34,537	4,993	242,126
<b>At 31 December 2015</b>	<b>104,551</b>	<b>274,467</b>	<b>44,102</b>	<b>5,835</b>	<b>428,955</b>
Carrying amount					
Listed <sup>1</sup>	4,101	168,879	6,037	5,928	184,945
Unlisted <sup>2</sup>	77,416	116,626	31,714	4,766	230,522
<b>At 31 December 2014</b>	<b>81,517</b>	<b>285,505</b>	<b>37,751</b>	<b>10,694</b>	<b>415,467</b>

1 The fair value of listed held-to-maturity debt securities as at 31 December 2015 was \$10bn (2014: \$6bn). Included within listed investments were \$5bn (2014: \$4bn) of investments listed on a recognised exchange in Hong Kong.

2 Unlisted treasury and other eligible bills available for sale primarily comprise treasury bills not listed on an exchange but for which there is a liquid market.

*Maturities of investments in debt securities at their carrying amount*

	5 years or less				10 years or less				Total
	1 year or less	but over 1 year	but over 5 years	Over 10 years	1 year or less	but over 1 year	but over 5 years	Over 10 years	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Available for sale	61,664	131,023	42,140	39,640	61,664	131,023	42,140	39,640	274,467

Held to maturity	2,428	10,242	8,881	22,551	44,102
<b>At 31 December 2015</b>	<b>64,092</b>	<b>141,265</b>	<b>51,021</b>	<b>62,191</b>	<b>318,569</b>
Available for sale	68,344	134,815	44,938	37,408	285,505
Held to maturity	1,396	9,622	7,087	19,646	37,751
At 31 December 2014	69,740	144,437	52,025	57,054	323,256

*Contractual maturities and weighted average yields of investment debt securities*

	After one year but after five years but within							
	Within one year		within five years		ten years		After ten years	
	Amount \$m	Yield %	Amount \$m	Yield %	Amount \$m	Yield %	Amount \$m	Yield %
Available for sale								
US Treasury	9,316	0.5	20,352	1.2	12,805	2.1	3,594	3.3
US Government agencies			6	4.2	33	3.9	13,575	2.5
US Government-sponsored agencies	8	5.3	3,029	3.0	911	2.2	1,716	3.0
UK Government	2,479	1.7	8,005	1.3	8,518	1.4	1,215	0.1
Hong Kong Government	674	0.5	1,408	1.1				
Other governments	37,197	2.0	60,899	2.4	10,312	2.9	2,543	3.0
Asset-backed securities	18	1.4	657	1.4	2,530	1.3	11,027	1.3
Corporate debt and other securities	12,285	1.5	35,210	1.4	5,937	1.9	6,287	3.0
<b>Total amortised cost at 31 December 2015</b>	<b>61,977</b>		<b>129,566</b>		<b>41,046</b>		<b>39,957</b>	
Total carrying value	<b>61,664</b>		<b>131,023</b>		<b>42,140</b>		<b>39,640</b>	
Held to maturity								
US Treasury	2	0.9	76	4.9	46	4.8	119	4.2
US Government agencies			13	1.4	30	4.0	9,254	2.4
US Government-sponsored agencies			112	1.3	597	2.7	3,991	2.9
Hong Kong Government	4	0.7	44	1.4	16	1.8	9	1.4
Other governments	59	5.5	217	4.7	184	5.3	725	4.6
Asset-backed securities							7	6.5
Corporate debt and other securities	2,363	3.0	9,780	3.5	8,008	3.7	8,446	4.1
<b>Total amortised cost at 31 December 2015</b>	<b>2,428</b>		<b>10,242</b>		<b>8,881</b>		<b>22,551</b>	
Total carrying value	<b>2,428</b>		<b>10,242</b>		<b>8,881</b>		<b>22,551</b>	

The maturity distributions of ABSs are presented in the above table on the basis of contractual maturity dates. The weighted average yield for each range of maturities is calculated by dividing the annualised interest income for the year ended 31 December 2015 by the book amount of available-for-sale debt securities at that date. The yields do not include the effect of related derivatives.

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**18 Assets charged as security for liabilities, assets transferred and collateral accepted as security for assets***Financial assets pledged to secure liabilities*

	2015	2014
	\$m	\$m
Treasury bills and other eligible securities	5,941	5,170
Loans and advances to banks	15,582	17,294
Loans and advances to customers	88,927	77,960
Debt securities	69,470	138,991
Equity securities	4,644	11,373
Other	213	6,079
<b>Assets pledged at 31 December</b>	<b>184,777</b>	<b>256,867</b>

The above table shows assets over which a charge has been granted to secure liabilities on a legal and contractual basis. The total amount may be greater than the book value of assets utilised as collateral for funding purposes or to cover liabilities, for example, in the case of securitisations and covered bonds where the amount of liabilities issued plus any mandatory over-collateralisation is less than the book value of financial assets available for funding or collateral purposes in the relevant pool of assets. This is also the case where financial assets are placed with a custodian or a settlement agent which has a floating charge over all the financial assets placed to secure any liabilities under settlement accounts.

These transactions are conducted under terms that are usual and customary to collateralised transactions including, where relevant, standard securities lending, repurchase agreements and derivative margining. HSBC places both cash and non-cash collateral in relation to derivative transactions.

**Assets transferred****Accounting policy**

**Derecognition of financial assets**

Financial assets are derecognised when the contractual rights to receive cash flows from the assets have expired; or when HSBC has transferred its contractual right to receive the cash flows of the financial assets, and either:

substantially all the risks and rewards of ownership have been transferred; or

HSBC has neither retained nor transferred substantially all the risks and rewards, but has not retained control.

The financial assets shown above include amounts transferred to third parties that do not qualify for derecognition, notably debt securities held by counterparties as collateral under repurchase agreements and equity securities lent under securities lending agreements. As the substance of these transactions is secured borrowings, the asset collateral continues to be recognised in full and the related liability reflecting the Group's obligation to repurchase the transferred assets for a fixed price at a future date is also recognised on the balance sheet. As a result of these transactions, the Group is unable to use, sell or pledge the transferred assets for the duration of the transaction. The Group remains exposed to interest rate risk and credit risk on these pledged instruments. The counterparty's recourse is not limited to the transferred assets.

*Transferred financial assets not qualifying for full derecognition and associated financial liabilities*

	Carrying amount of assets before transfer \$m	Carrying amount of assets \$m	Carrying amount of liabilities \$m	Fair value of transferred assets \$m	Fair value of associated liabilities \$m	Net position \$m
<b>At 31 December 2015</b>						
Repurchase agreements		36,153	35,913			
Securities lending agreements		5,275	5,704			
Other sales (recourse to transferred asset only)		2,717	2,768	2,720	2,726	(6)
Securitisations recognised to the extent of continuing involvement	17,427	5	2	5	2	3
<b>At 31 December 2014</b>						
Repurchase agreements		78,541	79,141			
Securities lending agreements		13,177	10,643			
Other sales (recourse to transferred asset only)		3,775	4,049	4,007	4,018	(11)
Securitisations recognised to the extent of	17,427	11	5	11	5	6

continuing involvement

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Notes on the Financial Statements (continued)

**19 Interests in associates and joint ventures**

**Collateral accepted as security for assets**

The fair value of assets accepted as collateral in relation to reverse repo, securities borrowing and derivative margining that HSBC is permitted to sell or repledge in the absence of default was \$222,065m (2014: \$269,019m). The fair value of any such collateral sold or repledged was \$139,532m (2014: \$163,342m). HSBC is obliged to return equivalent securities.

These transactions are conducted under terms that are usual and customary to standard securities borrowing, reverse repurchase agreements and derivative margining.

**19 Interests in associates and joint ventures**

**Accounting policy**

Investments in which HSBC, together with one or more parties, has joint control of an arrangement set up to undertake an economic activity are classified as joint ventures. HSBC classifies investments in entities over which it has significant influence, and that are neither subsidiaries (Note 21) nor joint ventures, as associates.

Investments in associates and interests in joint ventures are recognised using the equity method. Under this method, such investments are initially stated at cost, including attributable goodwill, and are adjusted thereafter for the post-acquisition change in HSBC's share of net assets. Goodwill arises on the acquisition of interests in joint ventures and associates when the cost of investment exceeds HSBC's share of the net fair value of the associate's or joint venture's identifiable assets and liabilities.

Investments in associates and joint ventures are tested for impairment when there is an indication that the investment may be impaired. Goodwill on acquisitions of interests in joint ventures and associates is not tested separately for impairment.

Profits on transactions between HSBC and its associates and joint ventures are eliminated to the extent of HSBC's interest in the respective associates or joint ventures. Losses are also eliminated to the extent of HSBC's interest in the associates or joint ventures unless the transaction provides evidence of an impairment of the asset transferred.

### Critical accounting estimates and judgements

#### Impairment of interests in associates

Impairment testing involves significant judgement in determining the value in use, and in particular estimating the present values of cash flows expected to arise from continuing to hold the investment.

The most significant judgements relate to the impairment testing of our investment in Bank of Communications (BoCom). Key assumptions used in estimating BoCom's value in use, the sensitivity of the value in use calculation to different assumptions and a sensitivity analysis that shows the changes in key assumptions that would reduce the excess of value in use over the carrying amount (the headroom) to nil are described below.

#### Associates

At 31 December 2015, the carrying amount of HSBC's interests in associates was \$18,900m (2014: \$17,940m).

#### Principal associates of HSBC

	2015		2014	
	Carrying amount	Fair value <sup>1</sup>	Carrying amount	Fair value <sup>1</sup>
	\$m	\$m	\$m	\$m
Listed				
Bank of Communications Co., Limited	15,344	9,940	14,590	13,140
The Saudi British Bank	3,021	3,957	2,811	6,220
<b>At 31 December</b>	<b>18,365</b>	<b>13,897</b>	<b>17,401</b>	<b>19,360</b>

<sup>1</sup> Principal associates are listed on recognised stock exchanges. The fair values are based on the quoted market prices of the shares held (Level 1 in the fair value hierarchy).

At 31 December 2015

	<b>Country of incorporation and principal place of business</b>	<b>HSBC s interest in equity activity</b>	<b>Principal in equity capital</b>	<b>Issued equity capital</b>
Bank of Communications Co., Limited	<b>PRC<sup>1</sup></b>	<b>Banking services</b>	<b>19.03%</b>	<b>RMB74,263m</b>
The Saudi British Bank	<b>Saudi Arabia</b>	<b>Banking services</b>	<b>40.00%</b>	<b>SR15,000m</b>

<sup>1</sup> *People's Republic of China.*

Details of all HSBC associates and joint ventures, as required under Section 409 of the Companies Act 2006, are set out on pages 468 to 469.

HSBC had \$15,344m (2014: \$14,590m) of interests in associates listed in Hong Kong.

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**Bank of Communications Co., Limited**

HSBC's investment in BoCom was equity accounted with effect from August 2004. Its significant influence in BoCom was established as a result of representation on the Board of Directors and, in accordance with the Technical Cooperation and Exchange Programme, HSBC is assisting in the maintenance of financial and operating policies and a number of staff have been seconded to assist in this process.

*Impairment testing*

At 31 December 2015, the fair value of HSBC's investment in BoCom had been below the carrying amount for approximately 44 months, apart from a short period in 2013 and briefly during the first half of 2015. As a result, the Group performed an impairment test on the carrying amount of the investment in BoCom. The test confirmed that there was no impairment at 31 December 2015.

	At 31 December 2015			At 31 December 2014		
	VIU	Carrying value	Fair value	VIU	Carrying value	Fair value
	\$bn	\$bn	\$bn	\$bn	\$bn	\$bn
Bank of Communications Co., Limited	17.0	15.3	9.9	15.7	14.6	13.1
<i>Basis of recoverable amount</i>						

The impairment test was performed by comparing the recoverable amount of BoCom, determined by a value in use (VIU) calculation, with its carrying amount. The VIU calculation uses discounted cash flow projections based on management's estimates of earnings. Cash flows beyond the short- to medium-term are then extrapolated in perpetuity using a long-term growth rate. An imputed capital maintenance charge (CMC) is calculated to reflect the expected regulatory capital requirements, and is calculated as a deduction from forecast cash flows. The principal inputs to the CMC calculation include estimates of asset growth, the ratio of risk-weighted assets to total assets, and the expected regulatory capital requirements. Management judgement is required in estimating the future cash flows of BoCom.

*Key assumptions in VIU calculation*

Long-term growth rate: the growth rate used was 5% (2014: 5%) for periods after 2018 and does not exceed forecast GDP growth in mainland China.

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Long-term asset growth rate: the growth rate used was 4% (2014: 4%) for periods after 2018 and this is the rate of growth required for an assumed 5% long-term growth rate in profit.

Discount rate: the discount rate of 13% (2014: 13%) is derived from a range of values obtained by applying a Capital Asset Pricing Model ( CAPM ) calculation for BoCom, using market data. Management supplements this by comparing the rates derived from the CAPM with discount rates available from external sources, and HSBC's discount rate for evaluating investments in mainland China. The discount rate used is within the range of 10.1% to 14.2% (2014: 11.4% to 14.2%) indicated by the CAPM and external sources.

Loan impairment charge as a percentage of customer advances: the ratio used ranges from 0.71% to 0.78% (2014: 0.73% to 1%) in the short- to medium-term and is based on the forecasts disclosed by external analysts. It was assumed that the long-term ratio will stabilise at a rate of 0.70% (2014: 0.65%) which is slightly higher than the historical rate of 0.65%.

Risk-weighted assets as a percentage of total assets: the ratio used was 67% for all forecast periods (2014: 70% to 72% in the short- to medium-term and 70% in the long-term). This is consistent with the forecasts disclosed by external analysts.

Cost-income ratio: the ratio used was 41% (2014: ranged from 40.0% to 42.4%) in the short- to medium-term. The ratios were consistent with the short- to medium-term range forecasts of 40.3% to 40.7% (2014: 37.2% to 44.5%) disclosed by external analysts.

Sensitivity analyses were performed on each key assumption to ascertain the impact of reasonably possible changes in assumptions. The following change to each key assumption used on its own in the VIU calculation would reduce the headroom to nil.

Key assumption	Changes to key assumption to reduce headroom to nil
Long-term growth rate	Decrease by 62 basis points
Long-term asset growth rate	Increase by 62 basis points
Discount rate	Increase by 82 basis points
Loan impairment charge as a percentage of customer advances	Increase by 13 basis points
Risk-weighted assets as a percentage of total assets	Increase by 5.4%
Cost-income ratio	Increase by 2.8%





## Notes on the Financial Statements (continued)

**19 Interests in associates and joint ventures**

The following table illustrates the effect on VIU of reasonably possible changes to key assumptions. This reflects the sensitivity of VIU to each key assumption on its own and it is possible that more than one favourable and/or unfavourable change will occur at the same time.

	Favourable change		Current model	Unfavourable change	
	\$bn	\$bn	\$bn	\$bn	\$bn
<b>At 31 December 2015</b>					
Carrying amount: \$15.3bn					
Long-term growth rate	<b>+100bps</b>		<b>5%</b>	<b>-210bps</b>	
VIU	<b>20.3</b>		<b>17.0</b>	<b>12.3</b>	
Increase/(decrease) in VIU	<b>3.2</b>			<b>(4.7)</b>	
Long-term asset growth rate	<b>-50bps</b>		<b>4%</b>	<b>+100bps</b>	
VIU	<b>18.2</b>		<b>17.0</b>	<b>14.3</b>	
Increase/(decrease) in VIU	<b>1.2</b>			<b>(2.8)</b>	
Discount rate	<b>-150bps</b>		<b>13%</b>	<b>+110bps</b>	
VIU	<b>21.2</b>		<b>17.0</b>	<b>14.9</b>	
Increase/(decrease) in VIU	<b>4.2</b>			<b>(2.1)</b>	
			<b>2015-18: 0.71%</b>	<b>0.78%</b>	<b>2015-18: 0.85%</b>
Loan impairment charge as a percentage of customer advances	<b>70bps throughout</b>		<b>2019 onwards: 0.70%</b>	<b>2019 onwards: 0.75%</b>	
VIU	<b>17.2</b>		<b>17.0</b>	<b>16.4</b>	
Increase/(decrease) in VIU	<b>0.1</b>			<b>(0.7)</b>	
Risk-weighted assets as a percentage of total assets	<b>-350bps</b>		<b>67% throughout</b>	<b>+10bps</b>	
VIU	<b>18.2</b>		<b>17.0</b>	<b>17.0</b>	
Increase/(decrease) in VIU	<b>1.2</b>			<b>(0.0)</b>	
Cost income ratio	<b>-250bps</b>		<b>41% throughout</b>	<b>+120bps</b>	
VIU	<b>18.5</b>		<b>17.0</b>	<b>16.35</b>	
Increase/(decrease) in VIU	<b>1.5</b>			<b>(0.7)</b>	
<b>At 31 December 2014</b>					
Carrying amount: \$14.6bn					
Long-term growth rate	<b>+50bp</b>	<b>+100bp</b>	<b>5%</b>	<b>-50bp</b>	<b>-100bp</b>
VIU	<b>17.0</b>	<b>18.6</b>	<b>15.7</b>	<b>14.5</b>	<b>13.4</b>
Increase/(decrease) in VIU	<b>1.3</b>	<b>2.9</b>		<b>(1.2)</b>	<b>(2.3)</b>

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Discount rate	-50bp	-100bp	13%	+50bp	+100bp
VIU	16.8	18.1	15.7	14.7	13.9
Increase/(decrease) in VIU	1.1	2.4		(1.0)	(1.8)
			2014-18: 0.73%	1%	1% from 2014-18
Loan impairment charge as a percentage of customer advances	0.65% throughout		2019 onwards: 0.65%	2019 onwards: 0.65%	
VIU	16.2		15.7	14.9	
Increase/(decrease) in VIU	0.5			(0.8)	
			2014-18: 70%	72%	
Risk-weighted assets as a percentage of total assets	-100bp	-200bp	2019 onwards: 70.0%	+100bp	+200bp
VIU	16.0	16.3	15.7	15.4	15.1
Increase/(decrease) in VIU	0.3	0.6		(0.3)	(0.6)
			2014-18: 40.0%	42.4%	
Cost income ratio	-50bp	-100bp	2019 onwards: 42.4%	+50bp	+100bp
VIU	16.0	16.3	15.7	15.4	15.1
Increase/(decrease) in VIU	0.3	0.6		(0.3)	(0.6)

Based on the forecasts disclosed by external analysts, management estimates that the reasonably possible range of VIU is \$12.4bn to \$22.7bn.

*Selected financial information of BoCom*

The statutory accounting reference date of BoCom is 31 December. For the year ended 31 December 2015, HSBC included the associate's results on the basis of financial statements made up for the 12 months ended 30 September 2015, taking into account changes in the subsequent period from 1 October 2015 to 31 December 2015 that would have materially affected the results.

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*Selected balance sheet information of BoCom*

	At 30 September	
	2015	2014
	\$m	\$m
Cash and balances at central banks	144,702	150,306
Loans and advances to banks and other financial institutions	110,915	79,960
Loans and advances to customers	560,503	547,706
Other financial assets	244,722	178,883
Other assets	49,246	45,140
<b>Total assets</b>	<b>1,110,088</b>	<b>1,001,995</b>
Deposits by banks and other financial institutions	261,211	209,935
Customer accounts	691,959	663,745
Other financial liabilities	46,932	28,860
Other liabilities	29,329	25,361
<b>Total liabilities</b>	<b>1,029,431</b>	<b>927,901</b>
<b>Total equity</b>	<b>80,657</b>	<b>74,094</b>

*Reconciliation of BoCom's total shareholders' equity to the carrying amount in HSBC's consolidated financial statements as at 31 December*

	At 30 September	
	2015	2014
	\$m	\$m
HSBC's share of total shareholders' equity	14,824	14,040
Add: Goodwill and other intangible assets	520	550
<b>Carrying amount</b>	<b>15,344</b>	<b>14,590</b>

*Selected income statement information of BoCom*

For the 12 months ended

	30 September	
	2015	2014
	\$m	\$m
Net interest income	22,397	22,030
Net fee and commission income	5,432	4,792
Loan impairment charges	(3,772)	(3,509)
Depreciation and amortisation	(1,012)	(920)
Tax expense	(2,976)	(3,102)
Profit for the year	10,634	10,626
Other comprehensive income	377	217
Total comprehensive income	11,011	10,843
Dividends received from BoCom	624	597

*Summarised aggregate financial information in respect of all associates excluding BoCom*

	2015	2014
	\$m	\$m
Carrying amount	3,556	3,350
HSBC's share of:		
total assets	21,645	20,099
total liabilities	18,166	16,837
revenues	821	801
profit or loss from continuing operations	508	519
other comprehensive income		2
total comprehensive income	508	521

#### Joint ventures

At 31 December 2015, the carrying amount of HSBC's interests in joint ventures was \$239m (2014: \$241m).

#### Associates and joint ventures

For the year ended 31 December 2015, HSBC's share of associates and joint ventures tax on profit was \$575m (2014: \$600m). This is included within Share of profit in associates and joint ventures in the income statement.

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## Notes on the Financial Statements (continued)

**20 Goodwill and intangible assets***Movements in interests in associates and joint ventures*

	2015 \$m	2014 \$m
At 1 January	18,181	16,640
Additions	3	30
Disposals	(8)	(133)
Share of results	2,556	2,532
Dividends	(879)	(757)
Exchange differences	(718)	(212)
Share of other comprehensive income of associates and joint ventures	(9)	78
Other movements	13	3
<b>At 31 December<sup>1</sup></b>	<b>19,139</b>	<b>18,181</b>

<sup>1</sup> Includes goodwill of \$593m (2014: \$621m).

**20 Goodwill and intangible assets**

	2015 \$m	2014 \$m
Goodwill	16,294	19,169
Present value of in-force long-term insurance business	5,685	5,307
Other intangible assets	2,626	3,101
<b>At 31 December</b>	<b>24,605</b>	<b>27,577</b>

**Goodwill***Accounting policy*

Goodwill arises on the acquisition of subsidiaries, when the aggregate of the fair value of the consideration transferred, the amount of any non-controlling interest and the fair value of any previously held equity interest in the acquiree exceed the amount of the identifiable assets acquired and liabilities assumed. If the amount of the identifiable assets and liabilities acquired is greater, the difference is recognised immediately in the income statement.

Goodwill is allocated to cash-generating units (CGUs) for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. HSBC's CGUs are based on geographical regions subdivided by global business. Impairment testing is performed at least annually, or whenever there is an indication of impairment, by comparing the recoverable amount of a CGU with its carrying amount. The carrying amount of a CGU is based on its assets and liabilities, including attributable goodwill. The recoverable amount of a CGU is the higher of its fair value less cost to sell and its value in use. VIU is the present value of the expected future CGU cash flows. If the recoverable amount is less than the carrying value, an impairment loss is charged to the income statement. Goodwill is carried on the balance sheet at cost less accumulated impairment losses.

Goodwill is included in a disposal group if the disposal group is a CGU to which goodwill has been allocated or it is an operation within such a CGU. The amount of goodwill included in a disposal group is measured on the basis of the relative values of the operation disposed of and the portion of the CGU retained.

At the date of disposal of a business, attributable goodwill is included in HSBC's share of net assets in the calculation of the gain or loss on disposal.

### Critical accounting estimates and judgements

#### Goodwill impairment

The review of goodwill for impairment reflects management's best estimate of the future cash flows of the CGUs and the rates used to discount these cash flows, both of which are subject to uncertain factors as follows:

the future cash flows of the CGUs are sensitive to the cash flows projected for the periods for which detailed forecasts are available and to assumptions regarding the long-term pattern of sustainable cash flows thereafter. Forecasts are compared with actual performance and verifiable economic data, but they reflect management's view of future business prospects at the time of the assessment; and

the rates used to discount future expected cash flows can have a significant effect on their valuation and are based on the costs of capital assigned to individual CGUs. The cost of capital percentage is generally derived from a CAPM, which incorporates inputs reflecting a number of financial and economic variables, including the risk-free interest rate in the country concerned and a premium for the risk of the business being evaluated. These variables are subject to fluctuations in external market rates and economic conditions beyond management's control, are subject to uncertainty and require the exercise of significant judgement.

The accuracy of forecast cash flows is subject to a high degree of uncertainty in volatile market conditions. In such circumstances, management retests goodwill for impairment more frequently than annually when indicators of impairment exist to ensure that the assumptions on which the cash flow forecasts are based continue to reflect current market conditions and management's best estimate of future business prospects.

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*Movement analysis of goodwill*

	Europe \$m	Asia \$m	MENA \$m	North America \$m	Latin America \$m	Total \$m
<b>Gross amount</b>						
At 1 January 2015	13,207	1,009	54	7,815	3,007	25,092
Exchange differences	(1,237)	(73)	(4)	4	(300)	(1,610)
Reclassified to held for sale <sup>1</sup>					(1,319)	(1,319)
Other	1	59	(5)	(30)	(1)	24
<b>At 31 December 2015</b>	<b>11,971</b>	<b>995</b>	<b>45</b>	<b>7,789</b>	<b>1,387</b>	<b>22,187</b>
<b>Accumulated impairment losses</b>						
At 1 January 2015				(5,923)		(5,923)
Other				30		30
<b>At 31 December 2015</b>				<b>(5,893)</b>		<b>(5,893)</b>
<b>Net carrying amount at 31 December 2015</b>	<b>11,971</b>	<b>995</b>	<b>45</b>	<b>1,896</b>	<b>1,387</b>	<b>16,294</b>
<b>Gross amount</b>						
At 1 January 2014	14,977	1,016	55	7,861	3,241	27,150
Disposals	(168)					(168)
Exchange differences	(1,594)	(30)	(1)	1	(240)	(1,864)
Reclassified to held for sale	(8)				24	16
Other		23		(47)	(18)	(42)
<b>At 31 December 2014</b>	<b>13,207</b>	<b>1,009</b>	<b>54</b>	<b>7,815</b>	<b>3,007</b>	<b>25,092</b>
<b>Accumulated impairment losses</b>						
At 1 January 2014				(5,971)		(5,971)
Exchange differences				1		1
Other				47		47
<b>At 31 December 2014</b>				<b>(5,923)</b>		<b>(5,923)</b>
<b>Net carrying amount at 31 December 2014</b>	<b>13,207</b>	<b>1,009</b>	<b>54</b>	<b>1,892</b>	<b>3,007</b>	<b>19,169</b>

1 *During 2015, \$1.3bn of goodwill was reclassified to held for sale following the decision to sell our Brazilian operations. Goodwill was allocated based on the relative carrying value of the operations in Brazil to the cash generating units in Latin America. See Note 23 for further details.*

### **Impairment testing**

HSBC's impairment test in respect of goodwill allocated to each CGU is performed as at 1 July each year. A review for indicators of impairment is undertaken at each subsequent quarter end and, as at 31 December 2015, this review identified indicators of impairment for two CGUs, recognised as sensitive in the annual test performed as at 1 July. As a result, an impairment test has been performed for Global Private Banking Europe and Global Banking and Markets North America as at 31 December 2015 and the goodwill balances, key assumptions and results of this test are included in the disclosures below. For all other CGUs the annual test performed as at 1 July remains the latest impairment test and the disclosures given are as at 1 July. The testing at both 1 July and 31 December resulted in no impairment of goodwill.

### **Basis of the recoverable amount**

The recoverable amount of all CGUs to which goodwill has been allocated was equal to its VIU at each respective testing date for 2014 and 2015.

For each significant CGU, the VIU is calculated by discounting management's cash flow projections for the CGU. The discount rate used is based on the cost of capital HSBC allocates to investments in the countries within which the CGU operates. The long-term growth rate is used to extrapolate the cash flows in perpetuity because of the long-term perspective within the Group of the business units making up the CGUs. For the goodwill impairment test conducted at 1 July 2015, management's cash flow projections until the end of 2019 were used. For the goodwill impairment test conducted at 31 December 2015, management's cash flow projections until the end of 2020 were used.

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## Notes on the Financial Statements (continued)

**20 Goodwill and intangible assets***Key assumptions in VIU calculation*

	Goodwill at:		Discount rate %	Nominal growth rate beyond initial cash flow projections %
	1 Jul 2015 \$m	31 Dec 2015 \$m		
<b>Cash-generating unit</b>				
Retail Banking and Wealth Management Europe	3,562		6.9	3.3
Global Private Banking Europe	3,414	3,343	8.4	2.5
Global Banking and Markets Europe	2,690		9.9	3.5
Commercial Banking Europe	2,603		9.0	3.6
Global Banking and Markets North America	929	931	10.0	4.3
Retail Banking and Wealth Management Latin America	792		11.0	6.9
	1 Jul 2014			
	\$m			
<b>Cash-generating unit</b>				
Retail Banking and Wealth Management Europe	4,298		9.1	4.5
Global Private Banking Europe	3,808		7.1	3.4
Global Banking and Markets Europe	3,296		11.0	4.2
Commercial Banking Europe	3,214		10.1	4.2
Global Banking and Markets North America	917		9.8	4.6
Retail Banking and Wealth Management Latin America	1,762		12.8	7.9

At 1 July 2015, aggregate goodwill of \$2,787m (1 July 2014: \$3,610m) had been allocated to CGUs that were not considered individually significant. The Group's CGUs do not carry on their balance sheets any significant intangible assets with indefinite useful lives, other than goodwill.

**Management's judgement in estimating the cash flows of a CGU:** the cash flow projections for each CGU are based on plans approved by the GMB.

**Nominal long-term growth rate:** this growth rate reflects GDP and inflation for the countries within which the CGU operates or derives revenue from. The rates are based on IMF forecast growth rates as they represent an objective

estimate of likely future trends. The rates used for 2014 and 2015 do not exceed the long-term growth rates for the countries within which the CGUs operate or derive revenue from.

**Discount rate:** the discount rate used to discount the cash flows is based on the cost of capital assigned to each CGU, which is derived using a CAPM. The CAPM depends on inputs reflecting a number of financial and economic variables including the risk-free rate and a premium to reflect the inherent risk of the business being evaluated. These variables are based on the market's assessment of the economic variables and management's judgement. The discount rates for each CGU are refined to reflect the rates of inflation for the countries within which the CGU operates. In addition, for the purposes of testing goodwill for impairment, management supplements this process by comparing the discount rates derived using the internally generated CAPM with cost of capital rates produced by external sources for businesses operating in similar markets. For 2014 and 2015, internal cost of capital rates were consistent with externally sourced rates. For the purpose of goodwill testing during 2015, internal rates were adjusted to reflect the uncertainty of the cash flows used in the test.

### **Sensitivities of key assumptions in calculating VIU**

At 1 July 2015 Global Banking and Markets Europe, and as at 31 December Global Banking and Markets North America and Global Private Banking Europe, were all sensitive to reasonably possible changes in the key assumptions supporting the recoverable amount. In making an estimate of reasonably possible changes to assumptions management considers the available evidence in respect of each input to the model such as: the external range of discount rates observable; historical performance against forecast; and risks attaching to the key assumptions underlying cash flow projections.

For Global Banking and Markets North America, a reasonably possible adverse change in any one of the discount rate, growth rate or management's projections of cash flows could cause an impairment to be recognised. For Global Private Banking Europe, a reasonably possible adverse change in management's projections of cash flows, or changes in more than one assumption, could cause an impairment to be recognised. Global Banking and Markets Europe, would require reasonably possible adverse changes in more than one assumption to cause an impairment.

The following table presents a summary of the key assumptions underlying the most sensitive inputs to the model for each CGU; the key risks attaching to each; and details of a reasonably possible change to assumptions where, in the opinion of management, these could result in an impairment.

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*Reasonably possible changes in key assumptions*

	Input	Key assumptions	Associated risks	Reasonably possible change
<b>Cash-generating unit</b>				
Retail Banking and Wealth Management Europe and Commercial Banking Europe	Cash flow projections	Level of interest rates; Competitors positions within the market; and Level and change in unemployment rates.	Uncertain regulatory environment; and Customer remediation and regulatory actions.	Management has determined that a reasonably possible change in any of the key assumptions would not cause an impairment to be recognised.
Global Private Banking Europe	Cash flow projections	Achievement of planned strategic repositioning; Level of assets under management; Return on assets; Central bank interest rate rises; and Cost savings from recent investment in new platforms.	Challenges achieving strategic repositioning; Deferral or non-occurrence of forecast interest rate rises; and Slower than expected growth in assets under management.	Cash flow projections decrease by 20%.
	Discount rate	Discount rate used is a reasonable estimate of a suitable market rate for the profile of the business.	External evidence arises to suggest that the rate used is not appropriate to the business.	Discount rate increases by 60bps based on observable broker estimates for private banking focused institutions.

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	Long-term growth rates	Business growth will reflect GDP growth rates in the long term.	Growth does not match GDP or GDP forecasts fall.	Real GDP growth does not occur or is not reflected in performance.
Global Banking and Markets Europe	Cash flow projections	Level of interest rates; and  Recovery of European markets over the forecast period.	Deferral or non-occurrence of forecast interest rate rises;  Lower than expected growth in key markets; and  The impact of regulatory changes, including the ring fencing of the UK retail bank.	Cash flow projections decrease by 20%.
	Discount rate	Discount rate used is a reasonable estimate of a suitable market rate for the profile of the business.	External evidence arises to suggest that the rate used is not appropriate to the business.	Discount rate increases by 110 basis points, based on the high end of the range of broker estimates for comparator European banks with significant investment banking operations.
	Long-term growth rates	Business growth will reflect GDP growth rates in the long term.	Growth does not match GDP or GDP forecasts fall.	Real GDP growth does not occur or is not reflected in performance.
Global Banking and Markets North America	Cash flow projections	Level of interest rates;  Growth in NAFTA, China, and other major trade corridors;  Product and sales enhancements to increase market share; and  Increased collaboration with the CMB business to capture further opportunities from existing clients.	Deferral or non-occurrence of forecast interest rate rises; and  Lower than expected growth in key markets.	Cash flow projections decrease by 20%.
	Discount rate	Discount rate used is a reasonable estimate of a suitable market rate for the profile of the business.	External evidence arises to suggest that the rate used is not appropriate to the	Discount rate increases by 100 basis points, based on the high end of the range of broker estimates for comparator US

		business.	banks with significant investment banking operations.
	Long-term growth rates	Business growth will reflect GDP growth rates in the long term.	Growth does not match GDP or GDP forecasts fall.
			Real GDP growth does not occur or is not reflected in performance.
Retail Banking and Wealth Management Latin America	Cash flow projections	Growth in lending and deposit volumes; and Credit quality of loan portfolios.	Unfavourable economic conditions; and Competitive pricing constraining margins.
			Management has determined that a reasonably possible change in any of the key assumptions would not cause an impairment to be recognised.

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## Notes on the Financial Statements (continued)

**20 Goodwill and intangible assets**

The following table presents the sensitivities of the VIU for each sensitive CGU to the reasonably possible adverse changes in the assumptions set out above:

*Sensitivity of VIU to reasonably possible changes in key assumptions*

	Reasonably possible change in key assumptions and impact on VIU							Cumulative impact of all changes	
	Carrying amount	Value in use	Discount rate	Impact on VIU	Cash flows	Impact on VIU	Long-term		
							Impact		
\$bn	\$bn	bps	\$bn	%	\$bn	bps	\$bn	\$bn	
<b>Cash-generating unit</b>									
Global Private Banking									
Europe	4.6	5.2	60	(0.5)	(20)	(1.0)	(76)	(0.5)	(1.8)
Global Banking and Markets									
Europe	20.9	27.1	110	(3.9)	(20)	(5.4)	(213)	(5.6)	(11.9)
Global Banking and Markets									
North America	13.8	14.8	100	(2.2)	(20)	(3.0)	(215)	(3.3)	(6.6)

1 As at 31 December 2015.

2 As at 1 July 2015.

The following table presents for each sensitive CGU, the change required to individual current assumptions to reduce headroom to nil (breakeven).

*Changes to current assumptions to achieve nil headroom*

Discount	Increase/(decrease)	
	Cash	Long-term



	rate	flow	growth rate
	bps	%	bps
<b>Cash-generating unit</b>			
Global Private Banking Europe	69	(11.2)	(86)
Global Banking and Markets Europe	193	(23.0)	(245)
Global Banking and Markets North America	41	(6.7)	(50)

1 As at 31 December 2015.

2 As at 1 July 2015.

### Intangible assets

#### Accounting policy

Intangible assets are recognised, and those that are acquired in a business combination are distinguished from goodwill, when they are separable or arise from contractual or other legal rights, and it is probable that future economic benefits will flow to HSBC, the cost of which can be measured reliably.

Intangible assets include the present value of in-force long-term insurance business and long-term investment contracts with discretionary participating features ( PVIF ), computer software, trade names, mortgage servicing rights, customer lists, core deposit relationships, credit card customer relationships and merchant or other loan relationships. Computer software includes both purchased and internally generated software. The cost of internally generated software comprises all directly attributable costs necessary to create, produce and prepare the software to be capable of operating in the manner intended by management. Costs incurred in the ongoing maintenance of software are expensed immediately as incurred.

Intangible assets are subject to impairment review if there are events or changes in circumstances that indicate that the carrying amount may not be recoverable. Where:

intangible assets have an indefinite useful life, or are not yet ready for use, they are tested for impairment annually. An intangible asset recognised during the current period is tested before the end of the current year; and where

intangible assets have a finite useful life, except for PVIF, they are stated at cost less amortisation and accumulated impairment losses and are amortised over their estimated useful lives. Estimated useful life is the lower of legal duration and expected useful life.

Intangible assets with finite useful lives are generally amortised, on a straight-line basis, over their useful lives as follows:

Trade names	10 years
Mortgage servicing rights	between 5 and 12 years
Internally generated software	between 3 and 5 years
Purchased software	between 3 and 5 years
Customer/merchant relationships	between 3 and 10 years
Other	10 years

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**Present value of in-force long-term insurance business**

The value placed on insurance contracts that are classified as long-term insurance business or long-term investment contracts with discretionary participating features ( DPF ) and are in force at the balance sheet date is recognised as an asset. The asset represents the present value of the equity holders' interest in the issuing insurance companies' profits expected to emerge from these contracts written at the balance sheet date. The PVIF is determined by discounting the equity holders' interest in future profits expected to emerge from business currently in force using appropriate assumptions in assessing factors such as future mortality, lapse rates and levels of expenses, and a risk discount rate that reflects the risk premium attributable to the respective contracts. The PVIF incorporates allowances for both non-market risk and the value of financial options and guarantees. The PVIF asset is presented gross of attributable tax in the balance sheet and movements in the PVIF asset are included in Other operating income on a gross of tax basis.

**Present value of in-force long-term insurance business***Movements in PVIF*

	<b>2015</b>	<b>2014</b>
	<b>\$m</b>	<b>\$m</b>
PVIF at 1 January	<b>5,307</b>	5,335
Change in PVIF of long-term insurance business	<b>799</b>	261
Value of new business written during the year <sup>1</sup>	<b>809</b>	870
Movements arising from in-force business:		
expected return	<b>(552)</b>	(545)
experience variances <sup>2</sup>	<b>15</b>	62
changes in operating assumptions	<b>129</b>	(69)
Investment return variances	<b>222</b>	(34)
Changes in investment assumptions	<b>138</b>	(75)
Other adjustments	<b>38</b>	52
Transfer of assets classified as held for sale <sup>3</sup>	<b>(219)</b>	(122)
Exchange differences and other	<b>(202)</b>	(167)

PVIF at 31 December

5,685

5,307

- 1 *Value of new business written during the year* is the present value of the projected stream of profits from the business.
- 2 *Experience variances* includes the effect of the difference between demographic, expense and persistency assumptions used in the previous PVIF calculation and actual experience observed during the year to the extent this affects profits on future business.
- 3 *Relates to the Brazilian insurance operations and the UK pensions business which were classified as held for sale in the first half of 2015 and 2014 respectively. See page 180 for further details.*

In the PVIF calculation, expected cash flows are projected after adjusting for a variety of assumptions made by each insurance operation to reflect local market conditions and management's judgement of future trends, and after applying risk margins to reflect any uncertainty in the underlying assumptions. Variations in actual experience and changes to assumptions can contribute to volatility in the results of the insurance business.

The key drivers of the movement in the value of the PVIF asset are the expected cash flows from:

new business adjusted for anticipated maturities and assumptions relating to policyholder behaviour ( *value of new business written during the year* );

unwind of the discount rate less the reversal of expected cash flows for the period ( *expected return* );

changes in non-economic operating assumptions such as mortality or lapse rates ( *changes in operating assumptions* );

the effects of changes in projected future cash flows associated with operating assumption experience variances compared with those assumed at the start of the period ( *experience variances* );

changes related to future investment returns ( *changes in investment assumptions* ); and

the effect of actual investment experience on existing assets compared with the assumptions at the start of the period ( *investment return variances* ).

The valuation of the PVIF asset includes explicit risk margins for non-economic risks in the projection assumptions and explicit allowances for financial options and guarantees using stochastic methods. Risk discount rates are set on an active basis with reference to market risk-free yields.

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## Notes on the Financial Statements (continued)

**20 Goodwill and intangible assets****Key assumptions used in the computation of PVIF for main life insurance operations**

Economic assumptions are either set in a way that is consistent with observable market values or, in certain markets (including those where the risk free curve is not observable at tenors matching the duration of our insurance contract liabilities) use is made of long-term economic assumptions. Setting such assumptions involves the projection of long-term interest rates and the time horizon over which observable rates tend towards these long-term assumptions. The assumptions are informed by relevant historical data and by research and analysis performed by the Group's Economic Research team and external experts, including regulatory bodies. The valuation of PVIF will be sensitive to any changes in these long-term assumptions in the same way that it is sensitive to observed market movements, and the impact of such changes is included in the sensitivities presented below.

	2015			2014		
	UK	Hong Kong	France <sup>1</sup>	UK	Hong Kong	France <sup>1</sup>
	%	%	%	%	%	%
Weighted average risk free rate	<b>1.75</b>	<b>1.82</b>	<b>1.57</b>	1.65	1.86	1.21
Weighted average risk discount rate	<b>2.25</b>	<b>6.81</b>	<b>2.55</b>	2.15	7.42	1.73
Expense inflation	<b>4.56</b>	<b>3.00</b>	<b>1.70</b>	4.67	3.00	2.00

<sup>1</sup> For 2015, the calculation of France's PVIF assumes a risk discount rate of 2.55% (2014: 1.73%) plus a risk margin of \$51m (2014: \$63m).

**Sensitivity to changes in economic assumptions**

The Group sets the risk discount rate applied to the PVIF calculation by starting from a risk-free rate curve and adding explicit allowances for risks not reflected in the best estimate cash flow modelling. Where shareholders provide options and guarantees to policyholders the cost of these options and guarantees is an explicit reduction to PVIF, unless it is already allowed for as an explicit addition to the technical provisions required by regulators. See page 184 for further details of these guarantees.

The following table shows the effect on the PVIF of reasonably possible changes in the main economic assumption, risk-free rates, across all insurance manufacturing subsidiaries. Due to certain characteristics of the contracts, the relationships are non-linear and the results of the sensitivity testing should not be extrapolated to higher levels of stress. For the same reason, the impact of the stress is not symmetrical on the upside and downside. The sensitivities shown are before actions that could be taken by management to mitigate effects and allow for adverse changes in policyholder behaviour. The sensitivities have decreased from 2014 to 2015, driven mainly by rising yields and updates to interest rate parameters in France during 2015. In a low yield environment the PVIF asset is particularly

sensitive to yield curve movements driven by the projected cost of options and guarantees described on page 184.

	2015 \$m	2014 \$m
<b>Effect on PVIF at 31 December of:</b>		
+100 basis point shift in risk-free rate	(3)	320
100 basis point shift in risk-free rate	(139)	(589)

1 Where a 100 basis point parallel shift in the risk-free rate would result in a negative rate, the effect on PVIF has been calculated using a minimum rate of 0%.

#### **Sensitivity to changes in non-economic assumptions**

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 PVIF to reasonably possible changes in these non-economic assumptions at 31 December across all our insurance manufacturing subsidiaries.

	2015 \$m	2014 \$m
<b>Effect on PVIF at 31 December of:</b>		
10% increase in mortality and/or morbidity rates	(73)	(66)
10% decrease in mortality and/or morbidity rates	77	70
10% increase in lapse rates	(127)	(146)
10% decrease in lapse rates	144	165
10% increase in expense rates	(83)	(93)
10% decrease in expense rates	83	94

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## Other intangible assets

*Movement of intangible assets excluding goodwill and the PVIF*

	Internally generated		
	software \$m	Other \$m	Total \$m
<b>Cost</b>			
At 1 January 2015	6,413	2,863	9,276
Additions	857	114	971
Disposals	(134)	(159)	(293)
Amount written off	(238)	(2)	(240)
Reclassified to held for sale	(239)	(452)	(691)
Other changes	(292)	(184)	(476)
<b>At 31 December 2015</b>	<b>6,367</b>	<b>2,180</b>	<b>8,547</b>
<b>Accumulated amortisation</b>			
At 1 January 2015	(4,286)	(1,889)	(6,175)
Charge for the year <sup>1</sup>	(686)	(142)	(828)
Impairment	(149)	15	(134)
Disposals	128	147	275
Amount written off	238	2	240
Reclassified to held for sale	141	250	391
Other changes	181	120	301
<b>At 31 December 2015</b>	<b>(4,433)</b>	<b>(1,497)</b>	<b>(5,930)</b>
<b>Net carrying amount at 31 December 2015</b>	<b>1,934</b>	<b>683</b>	<b>2,617</b>
<b>Cost</b>			
At 1 January 2014	5,999	2,975	8,974
Additions	732	177	909
Disposals	(35)	(80)	(115)
Amount written off	(24)	(53)	(77)

Other changes	(259)	(156)	(415)
At 31 December 2014	6,413	2,863	9,276
Accumulated amortisation			
At 1 January 2014	(3,809)	(1,761)	(5,570)
Charge for the year <sup>1</sup>	(677)	(261)	(938)
Impairment	(11)	(54)	(65)
Disposals	32	77	109
Amount written off	24	53	77
Other changes	155	57	212
At 31 December 2014	(4,286)	(1,889)	(6,175)
Net carrying amount at 31 December 2014	2,127	974	3,101

<sup>1</sup> *The amortisation charge for the year is recognised within the income statement under Amortisation and impairment of intangible assets, with the exception of the amortisation of mortgage servicing rights which is recognised in Net fee income. The revaluation net of amortisation charge for mortgage servicing rights was \$25m in 2015 (2014: charge of \$67m).*

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Notes on the Financial Statements (continued)

**21 Investments in subsidiaries**

**21 Investments in subsidiaries**

Accounting policy

HSBC classifies investments in entities which it controls as subsidiaries. HSBC's consolidation policy is described in Note 1(g). Subsidiaries which are structured entities are covered in Note 39.

HSBC Holdings' investments in subsidiaries are stated at cost less impairment losses. Impairment losses recognised in prior periods are reversed through the income statement if there has been a change in the estimates used to determine the investment's recoverable amount since the last impairment loss was recognised.

*Principal subsidiaries of HSBC Holdings*

		At 31 December 2015		
		HSBC's		
	Country of interest in incorporation or registration	equity capital %	Issued equity capital	Share class
Europe	England	100	£797m	Ordinary £1 Preferred Ordinary £1 Series 2 Third Dollar Preference \$0.01
HSBC Bank plc				

HSBC France	France	99.99	337m	Third Dollar Preference \$0.01 Shares 5.00
HSBC Private Banking Holdings (Suisse) SA	Switzerland	100	CHF1,363m	Ordinary CHF1,000
HSBC Trinkaus & Burkhardt AG	Germany	80.65	75.4m	Shares of no par value
<b>Asia</b>				
Hang Seng Bank Limited <sup>1</sup>	Hong Kong	62.14	HK\$9,658m	Ordinary no par value
HSBC Bank Australia Limited	Australia	100	A\$811m	Ordinary no par value
HSBC Bank (China) Company Limited	PRC <sup>5</sup>	100	RMB15,400m	Ordinary CNY1.00
HSBC Bank Malaysia Berhad	Malaysia	100	RM115m	Ordinary RM0.50
HSBC Bank (Taiwan) Limited	Taiwan	100	TWD34,800m	Ordinary TWD10.00
HSBC Life (International) Limited	Bermuda	100	HK\$4,178m	Ordinary HK\$1.00
The Hongkong and Shanghai Banking Corporation Limited	Hong Kong	100	HK\$96,052m	Ordinary no par value  CIP <sup>2</sup> \$1.00  CRP <sup>3</sup> \$1.00  NIP <sup>4</sup> \$1.00
<b>Middle East and North Africa</b>				
HSBC Bank Middle East Limited	Jersey	100	\$931m	Ordinary \$1.00  CRP <sup>3</sup> \$1.00
HSBC Bank Egypt S.A.E.	Egypt	94.53	EGP2,796m	Ordinary EGP84.00
<b>North America</b>				
HSBC Bank Canada	Canada	100	C\$1,225m	Common shares of no par value
HSBC Bank USA, N.A.	USA	100	C\$500m	Preference shares of no par value
HSBC Finance Corporation	USA	100	\$2m	Common \$100
HSBC Securities (USA) Inc.	USA	100	6	Common \$0.01
	USA	100	6	Common \$0.05
<b>Latin America</b>				
HSBC Bank Brasil S.A. Banco Múltiplo	Brazil	100	BRL6,402m	Shares of no par value
HSBC Mexico, S.A., Institución de Banca Múltiple, Grupo Financiero HSBC	Mexico	99.99	MXN5,681m	Ordinary MXN2.00

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | <i>Listed in Hong Kong.</i>                       | 3 | <i>Cumulative Redeemable Preference shares.</i>       | 5 | <i>People's Republic of China.</i>              |
| 2 | <i>Cumulative Irredeemable Preference shares.</i> | 4 | <i>Non-cumulative Irredeemable Preference shares.</i> | 6 | <i>Issued equity capital is less than \$1m.</i> |

*Details of the debt, subordinated debt and preference shares issued by the principal subsidiaries to parties external to the Group are included in Notes 26 Debt securities in issue , 30 Subordinated liabilities and 34 Non-controlling interests , respectively.*

All the above subsidiaries are included in the HSBC consolidated financial statements.

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Details of all HSBC subsidiaries, as required under Section 409 of the Companies Act 2006, are set out on pages 458 to 469. The principal countries of operation are the same as the countries of incorporation except for HSBC Bank Middle East Limited, which operates mainly in the Middle East and North Africa, and HSBC Life (International) Limited, which operates mainly in Hong Kong.

HSBC is structured as a network of regional banks and locally incorporated regulated banking entities. Each bank is separately capitalised in accordance with applicable prudential requirements and maintains a capital buffer consistent with the Group's risk appetite for the relevant country or region. HSBC's capital management process culminates in the annual Group capital plan, which is approved by the Board.

HSBC Holdings is the primary provider of equity capital to its subsidiaries and also provides them with non-equity capital where necessary. These investments are substantially funded by HSBC Holdings' issuance of equity and non-equity capital and by profit retention. As part of its capital management process, HSBC Holdings seeks to maintain a balance between the composition of its capital and its investment in subsidiaries. Subject to this, there is no current or foreseen impediment to HSBC Holdings' ability to provide funding for such investments. 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, with the exception of HSBC North America Holdings Inc., on paying dividends or repaying loans and advances.

The amount of guarantees by HSBC Holdings in favour of other HSBC Group entities is set out in Note 37.

*Structured entities consolidated by HSBC where HSBC owns less than 50% of the voting rights*

	Carrying value of total consolidated assets		Nature of SPE
	2015 \$bn	2014 \$bn	
Solitaire Funding Ltd	7.3	9.0	Securities investment conduit
Mazarin Funding Limited	1.9	3.9	Securities investment conduit
Barion Funding Limited	1.1	2.0	Securities investment conduit

Malachite Funding Limited	<b>0.4</b>	1.4	Securities investment conduit
HSBC Home Equity Loan Corporation I		1.9	Securitisation
HSBC Home Equity Loan Corporation II	<b>1.6</b>	0.9	Securitisation
Regency Assets Limited	<b>15.2</b>	11.0	Conduit

In addition to the above, HSBC consolidates a number of individually insignificant structured entities with total assets of \$17.9bn (2014: \$22.9bn). For further details, see Note 39.

In each of the above cases, HSBC controls and consolidates an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

*Subsidiaries with significant non-controlling interests*

	<b>2015</b>	2014
<b>Hang Seng Bank Limited</b>		
Proportion of ownership interests and voting rights held by non-controlling interests	<b>37.86%</b>	37.86%
Place of business	<b>Hong Kong</b>	Hong Kong
	<b>\$m</b>	\$m
Profit attributable to non-controlling interests	<b>1,364</b>	760
Accumulated non-controlling interests of the subsidiary	<b>5,866</b>	5,765
Dividends paid to non-controlling interests	<b>523</b>	513
Summarised financial information:		
total assets	<b>169,813</b>	160,769
total liabilities	<b>153,458</b>	144,642
net operating income before loan impairment	<b>5,411</b>	3,687
profit for the year	<b>3,604</b>	2,007
total comprehensive income for the year	<b>1,636</b>	4,460

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## Notes on the Financial Statements (continued)

**22 Prepayments / 23 Assets held for sale and disposal groups / 24 Trading liabilities****22 Prepayments, accrued income and other assets**

	<b>2015</b>	2014
	<b>\$m</b>	\$m
Prepayments and accrued income	<b>7,765</b>	10,554
Bullion	<b>11,501</b>	15,726
Endorsements and acceptances	<b>9,149</b>	10,775
Reinsurers' share of liabilities under insurance contracts (Note 28)	<b>1,378</b>	1,032
Employee benefit assets (Note 6)	<b>5,272</b>	5,028
Other accounts	<b>9,410</b>	13,882
Property, plant and equipment	<b>9,923</b>	10,532
<b>At 31 December</b>	<b>54,398</b>	67,529

Prepayments, accrued income and other assets included \$25,310m (2014: \$33,889m) of financial assets, the majority of which were measured at amortised cost.

**23 Assets held for sale and liabilities of disposal groups held for sale****Accounting policy****Held for sale**

Assets and liabilities of disposal groups and non-current assets are classified as held for sale when their carrying amounts will be recovered primarily through sale rather than through continuing use. Held-for-sale assets and liabilities are measured at the lower of their carrying amount and fair value less cost to sell, except for those assets and liabilities that are not within the scope of the measurement requirements of IFRS 5 Non-current Assets Held for Sale and Discontinued Operations.

ely before the initial classification as held for sale, the carrying amounts of the relevant assets and liabilities are measured in accordance with applicable IFRSs. On subsequent remeasurement of a disposal group, the carrying amounts of any assets and liabilities that are not within the measurement requirements of IFRS 5, but are included in a disposal group classified as held for sale, are remeasured under applicable IFRSs. Before the fair value less costs to sell of the disposal group is determined.

	<b>2015</b>	2014
	<b>\$m</b>	\$m
<b>Held for sale at 31 December</b>		
Disposal groups	<b>41,715</b>	6,883
Non-current assets held for sale	<b>2,185</b>	764
Total assets	<b>43,900</b>	7,647
Liabilities of disposal groups	<b>36,840</b>	6,934
<b>Disposal groups</b>		

### **Brazil**

In the first half of 2015, we announced the plan to sell our operations in Brazil. At 31 December 2015, the sale was considered highly probable and therefore the assets and liabilities of the disposal group were classified as held for sale. The disposal group includes the assets and liabilities expected to be sold plus allocated goodwill as set out in the table on page 417.

The disposal group is measured at its carrying amount at 31 December 2015, which is lower than its fair value less cost to sell. The carrying amount includes a \$1.3bn deferred tax asset and \$1.3bn of allocated goodwill (see Note 20). The assets and liabilities of the disposal group have been reclassified from their individual lines in the consolidated balance sheet and are presented in separate **Held for sale** lines at 31 December 2015. There is no change to the comparative balance sheet presentation and there is no separate presentation in the income statement.

At 31 December 2015, there were no significant accounting implications in respect of the planned sale although this may evolve as it progresses. The disposal group represents a foreign operation and when the disposal completes the cumulative amount of associated exchange differences previously recognised in other comprehensive income will be reclassified to the income statement. At 31 December 2015, there was a cumulative loss of \$2.6bn in the Group's foreign exchange reserve attributable to the Brazilian operations.

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The major classes of assets and associated liabilities of disposal groups held for sale are as follows:

	Brazil \$m	Other \$m	Total \$m
Assets of disposal groups held for sale			
Trading assets	55		55
Fair value of financial assets designated at fair value	3,123		3,123
Loans and advances to banks	4,068		4,068
Loans and advances to customers	17,001	40	17,041
Reverse repurchase agreements	3,511		3,511
Financial investments	6,238		6,238
Goodwill and intangible assets	1,680		1,680
Deferred tax asset <sup>1</sup>	1,325		1,325
Prepayments, accrued income and other assets	4,674		4,674
<b>Total assets at 31 December 2015</b>	<b>41,675</b>	<b>40</b>	<b>41,715</b>
Liabilities of disposal groups held for sale			
Deposits by banks	1,521		1,521
Customer accounts	15,094	1,588	16,682
Debt securities in issue	7,957		7,957
Liabilities under insurance contracts	3,338		3,338
Accruals, deferred income and other liabilities	7,335	7	7,342
<b>Total liabilities at 31 December 2015</b>	<b>35,245</b>	<b>1,595</b>	<b>36,840</b>
Expected date of completion	<b>First Half of 2016</b>	<b>First Half of 2016</b>	
Operating segment	<b>Latin America</b>	<b>North America</b>	
Fair value of selected financial instruments which are not carried at fair value on the balance sheet at 31 December 2015			
Loans and advances to banks and customers	20,912	40	20,952
Customer accounts	15,094	1,588	16,682



*The recognition of deferred tax assets relies on an assessment of the probability and sufficiency of future taxable profits and future reversals of existing taxable temporary differences. In recognising the deferred tax asset management has critically assessed all available information, including sufficiency of future taxable profits using internal and external benchmarks, and historical performance.*

## 24 Trading liabilities

### Accounting policy

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 profit-taking. They are recognised on trade date, when HSBC enters into contractual arrangements with counterparties, and are normally derecognised when extinguished. They are initially measured at fair value, with transaction costs taken to the income statement. Subsequent changes in fair value and interest are recognised in the income statement in Net trading income.

Liabilities arising from the sale of borrowed securities are classified as held for trading.

### Trading liabilities

	2015	2014
	\$m	\$m
Deposits by banks <sup>1</sup>	27,054	41,453
Customer accounts <sup>1,2</sup>	40,208	50,600
Other debt securities in issue (Note 26) <sup>3</sup>	30,525	33,602
Other liabilities – net short positions in securities	43,827	64,917
<b>At 31 December</b>	<b>141,614</b>	<b>190,572</b>

1 Deposits by banks and Customer accounts include repos, settlement accounts, stock lending and other amounts.

2 Structured deposits placed at HSBC Bank USA and HSBC Trust Company (Delaware) National Association are insured by the Federal Deposit Insurance Corporation, a US government agency, up to \$250,000 per depositor.

3 Other debt securities in issue comprises structured notes issued by HSBC for which market risks are actively managed as part of trading portfolios.

At 31 December 2015, the cumulative amount of change in fair value attributable to changes in HSBC's credit risk was a gain of \$122m (2014: loss of \$79m).



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Notes on the Financial Statements (continued)

**25 Financial liabilities at FV / 26 Debt securities / 27 Accruals / 28 Liabilities under insurance contracts**

**25 Financial liabilities designated at fair value**

Accounting policy

The criteria for designating instruments at fair value and their measurement are described in Note 15. The fair value designation, once made, is irrevocable. Designated financial liabilities are recognised when HSBC enters into contracts with counterparties and are normally derecognised when extinguished. Examples of such designations include:

**Long-term debt issues**

The interest and/or foreign exchange exposure on certain fixed rate debt securities issued has been matched with the interest and/or foreign exchange exposure on certain swaps as part of a documented risk management strategy. An accounting mismatch would arise if the debt securities issued were accounted for at amortised cost, and this mismatch is eliminated through the fair value designation.

**Financial liabilities under unit-linked and non-linked investment contracts**

HSBC issues contracts to customers that contain insurance risk, financial risk or a combination thereof. A contract under which HSBC accepts insignificant insurance risk from another party is not classified as an insurance contract, but is accounted for as a financial liability. See Note 28 for contracts where HSBC accepts significant insurance risk.

Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries and the corresponding financial assets are designated at fair value. Liabilities are at least equivalent to the surrender or transfer value which is calculated by reference to the value of the relevant underlying funds or indices. Premiums receivable and amounts withdrawn are accounted for as increases or decreases in the liability recorded in respect of investment contracts. The incremental costs directly related to the acquisition of new investment contracts or renewing existing investment contracts are deferred and amortised over the period during which the investment management services are provided.

*Financial liabilities designated at fair value HSBC*

	2015 \$m	2014 \$m
Deposits by banks and customer accounts	193	160
Liabilities to customers under investment contracts	6,027	6,312
Debt securities in issue (Note 26)	37,678	46,364
Subordinated liabilities (Note 30)	21,168	21,822
Preferred securities (Note 30)	1,342	1,495
<b>At 31 December</b>	<b>66,408</b>	<b>76,153</b>

The carrying amount at 31 December 2015 of financial liabilities designated at fair value was \$4,147m more than the contractual amount at maturity (2014: \$5,813m more). The cumulative amount of the change in fair value attributable to changes in credit risk was a gain of \$158m (2014: loss of \$870m).

*Financial liabilities designated at fair value HSBC Holdings*

	2015 \$m	2014 \$m
Debt securities in issue (Note 26):		
owed to third parties	7,897	8,185
Subordinated liabilities (Note 30):		
owed to third parties	11,100	9,513
owed to HSBC undertakings	856	981
<b>At 31 December</b>	<b>19,853</b>	<b>18,679</b>

The carrying amount at 31 December 2015 of financial liabilities designated at fair value was \$2,127m more than the contractual amount at maturity (2014: \$2,694m more). The cumulative amount of the change in fair value attributable to changes in credit risk was a loss of \$172m (2014: loss of \$520m).

**26 Debt securities in issue**

*Accounting policy*

Financial liabilities for debt securities issued are recognised when HSBC enters into contractual arrangements with counterparties and are initially measured at fair value, which is normally the consideration received, net of directly attributable transaction costs incurred. The subsequent measurement of financial liabilities, other than those measured at fair value through profit or loss and financial guarantees, is at amortised cost, using the effective interest method to amortise the difference between proceeds received, net of directly attributable transaction costs incurred, and the redemption amount over their expected life.

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*Debt securities in issue HSBC*

	2015 \$m	2014 \$m
Bonds and medium-term notes	128,348	132,539
Other debt securities in issue	28,804	43,374
	<b>157,152</b>	175,913
Of which debt securities in issue reported as:		
trading liabilities (Note 24)	(30,525)	(33,602)
financial liabilities designated at fair value (Note 25)	(37,678)	(46,364)
<b>At 31 December</b>	<b>88,949</b>	95,947

*Debt securities in issue HSBC Holdings*

	2015 \$m	2014 \$m
Debt securities	8,857	9,194
Of which debt securities in issue reported as:		
financial liabilities designated at fair value (Note 25)	(7,897)	(8,185)
<b>At 31 December</b>	<b>960</b>	1,009

**27 Accruals, deferred income and other liabilities**

	2015 \$m	2014 \$m
Accruals and deferred income	11,129	15,075
Amounts due to investors in funds consolidated by HSBC	474	782
Obligations under finance leases	37	67
Endorsements and acceptances	9,135	10,760
Employee benefit liabilities (Note 6)	2,809	3,208

Other liabilities	<b>14,532</b>	16,570
<b>At 31 December</b>	<b>38,116</b>	46,462

Accruals, deferred income and other liabilities include \$29,358m (2014: \$39,846m) of financial liabilities, the majority of which are measured at amortised cost.

## **28 Liabilities under insurance contracts**

### **Accounting policy**

HSBC issues contracts to customers that contain insurance risk, financial risk or a combination thereof. A contract under which HSBC accepts significant insurance risk from another party by agreeing to compensate that party on the occurrence of a specified uncertain future event, is classified as an insurance contract. An insurance contract may also transfer financial risk, but is accounted for as an insurance contract if the insurance risk is significant.

### **Liabilities under insurance contracts**

Liabilities under non-linked life insurance contracts are calculated by each life insurance operation based on local actuarial principles. Liabilities under unit-linked life insurance contracts are at least equivalent to the surrender or transfer value, which is calculated by reference to the value of the relevant underlying funds or indices.

A liability adequacy test is carried out on insurance liabilities to ensure that the carrying amount of the liabilities is sufficient in the light of current estimates of future cash flows. When performing the liability adequacy test, all contractual cash flows are discounted and compared with the carrying value of the liability. When a shortfall is identified it is charged immediately to the income statement.

### **Future profit participation on insurance contracts with DPF**

Where contracts provide discretionary profit participation benefits to policyholders, liabilities for these contracts include provisions for the future discretionary benefits to policyholders. These provisions reflect the actual performance of the investment portfolio to date and management's expectation of the future performance of the assets backing the contracts, as well as other experience factors such as mortality, lapses and operational efficiency, where appropriate. This benefit may arise from the contractual terms, regulation, or past distribution policy.

### **Investment contracts with DPF**

While investment contracts with DPF are financial instruments, they continue to be treated as insurance contracts as permitted by IFRS 4 Insurance Contracts . The Group therefore recognises the premiums for those contracts as revenue and recognises as an expense the resulting increase in the carrying amount of the liability.

In the case of net unrealised investment gains on these contracts, whose discretionary benefits principally reflect the actual performance of the investment portfolio, the corresponding increase in the liabilities is recognised in either the income statement or other comprehensive income, following the treatment of the unrealised gains on the relevant assets. In the case of net unrealised losses, a deferred participating asset is recognised only to the extent that its recoverability is highly probable. Movements in the liabilities arising from realised gains and losses on relevant assets are recognised in the income statement.

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## Notes on the Financial Statements (continued)

**28 Liabilities under insurance contracts / 29 Provisions***Liabilities under insurance contracts*

	Reinsurers		
	Gross \$m	share \$m	Net \$m
Non-linked insurance contracts <sup>1</sup>			
At 1 January 2015	36,973	(772)	36,201
Claims and benefits paid	(3,200)	153	(3,047)
Increase in liabilities to policyholders	7,746	(575)	7,171
Disposals/transfers to held-for-sale	(443)	6	(437)
Exchange differences and other movements	(538)	73	(465)
<b>At 31 December 2015</b>	<b>40,538</b>	<b>(1,115)</b>	<b>39,423</b>
Investment contracts with DPF			
At 1 January 2015	25,068		25,068
Claims and benefits paid	(2,101)		(2,101)
Increase in liabilities to policyholders	2,728		2,728
Exchange differences and other movements <sup>2</sup>	(3,086)		(3,086)
<b>At 31 December 2015</b>	<b>22,609</b>		<b>22,609</b>
Linked life insurance contracts			
At 1 January 2015	11,820	(260)	11,560
Claims and benefits paid	(1,869)	64	(1,805)
Increase in liabilities to policyholders	1,398	(5)	1,393
Disposals/transfers to held-for-sale	(4,594)		(4,594)
Exchange differences and other movements <sup>3</sup>	36	(62)	(26)
<b>At 31 December 2015</b>	<b>6,791</b>	<b>(263)</b>	<b>6,528</b>
<b>Total liabilities to policyholders at 31 December 2015</b>	<b>69,938</b>	<b>(1,378)</b>	<b>68,560</b>
Non-linked insurance contracts <sup>1</sup>			
At 1 January 2014	33,950	(1,118)	32,832
Claims and benefits paid	(3,575)	175	(3,400)
Increase in liabilities to policyholders	7,764	(409)	7,355
Disposals/transfers to held-for-sale	(589)	527	(62)
Exchange differences and other movements	(577)	53	(524)

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At 31 December 2014	36,973	(772)	36,201
Investment contracts with DPF			
At 1 January 2014	26,427		26,427
Claims and benefits paid	(2,175)		(2,175)
Increase in liabilities to policyholders	3,188		3,188
Exchange differences and other movements <sup>2</sup>	(2,372)		(2,372)
At 31 December 2014	25,068		25,068
Linked life insurance contracts			
At 1 January 2014	13,804	(290)	13,514
Claims and benefits paid	(1,499)	88	(1,411)
Increase in liabilities to policyholders	2,762	33	2,795
Disposals/transfers to held-for-sale	(2,547)	74	(2,473)
Exchange differences and other movements <sup>3</sup>	(700)	(165)	(865)
At 31 December 2014	11,820	(260)	11,560
Total liabilities to policyholders at 31 December 2014	73,861	(1,032)	72,829

1 *Non-linked insurance contracts* includes liabilities under non-life insurance contracts.

2 *Exchange differences and other movements* includes movement in liabilities relating to discretionary profit participation benefits due to policyholders arising from net unrealised investment gains recognised in other comprehensive income.

3 *Exchange differences and other movements* includes amounts arising under reinsurance agreements.

The increase in liabilities to policyholders represents the aggregate of all events giving rise to additional liabilities to policyholders in the year. The key factors contributing to the movement in liabilities to policyholders included death claims, surrenders, lapses, liabilities to policyholders created at the initial inception of the policies, the declaration of bonuses and other amounts attributable to policyholders.

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## 29 Provisions

### Accounting policy

Provisions are recognised when it is probable that an outflow of economic benefits will be required to settle a present legal or constructive obligation which has arisen as a result of past events and for which a reliable estimate can be made.

### Critical accounting estimates and judgements

#### Provisions

Judgement is involved in determining whether a present obligation exists and in estimating the probability, timing and amount of any outflows. Professional expert advice is taken on the assessment of litigation, property (including onerous contracts) and similar obligations.

Provisions for legal proceedings and regulatory matters typically require a higher degree of judgement than other types of provisions. When matters are at an early stage, accounting judgements can be difficult because of the high degree of uncertainty associated with determining whether a present obligation exists, and estimating the probability and amount of any outflows that may arise. As matters progress, management and legal advisers evaluate on an ongoing basis whether provisions should be recognised, revising previous judgements and estimates as appropriate. At more advanced stages, it is typically easier to make judgements and estimates around a better defined set of possible outcomes. However, the amount provisioned can remain very sensitive to the

assumptions used. There could be a wide range of possible outcomes for any pending legal proceedings, investigations or inquiries. As a result, it is often not practicable to quantify a range of possible outcomes for individual matters. It is also not practicable to meaningfully quantify ranges of potential outcomes in aggregate for these types of provisions because of the diverse nature and circumstances of such matters and the wide range of uncertainties involved.

Provisions for customer remediation also require significant levels of estimation and judgement. The amounts of provisions recognised depend on a number of different assumptions, for example, the volume of inbound complaints, the projected period of inbound complaint volumes, the decay rate of complaint volumes, the population identified as systemically mis-sold and the number of policies per customer complaint.

### Provisions

	Legal proceedings					Total \$m
	Restructuring Contractual cost commitments \$m	and regulatory matters \$m		Customer remediation \$m	Other provisions \$m	
At 1 January 2015	197	234	2,184	1,831	552	4,998
Additional provisions/increase in provisions	430	120	2,153	765	138	3,606
Provisions utilised	(95)	(2)	(619)	(856)	(159)	(1,731)
Amounts reversed	(29)	(15)	(95)	(170)	(133)	(442)
Unwinding of discounts			40	6		46
Exchange differences and other movements	(40)	(97)	(489)	(236)	(63)	(925)
<b>At 31 December 2015</b>	<b>463</b>	<b>240</b>	<b>3,174</b>	<b>1,340</b>	<b>335</b>	<b>5,552</b>
At 1 January 2014	271	177	1,832	2,382	555	5,217
Additional provisions/increase in provisions	147	136	1,752	1,440	154	3,629
Provisions utilised	(143)	(2)	(1,109)	(1,769)	(112)	(3,135)
Amounts reversed	(43)	(46)	(281)	(184)	(66)	(620)
Unwinding of discounts		1	43	10	11	65
Exchange differences and other movements	(35)	(32)	(53)	(48)	10	(158)
<b>At 31 December 2014</b>	<b>197</b>	<b>234</b>	<b>2,184</b>	<b>1,831</b>	<b>552</b>	<b>4,998</b>

Further details of Legal proceedings and regulatory matters are set out in Note 40. Legal proceedings include civil court, arbitration or tribunal proceedings brought against HSBC companies (whether by way of claim or counterclaim) or civil disputes that may, if not settled, result in court, arbitration or tribunal proceedings. Regulatory

matters refer to investigations, reviews and other actions carried out by, or in response to the actions of, regulators or law enforcement agencies in connection with alleged wrongdoing by HSBC.

Further details of Customer remediation are set out in this note. Customer remediation refers to activities (root cause analysis, customer contact, case reviews, decision making and redress calculations) carried out by HSBC to compensate customers for losses or damages associated with a failure to comply with regulations or to treat customers fairly. Customer remediation is often initiated by HSBC in response to customer complaints and/or industry developments in sales practices, and is not necessarily initiated by regulatory action.

#### Payment protection insurance

At 31 December 2015, a provision of \$1,039m (2014: \$1,079m) was held relating to the estimated liability for redress in respect of the possible mis-selling of payment protection insurance ( PPI ) policies in previous years. An increase in provisions of \$549m was recognised during the year, primarily reflecting an increase in inbound complaints by claims management

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## Notes on the Financial Statements (continued)

**29 Provisions / 30 Subordinated liabilities**

companies compared with previous forecasts and management's current best estimate of the impact on provisions of the FCA consultation on the introduction of a time bar and the 2014 decision of the UK Supreme Court (Plevin). The current projected trend of inbound complaint volumes implies that the redress programme will be completed by the first half of 2018 taking into account the likely impact of a time bar. (2014 assumption: first quarter of 2018). Cumulative provisions made since the Judicial Review ruling in the first half of 2011 amounted to \$4.7bn of which \$3.6bn had been paid as at 31 December 2015.

The estimated liability for redress is calculated on the basis of total premiums paid by the customer plus simple interest of 8% per annum (or the rate inherent in the related loan product where higher). The basis for calculating the redress liability is the same for single premium and regular premium policies. Future estimated redress levels are based on historically observed redress per policy.

A total of 5.4m PPI policies have been sold by HSBC since 2000, generating estimated revenues of approximately \$4.0bn at 2015 average exchange rates. The gross written premiums on these policies was approximately \$5.2bn. At 31 December 2015, the estimated total complaints expected to be received was 1.9m, representing 35% of total policies sold. It is estimated that contact will be made with regard to 2.3m policies, representing 42% of total policies sold. This estimate includes inbound complaints as well as HSBC's proactive contact exercise on certain policies (outbound contact).

*The cumulative number of PPI complaints received to 31 December 2015 and the number of future claims expected*

	<b>Cumulative to 31 December 2015</b>	<b>Future expected</b>
Inbound complaints <sup>1</sup> (000s of policies)	<b>1,215</b>	<b>336</b>
Outbound contact (000s of policies)	<b>624</b>	<b>101</b>
Response rate to outbound contact	<b>44%</b>	<b>52%</b>
Average uphold rate per claim <sup>2</sup>	<b>74%</b>	<b>81%</b>
Average redress per claim (\$)	<b>3,058</b>	<b>2,844</b>
Complaints to FOS (000s of policies)	<b>121</b>	<b>51</b>
Average uphold rate per FOS claim	<b>36%</b>	<b>53%</b>

1 Excludes invalid claims where the complainant has not held a PPI policy.

2 Claims include inbound and responses to outbound contact.

The main assumptions involved in calculating the redress liability are the volume of inbound complaints, the projected period of inbound complaints, the decay rate of complaint volumes, the population identified as systemically mis-sold and the number of policies per customer complaint. The main assumptions are likely to evolve over time as root cause analysis continues, more experience is available regarding customer-initiated complaint volumes received, and we handle responses to our ongoing outbound contact.

A 100,000 increase/decrease in the total inbound complaints would increase/decrease the redress provision by approximately \$221m at 2015 average exchange rates. Each 1% increase/decrease in the response rate to our outbound contact exercise would increase/decrease the redress provision by approximately \$15m.

The decision under Plevin held that, judged on its own facts, non-disclosure of the amount of commissions payable in connection with the sale of PPI to a customer created an unfair relationship under the provisions of the UK Consumer Credit Act ( CCA ). The FCA has issued a consultation on proposed rules and guidelines in relation to the application of this ruling, together with a proposal for the introduction of a time bar. HSBC has reflected its current best estimate of the impact of these matters in the provision held as at 31 December 2015. There remains uncertainty as to what the eventual outcome of the consultation will be: HSBC will continue to review provisioning levels as further facts become known.

In addition to these factors and assumptions, the extent of the required redress will also depend on the facts and circumstances of each individual customer's case. For these reasons, there is currently a high degree of uncertainty as to the eventual costs of redress.

#### Interest rate derivatives

At 31 December 2015, a provision of \$87m (2014: \$312m) was held relating to the estimated liability for redress in respect of the possible mis-selling of interest rate derivatives in the UK. The provision relates to the estimated redress payable to customers in respect of historical payments under derivative contracts. A release to the provision of \$38m (2014: \$288m increase) was recorded during the year.

#### UK Consumer Credit Act

HSBC has undertaken a review of compliance with the fixed-sum unsecured loan agreement requirements of the CCA. \$167m was recognised at 31 December 2015 within Accruals, deferred income and other liabilities for the repayment of interest to customers (2014: \$379m), primarily where annual statements did not remind them of their right to partially prepay the loan, notwithstanding that the customer loan documentation did refer to this right. The cumulative liability to date was \$569m (2014: \$591m), of which payments of \$414m (2014: \$212m) have been made to customers. There is uncertainty as to whether other technical requirements of the CCA have been met.

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**Brazilian labour, civil and fiscal claims**

Brazilian labour, civil and fiscal litigation provisions were \$363m (2014: \$501m) as at 31 December 2015. Of these provisions, \$168m (2014: \$246m) was in respect of labour and overtime litigation claims brought by past employees against HSBC operations in Brazil following their departure from the bank. The main assumptions involved in estimating the liability are the expected number of departing employees, individual salary levels and the facts and circumstances of each individual case. These provisions form part of the Brazilian disposal group and were classified as held for sale at 31 December 2015 (see Note 23).

**30 Subordinated liabilities****HSBC**

	2015 \$m	2014 \$m
Subordinated liabilities		
At amortised cost	<b>22,702</b>	26,664
subordinated liabilities	<b>20,773</b>	22,355
preferred securities	<b>1,929</b>	4,309
Designated at fair value (Note 25)	<b>22,510</b>	23,317
subordinated liabilities	<b>21,168</b>	21,822
preferred securities	<b>1,342</b>	1,495
<b>At 31 December</b>	<b>45,212</b>	<b>49,981</b>
HSBC Holdings	<b>26,062</b>	25,277
Other HSBC	<b>19,150</b>	24,704
<b>At 31 December</b>	<b>45,212</b>	<b>49,981</b>

**HSBC's subordinated liabilities**

Subordinated liabilities rank behind senior obligations and generally count towards the capital base of HSBC. Where applicable, capital securities may be called and redeemed by HSBC subject to prior notification to the PRA and, where relevant, the consent of the local banking regulator. If not redeemed at the first call date, coupons payable may step-up or become floating rate based on interbank rates.



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Interest rates on the floating rate capital securities are generally related to interbank offered rates. On the remaining capital securities, interest is payable at fixed rates of up to 10.176%.

The balance sheet amounts disclosed below are presented on an IFRSs basis and do not reflect the amount that the instruments contribute to regulatory capital due to the inclusion of issuance costs, regulatory amortisation and regulatory eligibility limits prescribed in the grandfathering provisions under CRD IV.

*HSBC's subordinated liabilities in issue*

		First call date	Maturity date	2015 \$m	2014 \$m
<b>Additional tier 1 capital securities guaranteed by HSBC Holdings plc<sup>1</sup></b>					
£500m	8.208% non-cumulative step-up perpetual preferred securities <sup>2</sup>	Jun 2015			779
750m	5.13% non-cumulative step-up perpetual preferred securities <sup>3</sup>	Mar 2016		856	979
\$900m	10.176% non-cumulative step-up perpetual preferred securities, series 2	Jun 2030		891	891
				<b>1,747</b>	<b>2,649</b>
<b>Additional tier 1 capital securities guaranteed by HSBC Bank plc<sup>1</sup></b>					
£300m	5.862% non-cumulative step-up perpetual preferred securities	Apr 2020		488	515
£700m	5.844% non-cumulative step-up perpetual preferred securities	Nov 2031		1,038	1,091
				<b>1,526</b>	<b>1,606</b>
<b>Tier 2 securities issued by HSBC Bank plc</b>					
£500m	4.75% callable subordinated notes <sup>4</sup>	Sep 2015	Sep 2020		802
£350m	5.00% callable subordinated notes <sup>5</sup>	Mar 2018	Mar 2023	562	605
£300m	6.50% subordinated notes		Jul 2023	444	466
£350m	5.375% callable subordinated step-up notes <sup>6</sup>	Nov 2025	Nov 2030	569	620
£500m	5.375% subordinated notes		Aug 2033	846	905
£225m	6.25% subordinated notes		Jan 2041	332	349
£600m	4.75% subordinated notes		Mar 2046	879	924
500m	Callable subordinated floating rate notes <sup>4</sup>	Sep 2015	Sep 2020		588
\$300m	7.65% subordinated notes		May 2025	386	400
\$750m	Undated floating rate primary capital notes	Jun 1990		750	750
\$500m	Undated floating rate primary capital notes	Sep 1990		500	500
\$300m	Undated floating rate primary capital notes, series 3	Jun 1992		300	300

**5,568**

7,209

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## Notes on the Financial Statements (continued)

**30 Subordinated liabilities**

		First call date	Maturity date	2015 \$m	2014 \$m
<b>Tier 2 securities issued by The Hongkong and Shanghai Banking Corporation Ltd</b>					
\$400m	Primary capital undated floating rate notes <sup>7</sup>	Aug 1990		401	403
\$400m	Primary capital undated floating rate notes (second series) <sup>8</sup>	Dec 1990			401
\$400m	Primary capital undated floating rate notes (third series)	Jul 1991		400	400
				<b>801</b>	1,204
<b>Tier 2 securities issued by HSBC Bank Australia Limited</b>					
AUD200m	Callable subordinated floating rate notes <sup>9</sup>	Nov 2015	Nov 2020		164
					164
<b>Tier 2 securities issued by HSBC Bank Malaysia Berhad</b>					
MYR500m	4.35% subordinated bonds	Jun 2017	Jun 2022	116	143
MYR500m	5.05% subordinated bonds	Nov 2022	Nov 2027	116	144
				<b>232</b>	287
<b>Tier 2 securities issued by HSBC USA Inc.</b>					
\$200m	7.808% capital securities <sup>10</sup>	Dec 2006	Dec 2026		200
\$200m	8.38% capital securities <sup>10</sup>	May 2007	May 2027		200
\$150m	7.75% Capital Trust pass through securities <sup>10</sup>	Nov 2006	Nov 2026		150
\$750m	5.00% subordinated notes		Sep 2020	747	738
\$250m	7.20% subordinated debentures		Jul 2097	220	216
	Other subordinated liabilities each less than \$150m <sup>11</sup>			299	297
				<b>1,266</b>	1,801
<b>Tier 2 securities issued by HSBC Bank USA, N.A.</b>					
\$500m	6.00% subordinated notes		Aug 2017	502	508
\$1,250m	4.875% subordinated notes		Aug 2020	1,258	1,210
\$1,000m	5.875% subordinated notes		Nov 2034	1,142	1,245
\$750m	5.625% subordinated notes		Aug 2035	850	934
\$700m	7.00% subordinated notes		Jan 2039	691	676

				4,443	4,573
<b>Tier 2 securities issued by HSBC Finance Corporation</b>					
\$1,000m	5.911% trust preferred securities <sup>9</sup>	Nov 2015	Nov 2035		998
\$2,939m	6.676% senior subordinated notes <sup>12</sup>		Jan 2021	2,188	2,185
				2,188	3,183
<b>Tier 2 securities issued by HSBC Bank Brazil S.A.<sup>13</sup></b>					
BRL383m	Subordinated certificates of deposit		Feb 2015		144
BRL500m	Subordinated floating rate certificates of deposit		Dec 2016		188
	Other subordinated liabilities each less than \$150m <sup>11</sup>				81
					413
<b>Tier 2 securities issued by HSBC Bank Canada</b>					
CAD400m	4.80% subordinated debentures	Apr 2017	Apr 2022	298	367
CAD200m	4.94% subordinated debentures <sup>7</sup>	Mar 2016	Mar 2021	144	172
CAD39m	Floating rate debentures	Oct 1996	Nov 2083	29	34
				471	573
<b>Securities issued by HSBC Mexico, S.A.</b>					
MXN1,818m	Non-convertible subordinated obligations <sup>14</sup>	Sep 2013	Sep 2018	105	124
MXN2,273m	Non-convertible subordinated obligations <sup>14</sup>	Dec 2013	Dec 2018	131	154
\$300m	Non-convertible subordinated obligations <sup>14,15</sup>	Jun 2014	Jun 2019	240	240
				476	518
<b>Securities issued by other HSBC subsidiaries</b>					
	Other subordinated liabilities each less than \$200m <sup>11</sup>			432	524
<b>Subordinated liabilities issued by HSBC subsidiaries at 31 December</b>				<b>19,150</b>	<b>24,704</b>

1 See paragraph below, *Guaranteed by HSBC Holdings or HSBC Bank plc*.

2 In June 2015, HSBC called and redeemed £500m 8.208% non-cumulative step-up perpetual preferred securities at par.

3 In February 2016, HSBC gave notice that it will call and redeem the 750m 5.13% non-cumulative step-up perpetual preferred securities.

4 In September 2015, HSBC called and redeemed £500m 4.75% callable subordinated notes and 500m callable subordinated floating rate notes at par.

5 The interest rate payable after March 2018 is the sum of the gross redemption yield of the then prevailing five-year UK gilt plus 1.80%.

6 The interest rate payable after November 2025 is the sum of the three-month sterling Libor plus 1.50%.

7 In January 2016, HSBC gave notice that it will call and redeem the \$400m Primary capital undated floating rate notes and CAD200m 4.94% subordinated debentures.

8 In December 2015, HSBC called and redeemed \$400m Primary capital undated floating rate notes at par.

9 In November 2015, HSBC called and redeemed \$1,000m 5.911% trust preferred securities and AUD 200m callable subordinated floating rate notes at par.

10 In June 2015, HSBC called and redeemed \$200m 7.808% capital securities, \$200m 8.38% capital securities, and \$150m 7.75% Capital Trust pass through securities at par.

11 Some securities included here are ineligible for inclusion in the capital base of HSBC in accordance with CRD IV rules.

12 Approximately \$731m of the senior subordinated notes are held by HSBC Holdings.

13 Included in Note 23, Assets held for sale and liabilities of disposal groups held for sale.

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14 These securities are ineligible for inclusion in the capital base of HSBC in accordance with CRD IV rules.

15 Approximately \$60m of the subordinated obligations are held by HSBC Holdings.

**HSBC Holdings**

	2015 \$m	2014 \$m
Subordinated liabilities:		
at amortised cost	15,895	17,255
designated at fair value (Note 25)	11,956	10,494
<b>At 31 December</b>	<b>27,851</b>	<b>27,749</b>

*HSBC Holdings subordinated liabilities*

		2015 \$m	2014 \$m
	First call date		
	Maturity date		
<b>Tier 2 securities issued by HSBC Holdings plc</b>			
<b>Amounts owed to third parties</b>			
\$488m	7.625% subordinated notes <sup>1</sup>	531	538
\$222m	7.35% subordinated notes <sup>1</sup>	278	278
\$2,000m	6.5% subordinated notes <sup>1</sup>	2,029	2,029
\$2,500m	6.5% subordinated notes <sup>1</sup>	3,085	3,278
\$1,500m	6.8% subordinated notes <sup>1</sup>	1,487	1,487
\$2,000m	4.25% subordinated notes <sup>2,5</sup>	2,078	2,069
\$1,500m	5.25% subordinated notes <sup>2,5</sup>	1,735	1,735
\$1,500m	4.25% subordinated notes <sup>2</sup>	1,529	
£900m	6.375% callable subordinated notes <sup>1,3</sup>	1,432	1,558
£650m	5.75% subordinated notes <sup>2</sup>	1,079	1,176
£650m	6.75% subordinated notes <sup>2</sup>	955	1,005
£750m	7.0% subordinated notes <sup>2</sup>	1,159	1,217
£900m	6.0% subordinated notes <sup>2</sup>	1,310	1,379
1,600m	6.25% subordinated notes <sup>2</sup>	1,748	1,950
1,750m	6.0% subordinated notes <sup>2</sup>	2,284	2,623
700m	3.625% callable subordinated notes <sup>1,4</sup>		878

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1,500m	3.375% callable subordinated notes <sup>2,5</sup>	Jan 2019	Jan 2024	<b>1,694</b>	1,898
1,500m	3.0% subordinated notes <sup>2</sup>		Jun 2025	<b>1,691</b>	
				<b>26,104</b>	25,098
<b>Amounts owed to HSBC undertakings</b>					
£500m	8.208% subordinated step-up cumulative notes <sup>4</sup>	Jun 2015	Jun 2040		779
750m	5.13% fixed/floating subordinated notes	Mar 2016	Dec 2044	<b>856</b>	981
\$900m	10.176% subordinated step-up cumulative notes	Jun 2030	Jun 2040	<b>891</b>	891
				<b>1,747</b>	2,651
<b>At 31 December</b>				<b>27,851</b>	<b>27,749</b>

- 1 Amounts owed to third parties represent securities included in the capital base of HSBC as tier 2 securities in accordance with the grandfathering provisions under CRD IV rules.*
- 2 These securities are included in the capital base of HSBC as fully CRD IV compliant tier 2 securities on an end point basis.*
- 3 The interest rate payable after October 2017 is the sum of the three-month sterling Libor plus 1.3%.*
- 4 In June 2015, HSBC Holdings called and redeemed the 700m 3.625% callable subordinated notes and £500m 8.208% non-cumulative step-up perpetual preferred securities at par.*
- 5 These subordinated notes are measured at amortised cost in HSBC Holdings, where the interest rate risk is hedged using a fair value hedge, while they are measured at fair value in the Group.*

**Additional tier 1 capital securities**

HSBC has included three types of additional tier 1 capital securities in its tier 1 capital. Additional tier 1 capital securities are perpetual subordinated securities on which coupon payments may be deferred or cancelled at the discretion of HSBC Holdings. The securities presented in this Note are accounted for as liabilities because HSBC has an obligation to pay dividends in perpetuity. See Note 35 for the other two types of additional tier 1 capital securities accounted for as equity.

The additional tier 1 securities presented in this section do not meet the identifying criteria in full for recognition as tier 1 capital under CRD IV but are eligible as regulatory capital subject to grandfathering limits and progressive phase-out.

**Guaranteed by HSBC Holdings or HSBC Bank plc**

The five capital securities above that are guaranteed on a subordinated basis by HSBC Holdings or HSBC Bank plc ( HSBC Bank ) and are non-cumulative step-up perpetual preferred securities issued by Jersey limited partnerships. The proceeds of the issues were on-lent to the respective guarantors by the limited partnerships in the form of subordinated notes. These preferred securities qualify as additional tier 1 capital for HSBC under CRD IV by virtue of the application of grandfathering provisions, and the two capital securities guaranteed by HSBC Bank also qualify as additional tier 1 capital for HSBC Bank (on a solo and a consolidated basis) under CRD IV by virtue of the same grandfathering process.





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**Notes on the Financial Statements** (continued)**30 Subordinated liabilities / 31 Maturity analysis**

These preferred securities, together with the guarantee, are intended to provide investors with economic rights equivalent to the rights that they would have had if they had purchased non-cumulative perpetual preference shares of the relevant issuer. There are limitations on the payment of distributions if such payments are prohibited under UK banking regulations or other requirements, if a payment would cause a breach of HSBC's capital adequacy requirements or if HSBC Holdings or HSBC Bank have insufficient distributable reserves (as defined).

HSBC Holdings and HSBC Bank have individually covenanted that if prevented under certain circumstances from paying distributions on the preferred securities in full, they will not pay dividends or other distributions in respect of their ordinary shares, or effect repurchases or redemptions of their ordinary shares, until the distribution on the preferred securities has been paid in full.

With respect to preferred securities guaranteed by HSBC Holdings, if (i) HSBC's total capital ratio falls below the regulatory minimum ratio required or (ii) the Directors expect, in view of the deteriorating financial condition of HSBC Holdings, that (i) will occur in the near term, then the preferred securities will be substituted by preference shares of HSBC Holdings which have economic terms which are in all material respects equivalent to those of the preferred securities and the guarantee taken together.

With respect to preferred securities guaranteed by HSBC Bank, if (i) any of the two issues of preferred securities are outstanding in April 2049 or November 2048, respectively, or (ii) the total capital ratio of HSBC Bank on a solo and consolidated basis falls below the regulatory minimum ratio required or (iii) in view of the deteriorating financial condition of HSBC Bank, the Directors expect (ii) to occur in the near term, then the preferred securities will be substituted by preference shares of HSBC Bank having economic terms which are in all material respects equivalent to those of the preferred securities and the guarantee taken together.

**Tier 2 capital securities**

These capital securities are included within HSBC's regulatory capital base as tier 2 capital under CRD IV by virtue of the application of grandfathering provisions (with the exception of identified HSBC Holding securities which are compliant with CRD IV end point rules). Tier 2 capital securities are either perpetual subordinated securities or dated securities on which there is an obligation to pay coupons. In accordance with CRD IV, the capital contribution of all tier 2 securities is amortised for regulatory purposes in their final five years before maturity.

**31 Maturity analysis of assets, liabilities and off-balance sheet commitments**

The table on page 427 provides an analysis of consolidated total assets, liabilities and off-balance sheet commitments by residual contractual maturity at the balance sheet date. Asset and liability balances are included in the maturity

analysis as follows:

except for reverse repos, repos and debt securities in issue, trading assets and liabilities (including trading derivatives) are included in the Due not more than 1 month time bucket, and not by contractual maturity because trading balances are typically held for short periods of time;

financial assets and liabilities with no contractual maturity (such as equity securities) are included in the Due over 5 years time bucket. Undated or perpetual instruments are classified based on the contractual notice period which the counterparty of the instrument is entitled to give. Where there is no contractual notice period, undated or perpetual contracts are included in the Due over 5 years time bucket;

non-financial assets and liabilities with no contractual maturity (such as property, plant and equipment, goodwill and intangible assets, current and deferred tax assets and liabilities and retirement benefit liabilities) are included in the Due over 5 years time bucket;

financial instruments included within assets and liabilities of disposal groups held for sale are classified on the basis of the contractual maturity of the underlying instruments and not on the basis of the disposal transaction; and

liabilities under insurance contracts are included in the Due over 5 years time bucket. Liabilities under investment contracts are classified in accordance with their contractual maturity. Undated investment contracts are classified based on the contractual notice period investors are entitled to give. Where there is no contractual notice period, undated contracts are included in the Due over 5 years time bucket.

Loan and other credit-related commitments are classified on the basis of the earliest date they can be drawn down.

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*Maturity analysis of assets and liabilities*

	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
Financial assets									
Cash and balances at central banks	98,934								98,934
Loans in the course of collection from other banks									
Long Kong government certificates of indebtedness									
Trading assets	224,691	34				112			224,837
Reverse repos	292	34				112			432
Other trading assets	224,399								224,399

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Financial assets designated at fair value	429	194	222	83	390	896	2,603	19,035	23,851
Derivatives trading	285,797	215	223	198	33	499	841	670	288,477
Non-trading	285,678	215	223	198	33	499	841	670	285,677
Loans and advances to banks	57,296	14,530	4,063	1,964	2,499	5,134	3,274	1,641	90,400
Loans and advances to customers	176,862	69,638	54,730	33,095	34,774	81,560	201,253	272,542	924,451
Personal	39,191	8,328	8,510	7,457	9,350	22,438	57,283	218,646	371,200
Corporate and commercial	123,901	54,711	40,489	21,081	21,811	50,355	131,166	49,564	493,071
Financial	13,770	6,599	5,731	4,557	3,613	8,767	12,804	4,332	60,179
Reverse purchase agreements	110,478	21,978	7,220	2,786	580	2,985	228		146,250
Non-trading	35,104	59,098	36,897	19,102	17,293	48,634	94,549	118,278	428,951
Financial	15,816	2,628	2,544	1,218	2,611	4,675	6,365	4,422	40,270
Assets held for sale	12,732	6,682	1,995	483	395	463	445	2,115	25,310
Accrued income and other financial assets									
Financial assets at December 31, 2015	1,052,317	174,997	107,894	58,929	58,575	144,958	309,558	418,703	2,325,930
Non-financial assets								83,725	83,725
Total assets at December 31, 2015	1,052,317	174,997	107,894	58,929	58,575	144,958	309,558	502,428	2,409,655

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## Notes on the Financial Statements (continued)

**31 Maturity analysis***Maturity analysis of assets and liabilities (continued)*

	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
<b>Financial liabilities</b>									
Hong Kong currency notes in circulation	28,410								28,410
Deposits by banks	46,693	2,225	1,049	325	116	712	3,182	69	54,371
Customer accounts <sup>1</sup>	1,185,091	50,831	21,397	10,421	10,869	6,596	3,852	529	1,289,586
personal	574,468	27,646	13,032	7,371	7,990	3,566	2,920	354	637,347
corporate and commercial	459,813	18,802	7,314	2,479	2,495	2,926	828	156	494,813
financial	150,810	4,383	1,051	571	384	104	104	19	157,426
Repurchase agreements									
non-trading	73,478	3,788	1,816	164	154		500	500	80,400
Items in the course of transmission to other banks	5,638								5,638
Trading liabilities	111,691	1,471	1,529	882	2,184	4,344	10,105	9,408	141,614
repos	77	365							442
	967	1,106	1,529	882	2,184	4,344	10,105	9,408	30,525

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debt  
securities in  
issue  
other trading  
liabilities  
Financial  
liabilities  
designated at  
fair value  
debt  
securities in  
issue: covered  
bonds  
debt  
securities in  
issue:  
otherwise  
secured  
debt  
securities in  
issue:  
unsecured  
subordinated  
liabilities and  
preferred  
securities  
other  
Derivatives  
trading  
non-trading  
Debt  
securities in  
issue  
covered  
bonds  
otherwise  
secured  
unsecured  
Liabilities of  
disposal  
groups held  
for sale  
Accruals and  
other financial  
liabilities  
Subordinated  
liabilities  
**Total  
financial  
liabilities at**

<b>110,647</b>									<b>110,647</b>
<b>2,036</b>	<b>1,822</b>	<b>2,943</b>	<b>342</b>	<b>1,900</b>	<b>4,930</b>	<b>14,316</b>	<b>38,119</b>		<b>66,408</b>
					<b>2,012</b>	<b>1,608</b>	<b>2,577</b>		<b>6,197</b>
<b>1,972</b>	<b>973</b>	<b>2,926</b>	<b>342</b>	<b>1,786</b>	<b>2,918</b>	<b>9,819</b>	<b>10,745</b>		<b>31,481</b>
	<b>848</b>					<b>2,773</b>	<b>18,889</b>		<b>22,510</b>
<b>64</b>	<b>1</b>	<b>17</b>		<b>114</b>		<b>116</b>	<b>5,908</b>		<b>6,220</b>
<b>276,765</b>	<b>34</b>	<b>251</b>	<b>213</b>	<b>52</b>	<b>524</b>	<b>1,063</b>	<b>2,169</b>		<b>281,071</b>
<b>276,558</b>									<b>276,558</b>
<b>207</b>	<b>34</b>	<b>251</b>	<b>213</b>	<b>52</b>	<b>524</b>	<b>1,063</b>	<b>2,169</b>		<b>4,513</b>
<b>16,536</b>	<b>9,326</b>	<b>16,295</b>	<b>5,542</b>	<b>1,365</b>	<b>10,754</b>	<b>22,866</b>	<b>6,265</b>		<b>88,949</b>
		<b>1</b>		<b>1</b>	<b>83</b>	<b>17</b>	<b>33</b>		<b>135</b>
<b>8,436</b>	<b>173</b>	<b>195</b>	<b>206</b>	<b>173</b>	<b>2,082</b>	<b>4,354</b>	<b>1,118</b>		<b>16,737</b>
<b>8,100</b>	<b>9,153</b>	<b>16,099</b>	<b>5,336</b>	<b>1,191</b>	<b>8,589</b>	<b>18,495</b>	<b>5,114</b>		<b>72,077</b>
<b>20,350</b>	<b>1,416</b>	<b>1,548</b>	<b>1,344</b>	<b>1,246</b>	<b>5,050</b>	<b>1,484</b>	<b>115</b>		<b>32,553</b>
<b>14,802</b>	<b>7,965</b>	<b>2,467</b>	<b>659</b>	<b>421</b>	<b>925</b>	<b>1,454</b>	<b>665</b>		<b>29,358</b>
	<b>401</b>			<b>34</b>	<b>650</b>	<b>4,579</b>	<b>17,038</b>		<b>22,702</b>
<b>1,781,490</b>	<b>79,279</b>	<b>49,295</b>	<b>19,892</b>	<b>18,341</b>	<b>34,485</b>	<b>63,401</b>	<b>74,877</b>		<b>2,121,060</b>

<b>31 December 2015</b>									
Non-financial liabilities								<b>91,078</b>	<b>91,078</b>
<b>Total liabilities at 31 December 2015</b>	<b>1,781,490</b>	<b>79,279</b>	<b>49,295</b>	<b>19,892</b>	<b>18,341</b>	<b>34,485</b>	<b>63,401</b>	<b>165,955</b>	<b>2,212,138</b>

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	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
Financial assets									
Cash and balances at central banks	129,957								129,957
Loans in the course of collection from other banks	4,927								4,927
Government securities									
Certificates of indebtedness	27,674								27,674
Trading assets	303,463						730		304,193
Reverse repos	567						730		1,297
Other trading assets	302,896								302,896
Financial assets designated at fair value	244	399	417	346	208	1,825	4,634	20,964	29,033
Derivatives	341,558	56	463	220	32	1,003	1,033	643	345,005
Other trading	341,416								341,416



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non-trading	142	56	463	220	32	1,003	1,033	643	3,599
loans and									
advances to									
banks	73,758	17,649	5,682	1,934	1,850	7,371	1,981	1,924	112,149
loans and									
advances to									
customers	203,130	76,236	55,018	35,347	37,674	91,300	187,728	288,227	974,666
personal	42,170	9,673	8,911	7,486	8,672	27,305	54,439	230,298	388,955
corporate									
and									
commercial	146,250	61,809	41,924	23,720	23,697	56,398	124,796	56,590	535,188
financial	14,710	4,754	4,183	4,141	5,305	7,597	8,493	1,339	50,522
reverse									
purchase									
agreements									
non-trading	116,002	30,490	9,076	2,230	582	868	2,465		161,711
financial									
investments	28,237	50,445	41,503	14,577	17,011	48,392	96,891	118,411	415,466
assets held									
for sale	114	186	13	18	10	41	126	6,224	6,733
accrued									
income and									
other									
financial									
assets	17,756	7,386	2,402	587	317	707	1,156	3,579	33,899
financial									
assets at									
December									
31,	1,246,820	182,847	114,574	55,259	57,684	151,507	296,744	439,972	2,545,400
non-financial									
assets								88,732	88,732
total assets at									
December									
31,	1,246,820	182,847	114,574	55,259	57,684	151,507	296,744	528,704	2,634,132

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## Notes on the Financial Statements (continued)

**31 Maturity analysis***Maturity analysis of assets and liabilities (continued)*

	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
Financial liabilities									
Hong Kong currency notes in circulation	27,674								27,674
Deposits by banks	66,829	2,890	2,539	511	810	621	2,963	263	77,426
Customer accounts <sup>1</sup>	1,216,574	57,127	32,925	15,023	13,586	9,278	5,819	310	1,350,642
personal	572,459	28,580	16,728	10,609	9,625	7,220	3,967	125	649,313
corporate and commercial	465,990	21,841	10,688	3,716	2,894	1,615	1,316	150	508,210
financial	178,125	6,706	5,509	698	1,067	443	536	35	193,119
Repurchase agreements									
non-trading	95,243	5,029	4,054	1,392	714			1,000	107,432
Items in the course of transmission to other banks	5,990								5,990
Trading liabilities	155,604	2,041	2,636	1,439	2,918	5,744	9,603	10,587	190,572
repos	746	909	224	264	1,249	406			3,798

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debt securities in issue	1,686	1,132	2,412	1,175	1,669	5,338	9,603	10,587	33,602
other trading liabilities	153,172								153,172
Financial liabilities designated at fair value	981	912	4,264	972	1,557	8,500	15,037	43,930	76,153
debt securities in issue: covered bonds				205			2,705	2,942	5,852
debt securities in issue: otherwise secured									
debt securities in issue: unsecured	942	868	4,242	742	1,409	8,500	9,576	14,233	40,512
subordinated liabilities and preferred securities		36			18		2,623	20,640	23,317
other	39	8	22	25	130		133	6,115	6,472
Derivatives trading	335,802	23	86	223	54	621	1,121	2,739	340,669
non-trading	335,400								335,400
Debt securities in issue: covered bonds							81		81
otherwise secured	8,807	1,063	60	283	272	912	1,562	1,008	13,967
unsecured	5,934	14,361	12,967	7,571	5,778	13,297	17,838	4,153	81,899
Liabilities of disposal groups held for sale	191	28	56	55	63	213	551	2,837	3,994
Accruals and other financial liabilities	20,893	9,170	3,013	1,166	1,757	1,355	1,674	818	39,846
Subordinated liabilities		150		3	167	113	3,607	22,624	26,664
Total financial liabilities at	1,940,522	92,794	62,600	28,638	27,676	40,654	59,856	90,269	2,343,009

31 December 2014										
Non-financial liabilities									91,152	91,152
Total liabilities at 31 December 2014	1,940,522	92,794	62,600	28,638	27,676	40,654	59,856	181,421	2,434,161	

1 *Customer accounts* includes \$342,908m (2014: \$342,927m) insured by guarantee schemes.

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*Maturity analysis of off-balance sheet commitments received*

	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
At 31 December 2015 Loan and other credit-related commitments	3,472		2,149			111			5,732
At 31 December 2014 Loan and other credit-related commitments	3,313		4,312	607					8,232

*Maturity analysis of off-balance sheet commitments given*

Due not	Due over	Total
---------	----------	-------

	more than	Due over	Due over	Due over	Due over	Due over	Due over	5 years	
	1 month	1 month	3 months	6 months	9 months	1 year	2 years		
		but not more than	but not more than	but not more than	but not more than	but not more than	but not more than		
		3 months	6 months	9 months	1 year	2 years	5 years		
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>At 31 December 2015</b>									
Loan and other credit-related commitments	472,277	45,792	16,271	9,798	47,122	11,325	48,756	15,089	666,430
Of which:									
personal	161,843	11,547	6,333	963	19,607	1,207	425	1,018	202,943
corporate and commercial	272,044	32,764	9,126	8,372	23,984	8,227	38,838	12,558	405,913
financial	38,390	1,481	812	463	3,531	1,891	9,493	1,513	57,574

<b>At 31 December 2014</b>									
Loan and other credit-related commitments	455,319	52,398	8,919	14,163	41,500	13,979	48,333	16,769	651,380
Of which:									
personal	179,088	15,784	452	305	14,036	1,432	1,003	955	213,055
corporate and commercial	239,646	34,657	7,595	12,556	23,519	9,926	36,918	12,185	377,002
financial	36,585	1,957	872	1,302	3,945	2,621	10,412	3,629	61,323

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## Notes on the Financial Statements (continued)

**31 Maturity analysis**

## HSBC Holdings

*Maturity analysis of assets, liabilities and off-balance sheet commitments*

	Due over 1 month Due not	Due over 3 months but not	Due over 6 months but not	Due over 9 months but not	Due over 1 year but not	Due over 2 years but not	Due over 5 years	Total
	more than 1 month \$m	more than 3 months \$m	more than 6 months \$m	more than 9 months \$m	more than 1 year \$m	more than 2 years \$m	more than 5 years \$m	Total \$m
<b>Financial assets</b>								
Cash at bank and in hand:								
balances with HSBC undertakings	242							242
Derivatives trading	1,990					109	368	2,467
non-trading	1,990					109	368	477
Loans and advances to HSBC undertakings	7,805	2,629	4,618				29,298	44,350
Financial investments in HSBC undertakings	40	6					4,239	4,285

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Accrued income and other financial assets	7						109	116
<b>Total financial assets at 31 December 2015</b>	<b>10,084</b>	<b>2,635</b>	<b>4,618</b>				<b>109</b>	<b>51,460</b>
Non-financial assets							98,734	98,734
<b>Total assets at 31 December 2015</b>	<b>10,084</b>	<b>2,635</b>	<b>4,618</b>				<b>109</b>	<b>132,748</b>
<b>Financial liabilities</b>								
Amounts owed to HSBC undertakings	1,629					415	108	2,152
Financial liabilities designated at fair value		960					2,285	16,608
debt securities in issue		960					6,937	7,897
subordinated liabilities and preferred securities							2,285	9,671
Derivatives trading	2,065						213	2,278
non-trading	2,065							2,065
Debt securities in issue								213
Accruals and other financial liabilities	1,231	195	132	20			960	960
Subordinated liabilities							1,749	14,146
<b>Total financial liabilities at 31 December 2015</b>	<b>4,925</b>	<b>1,155</b>	<b>132</b>	<b>20</b>		<b>415</b>	<b>4,247</b>	<b>31,822</b>
Non-financial liabilities							64	64
<b>Total liabilities at 31 December 2015</b>	<b>4,925</b>	<b>1,155</b>	<b>132</b>	<b>20</b>		<b>415</b>	<b>4,247</b>	<b>31,886</b>
<b>Off-balance sheet commitments</b>								



**given**  
Undrawn formal  
standby facilities,  
credit lines and  
other  
commitments to  
lend



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	Due over 1 month	Due over 3 months	Due over 6 months	Due over 9 months	Due over 1 year	Due over 2 years	Due over 5 years	Total \$m
Financial assets								
Cash at bank and in hand:								
balances with HSBC								
undertakings	249							249
Derivatives	2,287					127	357	2,771
trading	2,287							2,287
non-trading						127	357	484
Loans and advances to HSBC								
undertakings	7,007	858	7,676		14		28,355	43,910
Financial investments in HSBC								
undertakings	26	6					4,041	4,073
Accrued income and other financial assets	8							8
Total financial assets at 31 December 2014	9,577	864	7,676		14	127	32,753	51,011

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Non-financial assets								96,853	96,853
Total assets at 31 December 2014	9,577	864	7,676		14		127	129,606	147,864
Financial liabilities									
Amounts owed to HSBC undertakings	2,423		32		1	436			2,892
Financial liabilities designated at fair value						1,110	2,623	14,946	18,679
debt securities in issue						1,110		7,075	8,185
subordinated liabilities and preferred securities							2,623	7,871	10,494
Derivatives trading	1,066						103		1,169
non-trading	1,066						103		1,066
Debt securities in issue								1,009	1,009
Accruals and other financial liabilities	924	208	137	21					1,290
Subordinated liabilities							1,951	15,304	17,255
Total financial liabilities at 31 December 2014	4,413	208	169	21	1	1,546	4,677	31,259	42,294
Non-financial liabilities								125	125
Total liabilities at 31 December 2014	4,413	208	169	21	1	1,546	4,677	31,384	42,419
Off-balance sheet commitments given									
Undrawn formal standby facilities, credit lines and other commitments to lend	16								16

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Notes on the Financial Statements (continued)

**32 Offsetting of financial assets and financial liabilities**

**32 Offsetting of financial assets and financial liabilities**

Accounting policy

Financial assets and financial liabilities are offset and the net amount is reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis, or realise the asset and settle the liability simultaneously ( the offset criteria ).

The disclosure below has been enhanced this year with the inclusion of Amounts not subject to enforceable netting arrangements resulting in a change in the basis of preparation from the prior period. Prior period data have been represented accordingly.

The Amounts not set off in the balance sheet in the following table for derivatives and reverse repurchase/repurchase, stock borrowing/lending and similar agreements include transactions where:

the counterparty has an offsetting exposure with HSBC and a master netting or similar arrangement is in place with a right of set off only in the event of default, insolvency or bankruptcy, or the offset criteria are otherwise not satisfied; and

cash and non-cash collateral has been received/pledged in respect of the transactions described above. For loans and advances to customers and customer accounts at amortised cost the amounts included in the table below typically relate to transactions entered into with corporate and commercial customers for working capital management purposes. The Amounts not set off in the balance sheet relate to transactions where the customer has an offsetting exposure with HSBC and an agreement is in place with the right of offset but the offset criteria are otherwise not satisfied. For risk management purposes, the net amounts of such exposures are subject to limits which are monitored and the relevant customer agreements are subject to review and updated, as necessary, to ensure that the legal right of

offset remains appropriate.

Footnotes to the table on page 435 are set out below:

- 1 *At 31 December 2015, the amount of cash margin received that has been offset against the gross derivatives assets is \$4,135m (2014: \$606m). The amount of cash margin paid that has been offset against the gross derivatives liabilities is \$4,224m (2014: \$190m).*
- 2 *For the amount of reverse repos, stock borrowing and similar agreements recognised in the balance sheet, see the Funding sources and uses; table on page 160. In the analysis below, the \$7,556m (2014: \$9,266m) of trading assets presented in the balance sheet comprised \$438m of reverse repos (2014: \$1,297m) and \$7,118m of stock borrowing (2014: \$7,969m).*
- 3 *At 31 December 2015, the total amount of loans and advances to customers at amortised cost was \$924,454m (2014: \$974,660m) of which \$45,904m (2014: \$62,096m) was subject to offsetting. For the amount of loans and advances to customers at amortised cost recognised in the balance sheet, see the Funding sources and uses table on page 160.*
- 4 *For the amount of repos, stock lending and similar agreements recognised in the balance sheet, see the Funding sources and uses table on page 160. In the analysis below, the \$9,301m (2014: \$15,830m) of trading liabilities presented in the balance sheet comprised \$442m of repos (2014: \$3,798m) and \$8,859m of stock lending (2014: \$12,032m).*
- 5 *At 31 December 2015, the total amount of customer accounts at amortised cost was \$1,289,586m (2014: \$1,350,642m) of which \$51,442m (2014: \$69,082m) was subject to offsetting. For the amount of customer accounts at amortised cost recognised in the balance sheet, see the Funding sources and uses table on page 160.*
- 6 *These exposures continue to be secured by financial collateral, but we may not have sought or been able to obtain a legal opinion evidencing enforceability of the right of offset.*

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*Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements*

Gross amounts \$m	Amounts offset \$m	Amounts subject to enforceable netting arrangements Amounts not set off in the balance sheet				Net amount \$m	Amounts not subject to enforceable netting arrangements <sup>6</sup> \$m
		Net amounts in the balance sheet \$m	Financial instruments \$m	Non-cash collateral \$m	Cash collateral \$m		
385,682	(105,860)	279,822	(215,531)	(8,621)	(34,040)	21,630	8,654
208,417	(77,925)	130,492	(544)	(129,476)	(270)	202	23,319
7,496		7,496		(7,495)		1	60
200,921	(77,925)	122,996	(544)	(121,981)	(270)	201	23,259
77,547	(31,643)	45,904	(40,790)			5,114	1,487
<b>671,646</b>	<b>(215,428)</b>	<b>456,218</b>	<b>(256,865)</b>	<b>(138,097)</b>	<b>(34,310)</b>	<b>26,946</b>	<b>33,460</b>
584,359	(250,465)	333,894	(262,856)	(7,655)	(41,750)	21,633	11,114
208,893	(88,676)	120,217	(5,117)	(114,394)	(249)	457	50,762

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9,341	(390)	8,951		(8,951)			315
199,552	(88,286)	111,266	(5,117)	(105,443)	(249)	457	50,447
99,623	(37,527)	62,096	(55,989)			6,107	1,597
892,875	(376,668)	516,207	(323,962)	(122,049)	(41,999)	28,197	63,473
<b>377,930</b>	<b>(105,860)</b>	<b>272,070</b>	<b>(215,508)</b>	<b>(13,629)</b>	<b>(30,063)</b>	<b>12,870</b>	<b>9,001</b>
<b>136,040</b>	<b>(77,925)</b>	<b>58,115</b>	<b>(2,034)</b>	<b>(56,030)</b>	<b>(26)</b>	<b>25</b>	<b>31,586</b>
<b>9,300</b>		<b>9,300</b>		<b>(9,299)</b>		<b>1</b>	<b>1</b>
<b>126,740</b>	<b>(77,925)</b>	<b>48,815</b>	<b>(2,034)</b>	<b>(46,731)</b>	<b>(26)</b>	<b>24</b>	<b>31,585</b>
<b>83,085</b>	<b>(31,643)</b>	<b>51,442</b>	<b>(40,790)</b>		<b>(1)</b>	<b>10,651</b>	<b>729</b>
<b>597,055</b>	<b>(215,428)</b>	<b>381,627</b>	<b>(258,332)</b>	<b>(69,659)</b>	<b>(30,090)</b>	<b>23,546</b>	<b>41,316</b>
580,644	(250,465)	330,179	(262,864)	(9,465)	(39,571)	18,279	10,490
165,514	(88,676)	76,838	(8,934)	(67,793)	(105)	6	46,424
16,206	(390)	15,816		(15,813)		3	14
149,308	(88,286)	61,022	(8,934)	(51,980)	(105)	3	46,410
106,609	(37,527)	69,082	(55,989)			13,093	479



852,767	(376,668)	476,099	(327,787)	(77,258)	(39,676)	31,378	57,393
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*For footnotes, see page 434.*

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## Notes on the Financial Statements (continued)

**33 Foreign exchange exposures / 34 Non-controlling interests / 35 Share capital****33 Foreign exchange exposures***Structural foreign exchange exposures*

HSBC's structural foreign exchange exposures are represented by the net asset value of its foreign exchange equity and subordinated debt investments in subsidiaries, branches, joint ventures and associates with non-US dollar functional currencies. Gains or losses on structural foreign exchange exposures are recognised in other comprehensive income. HSBC's management of its structural foreign exchange exposures is discussed on page 171.

*Net structural foreign exchange exposures*

	2015 \$m	2014 \$m
<b>Currency of structural exposure</b>		
Pound sterling <sup>1</sup>	32,701	30,071
Hong Kong dollars	28,270	24,028
Chinese renminbi	24,117	24,578
Euros	19,966	20,378
Mexican pesos	4,228	5,249
Indian rupees	3,645	3,466
Canadian dollars	3,595	4,187
Saudi riyals	3,109	2,910
Brazilian real	2,865	4,910
Swiss francs	2,642	1,864
Malaysian ringgit	1,994	2,219
UAE dirhams	1,898	2,199
Taiwanese dollars	1,702	1,721
Singapore dollars	1,454	1,185
Australian dollars	1,396	1,516
Indonesian rupiah	1,303	1,352
Korean won	1,296	1,360
Turkish lira	1,006	1,366
Egyptian pounds	925	868
Argentine pesos	875	1,059

Others, each less than \$700m	5,775	5,918
<b>At 31 December</b>	<b>144,762</b>	142,404

1 During 2015, we entered into new forward exchange contracts amounting to \$2.6bn (2014: \$1.6bn) in order to manage our sterling structural foreign exchange exposure.

Shareholders' equity would decrease by \$2,633m (2014: \$2,522m) if euro and sterling foreign currency exchange rates weakened by 5% relative to the US dollar.

### 34 Non-controlling interests

	2015 \$m	2014 \$m
Non-controlling interests attributable to holders of ordinary shares in subsidiaries	6,981	7,104
Preferred securities issued by subsidiaries	2,077	2,427
<b>At 31 December</b>	<b>9,058</b>	9,531
<b>Preferred securities issued by subsidiaries</b>		

Preferred securities are securities for which there is no obligation to pay a dividend and, if the dividend is not paid, it may not be cumulative. Such securities do not generally carry voting rights but rank higher than ordinary shares for dividend payments and in the event of a winding-up. These securities have no stated maturity date but may be called and redeemed by the issuer, subject to prior notification to the PRA and, where relevant, the consent of the local banking regulator. Dividends on floating rate preferred securities are generally related to interbank offer rates.

Included in the capital base of HSBC are non-cumulative preferred securities classified as additional tier 1 capital and cumulative preferred securities classified as tier 2 capital in accordance with CRD IV rules, by virtue of the application of grandfathering provisions.

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*Preferred securities issued by HSBC's subsidiaries*

	First call date	2015 \$m	2014 \$m
<b>HSBC USA Inc.</b>			
\$150m <sup>1</sup>	Depository shares each representing 25% interest in a share of adjustable-rate cumulative preferred stock, series D		
	Jul 1999		150
\$150m <sup>2</sup>	Cumulative preferred stock		150
\$518m	Floating rate non-cumulative preferred stock, series F	518	518
\$374m	Floating rate non-cumulative preferred stock, series G	374	374
\$374m	6.50% non-cumulative preferred stock, series H	374	374
<b>HSBC Finance Corporation</b>			
\$575m	6.36% non-cumulative preferred stock, series B	559	559
<b>HSBC Bank Canada</b>			
CAD175m	Non-cumulative redeemable class 1 preferred shares, series C	126	151
CAD175m	Non-cumulative class 1 preferred shares, series D	126	151
<b>At 31 December</b>		<b>2,077</b>	<b>2,427</b>

1 In May 2015, HSBC redeemed its depository shares representing 25% interest in a share of adjustable-rate cumulative preferred stock, series D for \$152m.

2 In May 2015, HSBC redeemed its cumulative preferred stock for \$152m.

**35 Called up share capital and other equity instruments***Accounting policy*

Financial instruments issued are classified as equity when there is no contractual obligation to transfer cash or other financial assets or issue a variable number of own equity instruments. Incremental costs directly attributable to the

issue of equity instruments are shown in equity as a deduction from the proceeds, net of tax.

HSBC Holdings equity instruments held by HSBC are recognised in equity as a deduction from retained earnings until they are cancelled. When such instruments are subsequently sold, reissued or otherwise disposed of, any consideration received is included in equity, net of any directly attributable incremental transaction costs and related income tax effects.

### Issued and fully paid

#### *HSBC Holdings ordinary shares of \$0.50 each*

	2015	2014
	\$m	\$m
HSBC Holdings ordinary shares <sup>1</sup> at 31 December	9,842	9,609
	<b>Number</b>	<b>\$m</b>
At 1 January 2015	19,217,874,260	9,609
Shares issued under HSBC employee share plans	91,265,909	45
Shares issued in lieu of dividends	375,956,765	188
<b>At 31 December 2015</b>	<b>19,685,096,934</b>	<b>9,842</b>
At 1 January 2014	18,830,007,039	9,415
Shares issued under HSBC employee share plans	119,391,238	60
Shares issued in lieu of dividends	268,475,983	134
At 31 December 2014	19,217,874,260	9,609

#### *HSBC Holdings non-cumulative preference shares of \$0.01 each*

	Number	\$m
<b>At 1 January 2015 and 31 December 2015<sup>2</sup></b>	1,450,000	
At 1 January 2014 and 31 December 2014	1,450,000	

1 All HSBC Holdings ordinary shares in issue confer identical rights, including in respect of capital, dividends and voting.

2 Included in the capital base of HSBC as additional tier 1 capital in accordance with the CRD IV rules, by virtue of the application of grandfathering provisions.

Dividends on the HSBC Holdings non-cumulative dollar preference shares in issue ( dollar preference shares ) are paid quarterly at the sole and absolute discretion of the Board of Directors. The Board of Directors will not declare a dividend on the dollar preference shares if payment of the dividend would cause HSBC Holdings not to meet the applicable capital adequacy requirements of the PRA or the profit of HSBC Holdings available for distribution as

dividends is not sufficient to enable HSBC Holdings to pay in full both dividends on the dollar preference shares and dividends on any other shares that are scheduled to be paid on the same date and that have an equal right to dividends. HSBC Holdings may not declare or pay dividends on any class of its shares ranking lower in the right to dividends than the dollar preference shares nor redeem nor purchase in any manner any of its other shares ranking equal with or lower than the dollar preference shares unless it has paid in full, or set aside an amount to provide for payment in full, the dividends on the dollar preference shares for the then current dividend

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**Notes on the Financial Statements** (continued)**35 Share capital / 36 Notes on the statement of cash flows**

period. The dollar preference shares carry no rights to conversion into ordinary shares of HSBC Holdings. Holders of the dollar preference shares will only be entitled to attend and vote at general meetings of shareholders of HSBC Holdings if the dividend payable on the dollar preference shares has not been paid in full for four consecutive dividend payment dates. In such circumstances, holders of the dollar preference shares will be entitled to vote on all matters put to general meetings until such time as HSBC Holdings has paid a full dividend on the dollar preference shares. HSBC Holdings may redeem the dollar preference shares in whole at any time on or after 16 December 2010, subject to prior notification to the PRA.

**HSBC Holdings non-cumulative preference share of £0.01**

The one non-cumulative sterling preference share of £0.01 in issue ( sterling preference share ) has been in issue since 29 December 2010 and is held by a subsidiary of HSBC Holdings. Dividends on the sterling preference share are paid quarterly at the sole and absolute discretion of the Board. The sterling preference share carries no rights of conversion into ordinary shares of HSBC Holdings and no rights to attend and vote at general meetings of shareholders of HSBC Holdings. HSBC Holdings may redeem it in whole at any time at the option of the Company.

**Other equity instruments**

HSBC has included three types of additional tier 1 capital securities in its tier 1 capital. The two types of additional tier 1 securities presented in this Note are accounted for as equity because HSBC does not have an obligation to transfer cash or a variable number of its own ordinary shares to holders under any circumstances outside its control. See Note 30 for additional tier 1 securities accounted for as liabilities.

Other equity instruments which have been included in the regulatory capital base of HSBC comprise additional tier 1 capital securities and additional tier 1 contingent convertible securities.

**Additional tier 1 capital securities**

Additional tier 1 capital securities are perpetual subordinated securities on which coupon payments may be deferred at the discretion of HSBC Holdings. While any coupon payments are unpaid or deferred, HSBC Holdings will not declare, pay dividends or make distributions or similar periodic payments in respect of, or repurchase, redeem or otherwise acquire any securities of lower or equal rank. Such securities do not generally carry voting rights but rank higher than ordinary shares for coupon payments and in the event of a winding-up. These securities do not meet the identifying criteria in full for recognition as tier 1 capital under CRD IV but are eligible as regulatory capital subject to grandfathering limits and progressive phase-out.

At HSBC Holdings discretion, and subject to certain conditions being satisfied, the capital securities may be exchanged on any coupon payment date for non-cumulative preference shares to be issued by HSBC Holdings and

ranking *pari passu* with the dollar and sterling preference shares in issue. The preference shares would be issued at a nominal value of \$0.01 per share and a premium of \$24.99 per share, with both such amounts being subscribed and fully paid. These securities may be called and redeemed by HSBC subject to prior notification to the PRA.

*HSBC's additional tier 1 capital securities in issue which are accounted for in equity*

	First call date	2015 \$m	2014 \$m
\$2,200m 8.125% perpetual subordinated capital securities	Apr 2013	2,133	2,133
\$3,800m 8.00% perpetual subordinated capital securities, Series 2	Dec 2015	3,718	3,718
<b>At 31 December</b>		<b>5,851</b>	<b>5,851</b>
<b>Additional tier 1 capital contingent convertible securities</b>			

During 2015, HSBC continued to issue contingent convertible securities that are included in HSBC's capital base as fully CRD IV compliant additional tier 1 capital securities on an end point basis. The net proceeds of the issuances will be used for general corporate purposes and to further strengthen the capital base pursuant to requirements under CRD IV. These securities bear a fixed rate of interest until their initial call dates. After the initial call dates, in the event they are not redeemed, the securities will bear interest at rates which are fixed periodically in advance for five-year periods based on prevailing market rates. Interest on the contingent convertible securities will be due and payable only at the sole discretion of HSBC, and HSBC has sole and absolute discretion at all times and for any reason to cancel (in whole or in part) any interest payment that would otherwise be payable on any interest payment date. There are limitations on the payment of distributions if such payments are prohibited under UK banking regulations, or other requirements, if HSBC Holdings has insufficient reserves available for distribution or if HSBC fails to satisfy the solvency condition as defined in the securities' terms.

The contingent convertible securities are undated and are repayable, at the option of HSBC, in whole at the initial call date, or on any fifth anniversary after the initial call date. In addition, the securities are repayable at the option of HSBC in whole for certain regulatory or tax reasons. Any repayments require the prior consent of the PRA. These securities rank *pari passu* with HSBC's dollar and sterling preference shares and are therefore ahead of ordinary shares. The contingent convertible securities will be converted into fully paid ordinary shares of HSBC at a pre-determined price should HSBC's consolidated end point CET1 ratio fall below 7.0%. Therefore, in accordance with the terms of the securities, if the end point CET1 ratio breaches the 7.0% trigger the securities will convert into ordinary shares at fixed contractual conversion prices in the issuance currencies of the

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relevant securities equivalent to £2.70 at the prevailing rate of exchange on the issuance date subject to certain anti-dilution adjustments.

*HSBC's additional tier 1 capital – contingent convertible securities in issue which are accounted for in equity*

		First call date	2015 \$m	2014 \$m
\$2,250m	6.375% perpetual subordinated contingent convertible securities	Sep 2024	2,244	2,244
\$1,500m	5.625% perpetual subordinated contingent convertible securities	Jan 2020	1,494	1,494
1,500m	5.25% perpetual subordinated contingent convertible securities	Sep 2022	1,943	1,943
\$2,450m	6.375% perpetual subordinated contingent convertible securities	Mar 2025	2,459	
1,000m	6.000% perpetual subordinated contingent convertible securities	Sep 2023	1,121	
<b>At 31 December</b>			<b>9,261</b>	<b>5,681</b>
<b>Shares under option</b>				

For details of the options outstanding to subscribe for HSBC Holdings ordinary shares under the HSBC Holdings savings-related share option plans, see Note 6.

*Aggregate options outstanding under these plans*

	Number of HSBC Holdings ordinary shares		Period of exercise	Exercise price	
<b>31 December 2015</b>	72,840,810		2015 to 2021	£4.0472	5.4738
	1,114,830		2015 to 2018	HK\$55.4701	63.9864
	153,610		2015 to 2018	5.3532	6.0657

	<b>665,445</b>	<b>2015 to 2018</b>	<b>\$7.1456</b>	<b>8.2094</b>
31 December 2014	63,918,042	2014 to 2020	£3.3116	7.9911
	6,468,782	2014 to 2018	HK\$37.8797	63.9864
	571,502	2014 to 2018	3.6361	6.0657
	1,867,328	2014 to 2018	\$4.8876	8.2094
31 December 2013	119,085,250	2013 to 2019	£3.3116	7.9911
	24,215,341	2013 to 2018	HK\$37.8797	92.5881
	1,574,652	2013 to 2018	3.6361	7.5571
	3,997,069	2013 to 2018	\$4.8876	11.8824

### Maximum obligation to deliver HSBC Holdings ordinary shares

At 31 December 2015, the maximum obligation to deliver HSBC Holdings ordinary shares under all of the above option arrangements and the HSBC International Employee Share Purchase Plan, together with GPSP awards and restricted share awards granted under the HSBC Share Plan and/or the HSBC Share Plan 2011, was 193,178,906 (2014: 193,154,512). The total number of shares at 31 December 2015 held by employee benefit trusts that may be used to satisfy such obligations to deliver HSBC Holdings ordinary shares was 4,753,747 (2014: 7,943,191).

### 36 Notes on the statement of cash flows

#### Other non-cash items included in profit before tax

	<b>2015</b>	HSBC		HSBC Holdings	
	<b>2015</b>	2014	2013	<b>2015</b>	2014
	<b>\$m</b>	\$m	\$m	<b>\$m</b>	\$m
Depreciation, amortisation and impairment	<b>2,181</b>	2,251	2,330	<b>30</b>	39
(Gains)/losses arising from dilution of interests in associates		32	(1,051)		
Revaluations on investment property	<b>(61)</b>	(120)	(113)		
Share-based payment expense	<b>757</b>	732	630	<b>86</b>	74
Loan impairment losses gross of recoveries and other credit risk provisions	<b>4,546</b>	5,125	7,356		
Provisions	<b>3,210</b>	3,074	2,578		
Impairment/(release of impairment) of financial investments	<b>94</b>	54	(36)		
Charge for defined benefit plans	<b>262</b>	535	121		
Accretion of discounts and amortisation of premiums	<b>(224)</b>	(421)	180	<b>(2)</b>	(61)
<b>Year ended 31 December</b>	<b>10,765</b>	11,262	11,995	<b>114</b>	52

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## Notes on the Financial Statements (continued)

**36 Notes on the statement of cash flows / 37 Contingent liabilities***Change in operating assets*

	2015	HSBC 2014	2013	HSBC Holdings 2015	2014
	\$m	\$m	\$m	\$m	\$m
Change in loans to HSBC undertakings				(729)	1,364
Change in net trading securities and net derivatives	24,384	(18,498)	(24,870)	1,413	483
Change in loans and advances to banks	1,218	5,147	(4,739)		
Change in loans and advances to customers	31,753	12,666	(46,551)		
Change in reverse repurchase agreements non-trading	(3,011)	18,900	(70,403)		
Change in financial assets designated at fair value	2,394	3,269	(4,922)		
Change in other assets	9,090	4,393	2,586	(141)	7
<b>Year ended 31 December</b>	<b>65,828</b>	<b>25,877</b>	<b>(148,899)</b>	<b>543</b>	<b>1,854</b>

*Change in operating liabilities*

	2015	HSBC 2014	2013	HSBC Holdings 2015	2014
	\$m	\$m	\$m	\$m	\$m
Change in deposits by banks	(21,534)	(9,081)	(7,781)		
Change in customer accounts	(44,373)	(8,362)	57,365		
Change in repurchase agreements non-trading	(26,481)	(56,788)	123,653		

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Change in debt securities in issue	<b>960</b>	(8,133)	(15,381)	<b>(49)</b>	(149)
Change in financial liabilities designated at fair value	<b>(10,785)</b>	(10,734)	994	<b>(1,228)</b>	(694)
Change in other liabilities	<b>(4,549)</b>	(716)	5,907	<b>(1,065)</b>	(9,071)
<b>Year ended 31 December</b>	<b>(106,762)</b>	(93,814)	164,757	<b>(2,342)</b>	(9,914)

*Interest and dividends*

	<b>2015</b>	HSBC	2013	HSBC Holdings	2014
	<b>\$m</b>	2014	2013	<b>2015</b>	2014
		\$m	\$m	<b>\$m</b>	\$m
Interest paid	<b>(14,559)</b>	(15,633)	(17,262)	<b>(2,309)</b>	(2,463)
Interest received	<b>47,623</b>	51,522	50,823	<b>2,026</b>	1,945
Dividends received	<b>914</b>	1,199	1,133	<b>8,469</b>	9,077

*Cash and cash equivalents*

*Accounting policy*

Cash and cash equivalents include highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value. Such investments are normally those with less than three months' maturity from the date of acquisition.

*Cash and cash equivalents*

	<b>2015</b>	HSBC	2013	HSBC Holdings	2014
	<b>\$m</b>	2014	2013	<b>2015</b>	2014
		\$m	\$m	<b>\$m</b>	\$m
Cash at bank with HSBC undertakings				<b>242</b>	249
Cash and balances at central banks	<b>98,934</b>	129,957	166,599		
Items in the course of collection from other banks	<b>5,768</b>	4,927	6,021		
Loans and advances to banks of one month or less	<b>70,985</b>	89,285	96,584		
Reverse repurchase agreements with banks of one month or less	<b>53,971</b>	68,930	68,007		
	<b>19,843</b>	14,192	15,980		

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Treasury bills, other bills and certificates of deposit less than three months					
Less: items in the course of transmission to other banks	(5,638)	(5,990)	(6,910)		
<b>At 31 December</b>	<b>243,863</b>	301,301	346,281	<b>242</b>	249

The amount of cash and cash equivalents not available for use by HSBC at 31 December 2015 was \$33,744m (2014: \$43,738m), of which \$21,773m (2014: \$29,883m) related to mandatory deposits at central banks.

**Disposal of subsidiaries and businesses**

During 2014, we completed the disposals of HSBC Bank Middle East Limited's banking business in Jordan and operations in Pakistan. This resulted in a net \$303m outflow of cash and cash equivalents which is included under Cash flow from investing activities in the consolidated statement of cash flows on page 340.

In October 2013, we completed the disposal of HSBC Bank (Panama) S.A., receiving total cash consideration of \$2,210m which is included under Cash flow from investing activities in the consolidated statement of cash flows on page 340.

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### **37 Contingent liabilities, contractual commitments and guarantees**

#### **Accounting policy**

##### **Contingent liabilities**

Contingent liabilities, which include certain guarantees and letters of credit pledged as collateral security and contingent liabilities related to legal proceedings or regulatory matters (see Note 40), are possible obligations that arise from past events whose existence will be confirmed only by the occurrence, or non-occurrence, of one or more uncertain future events not wholly within the control of HSBC; or are present obligations that have arisen from past events but are not recognised because it is not probable that settlement will require the outflow of economic benefits, or because the amount of the obligations cannot be reliably measured. Contingent liabilities are not recognised in the financial statements but are disclosed unless the probability of settlement is remote.

##### **Financial guarantee contracts**

Financial guarantee contracts are contracts that require HSBC to make specified payments to reimburse the holder for a loss incurred because a specified debtor fails to make payment when due. Liabilities under financial guarantee contracts which are not classified as insurance contracts are recorded initially at their fair value, which is generally the fee received or present value of the fee receivable. Subsequently, financial guarantee liabilities are measured at the higher of the initial fair value, less cumulative amortisation, and the best estimate of the expenditure required to settle the obligations.

HSBC Holdings has issued financial guarantees and similar contracts to other Group entities. HSBC elects to account for certain guarantees as insurance contracts in HSBC Holdings financial statements, in which case they are measured and recognised as insurance liabilities. This election is made on a contract by contract basis, and is irrevocable.

### Contingent liabilities, contractual commitments and guarantees

	HSBC		HSBC Holdings	
	2015 \$m	2014 \$m	2015 \$m	2014 \$m
Guarantees and contingent liabilities				
Guarantees	85,855	86,385	68,333	52,023
Other contingent liabilities	490	346		
<b>At 31 December</b>	<b>86,345</b>	<b>86,731</b>	<b>68,333</b>	<b>52,023</b>
Commitments				
Documentary credits and short-term trade-related transactions	10,168	12,082		
Forward asset purchases and forward deposits placed	981	823		
Undrawn formal standby facilities, credit lines and other commitments to lend	655,281	638,475		16
<b>At 31 December</b>	<b>666,430</b>	<b>651,380</b>		<b>16</b>

The above table discloses the nominal principal amounts of commitments, guarantees and other contingent liabilities. Contingent liabilities arising from legal proceedings, regulatory and other matters against Group companies are disclosed in Notes 29 and 40. Nominal principal amounts represent the amounts at risk should the contracts be fully drawn upon and clients default. As a significant portion of guarantees and commitments is expected to expire without being drawn upon, the total of the nominal principal amounts is not indicative of future liquidity requirements.

### Guarantees

Guarantee type	2015		2014	
	Guarantees in favour of third parties \$m	Guarantees by HSBC Holdings in favour of other Group entities \$m	Guarantees in favour of third parties \$m	Guarantees by HSBC Holdings in favour of other Group entities \$m
Financial guarantees	27,643	55,000	30,406	36,800
Credit-related guarantees <sup>1</sup>	18,473	13,333	16,672	15,223
Other guarantees	39,739		39,307	
<b>At 31 December</b>	<b>85,855</b>	<b>68,333</b>	<b>86,385</b>	<b>52,023</b>



1 *Credit-related guarantees are contracts that have similar features to financial guarantee contracts but fail to meet the definition of a financial guarantee contract under IAS 39.*

The amounts disclosed in the above table are nominal principal amounts and reflect HSBC's maximum exposure under a large number of individual guarantee undertakings. The risks and exposures arising from guarantees are captured and managed in accordance with HSBC's overall credit risk management policies and procedures. Approximately half the above guarantees have a term of less than one year. Guarantees with terms of more than one year are subject to HSBC's annual credit review process.

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**Notes on the Financial Statements** (continued)**38 Lease commitments / 39 Structured entities****Financial Services Compensation Scheme**

The Financial Services Compensation Scheme ( FSCS ) has provided compensation to consumers following the collapse of a number of deposit takers. The compensation paid out to consumers is currently funded through loans from HM Treasury which at 31 December 2015 stood at approximately £16bn (\$23.7bn).

The Group could be liable to pay a proportion of the outstanding amount that the FSCS has borrowed from HM Treasury. The ultimate FSCS levy to the industry as a result of the collapses cannot currently be estimated reliably as it is dependent on various uncertain factors including the potential recoveries of assets by the FSCS and changes in the level of protected deposits and the population of FSCS members at the time.

**Capital commitments**

In addition to the commitments disclosed on page 441, at 31 December 2015 HSBC had \$468m (2014: \$656m) of capital commitments contracted but not provided for and \$100m (2014: \$101m) of capital commitments authorised but not contracted for.

**Associates**

HSBC's share of associates' contingent liabilities amounted to \$39,222m at 31 December 2015 (2014: \$47,593m). No matters arose where HSBC was severally liable.

**38 Lease commitments****Accounting policy**

Agreements which transfer substantially all the risks and rewards incidental to the ownership of assets are classified as finance leases.

As a lessor under finance leases, HSBC presents the amounts due under the leases after deduction of unearned charges in Loans and advances to banks or Loans and advances to customers . As a lessee under finance leases, HSBC presents the leased assets in Property, plant and equipment with the corresponding liability included in Other liabilities . A

finance lease asset and its corresponding liability are recognised initially at the fair value of the asset or, if lower, the present value of the minimum lease payments.

All other leases are classified as operating leases. As lessor, HSBC presents assets subject to operating leases in Property, plant and equipment. Impairment losses are recognised to the extent that carrying values are not fully recoverable. As a lessee, leased assets are not recognised on the balance sheet.

Finance income or charges on finance leases are recognised in Net interest income over the lease periods so as to give a constant rate of return. Rentals payable or receivable under operating leases are spread on a straight-line basis over the lease periods and are recognised in General and administrative expenses or in Other operating income.

### Operating lease commitments

At 31 December 2015, future minimum lease payments under non-cancellable operating leases for land, buildings and equipment were \$5,333m (2014: \$5,372m).

### Finance lease receivables

HSBC leases a variety of assets to third parties under finance leases, including transport assets (such as aircraft), property and general plant and machinery. At the end of lease terms, assets may be sold to third parties or leased for further terms. Rentals are calculated to recover the cost of assets less their residual value, and earn finance income.

	2015			2014		
	Total future minimum payments \$m	Unearned finance income \$m	Present value \$m	Total future minimum payments \$m	Unearned finance income \$m	Present value \$m
Lease receivables:						
no later than one year	3,382	(332)	3,050	3,383	(374)	3,009
later than one year and no later than five years	7,219	(837)	6,382	8,089	(980)	7,109
later than five years	4,897	(702)	4,195	5,013	(744)	4,269
<b>At 31 December</b>	<b>15,498</b>	<b>(1,871)</b>	<b>13,627</b>	<b>16,485</b>	<b>(2,098)</b>	<b>14,387</b>

### 39 Structured entities

### Accounting policy

A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, for example when any voting rights relate to administrative tasks only, and key activities are directed by contractual arrangements. Structured entities often have restricted activities and a narrow and well defined objective.

Structured entities are assessed for consolidation in accordance with the accounting policy set out in Note 1.

HSBC is mainly involved with structured entities through the securitisation of financial assets, conduits and investment funds.

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HSBC's arrangements that involve structured entities are authorised centrally when they are established to ensure appropriate purpose and governance. The activities of structured entities administered by HSBC are closely monitored by senior management. The Group is involved with both consolidated and unconsolidated structured entities which are established either by HSBC or a third party, as detailed below.

### Consolidated structured entities

#### *Total assets of HSBC's consolidated structured entities, split by entity type*

	HSBC managed				Total \$bn
	Conduits \$bn	Securitisations \$bn	funds \$bn	Other \$bn	
<b>At 31 December 2015</b>	<b>25.9</b>	<b>5.6</b>	<b>8.2</b>	<b>5.7</b>	<b>45.4</b>
At 31 December 2014	27.2	7.9	11.2	6.7	53.0

### Conduits

HSBC has established and manages two types of conduits: securities investment conduits (SICs) and multi-seller conduits. These entities have been designed so that voting or similar rights are not the dominant factor in deciding who has control: in such cases, the relevant activities are directed by means of contractual arrangement. The conduits are consolidated as HSBC is exposed to or has the right to variable returns from its involvement with the entity and has the ability to affect its returns through its power over the entity.

#### *Securities investment conduits*

Solitaire, HSBC's principal SIC, purchases highly rated ABSs to facilitate tailored investment opportunities. At 31 December 2015, Solitaire held \$6.2bn of ABSs (2014: \$8.0bn). These are included within the disclosures of ABSs held through consolidated structured entities on page 153. HSBC's other SICs, Mazarin, Barion and Malachite, evolved from the restructuring of the Group's structured investment vehicles in 2008.

*Solitaire* Solitaire is currently funded entirely by commercial paper ( CP ) issued to HSBC. Although HSBC continues to provide a liquidity facility, Solitaire has no need to draw on it as long as HSBC purchases its issued CP, which HSBC intends to do for the foreseeable future. At 31 December 2015, HSBC held \$8bn of CP (2014: \$9.5bn).

*Mazarin* HSBC is exposed to the par value of Mazarin s assets through the provision of a liquidity facility equal to the lesser of the amortised cost of issued senior debt and the amortised cost of non-defaulted assets. At 31 December 2015, this amounted to \$1.8bn (2014: \$3.9bn). First loss protection is provided through the capital notes issued by Mazarin, which are substantially all held by third parties. At 31 December 2015, HSBC held 2.7% of Mazarin s capital notes (2014: 1.2%) with a par value of \$13m (2014: \$10m) and a carrying amount of \$4m (2014: \$1.4m).

*Barion and Malachite* HSBC s primary exposure to these SICs is represented by the amortised cost of the debt required to support the non-cash assets of the vehicles. At 31 December 2015, this amounted to \$1.4bn (2014: \$3.0bn). First loss protection is provided through the capital notes issued by these vehicles, which are substantially all held by third parties. At 31 December 2015, HSBC held 13.7% of the capital notes (2014: 9.9%) issued by these vehicles with a par value of \$42.2m (2014: \$54.8m) and a carrying amount of \$20.3m (2014: \$10.1m).

#### *Multi-seller conduits*

Multi-seller conduits were established for the purpose of providing access to flexible market-based sources of finance for HSBC s clients. HSBC bears risk equal to the transaction-specific liquidity facilities offered to the multi-seller conduits amounting to \$19.8bn at 31 December 2015 (2014: \$15.4bn). First loss protection is provided by the originator of the assets, and not by HSBC, through transaction-specific credit enhancements. A layer of secondary loss protection is provided by HSBC in the form of programme-wide enhancement facilities.

#### **Securitisations**

HSBC uses structured entities to securitise customer loans and advances that it has originated in order to diversify its sources of funding for asset origination and capital efficiency purposes. The loans and advances are transferred by HSBC to the structured entities for cash or synthetically through credit default swaps, and the structured entities issue debt securities to investors.

#### **HSBC managed funds**

HSBC has established a number of money market and non-money market funds. Where it is deemed to be acting as principal rather than agent in its role as investment manager, HSBC controls and hence consolidates these funds.

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## Notes on the Financial Statements (continued)

**39 Structured entities / 40 Legal proceedings and regulatory matters****Other**

HSBC has also entered into a number of transactions in the normal course of business which include asset and structured finance transactions where it has control of the structured entity. In addition, HSBC is deemed to control a number of third-party managed funds through its involvement as a principal in the funds.

**Unconsolidated structured entities**

The term unconsolidated structured entities refers to all structured entities that are not controlled by HSBC. The Group enters into transactions with unconsolidated structured entities in the normal course of business to facilitate customer transactions and for specific investment opportunities.

The table below shows the total assets of unconsolidated structured entities in which HSBC had an interest at the reporting date and its maximum exposure to loss in relation to those interests.

*Nature and risks associated with HSBC interests in unconsolidated structured entities*

	HSBC managed funds \$bn		Non-HSBC managed funds \$bn		Other \$bn	Total \$bn
Total assets of the entities	12.9	227.9	2,003.1	139.9		2,383.8
Total assets in relation to HSBC's interests in the unconsolidated structured entities	1.4	5.6	8.0	9.8		24.8
trading assets		0.1	0.2	2.6		2.9
financial assets designated at fair value		5.3	6.6			11.9
derivatives				3.8		3.8
loans and advances to banks				0.1		0.1
loans and advances to customers	1.1		0.1	2.9		4.1
financial investments	0.3	0.2	1.1	0.2		1.8
other assets				0.2		0.2
Total liabilities in relation to HSBC's interests in the unconsolidated structured				(0.1)		(0.1)

entities					
Other liabilities				(0.1)	(0.1)
<b>HSBC's maximum exposure at 31 December 2015</b>	<b>3.5</b>	<b>5.6</b>	<b>8.0</b>	<b>14.6</b>	<b>31.7</b>
Total assets of the entities	11.0	308.5	2,899.9	32.8	3,252.2
Total assets in relation to HSBC's interests in the unconsolidated structured entities	0.8	7.8	8.3	7.7	24.6
trading assets		0.1	0.1	4.6	4.8
financial assets designated at fair value		5.2	2.3		7.5
derivatives				1.3	1.3
loans and advances to banks				0.1	0.1
loans and advances to customers	0.8			1.5	2.3
financial investments		2.5	5.9	0.1	8.5
other assets				0.1	0.1
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities				0.1	0.1
Other liabilities				0.1	0.1
<b>HSBC's maximum exposure at 31 December 2014</b>	<b>0.8</b>	<b>7.8</b>	<b>8.3</b>	<b>11.1</b>	<b>28.0</b>

The maximum exposure to loss from HSBC's interests in unconsolidated structured entities represents the maximum loss that HSBC could incur as a result of its involvement with unconsolidated structured entities regardless of the probability of the loss being incurred.

For commitments, guarantees and written credit default swaps, the maximum exposure to loss is the notional amount of potential future losses.

For retained and purchased investments in and loans to unconsolidated structured entities, the maximum exposure to loss is the carrying value of these interests at the balance sheet reporting date.

The maximum exposure to loss is stated gross of the effects of hedging and collateral arrangements entered into to mitigate HSBC's exposure to loss.

### Securitisations

HSBC has interests in unconsolidated securitisation vehicles through holding notes issued by these entities. In addition, HSBC has investments in ABSs issued by third party structured entities as set out on page 153.

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### **HSBC managed funds**

HSBC establishes and manages money market funds and non-money market investment funds to provide customers with investment opportunities. Further information on funds under management is provided on page 96.

HSBC, as fund manager, may be entitled to receive management and performance fees based on the assets under management. HSBC may also retain units in these funds.

### **Non-HSBC managed funds**

HSBC purchases and holds units of third-party managed funds in order to facilitate both business and customer needs. In addition, HSBC enters into derivative contracts to facilitate risk management solutions for non-HSBC managed funds. Note 16 provides information on derivatives entered into by HSBC.

### **Other**

HSBC has established structured entities in the normal course of business, such as structured credit transactions for customers, to provide finance to public and private sector infrastructure projects, and for asset and structured finance transactions.

### **HSBC sponsored structured entities**

#### **Accounting policy**

HSBC is considered to sponsor another entity if, in addition to ongoing involvement with the entity, it had a key role in establishing that entity or in bringing together the relevant counterparties so that the transaction which is the purpose of the entity could occur. HSBC is generally not considered a sponsor if the only involvement with the entity is merely administrative in nature.

The amount of assets transferred to and income received from such sponsored entities during 2015 and 2014 was not significant.

### **40 Legal proceedings and regulatory matters**

HSBC is party to legal proceedings and regulatory matters in a number of jurisdictions arising out of its normal business operations. Apart from the matters described below, HSBC considers that none of these matters are material. The recognition of provisions is determined in accordance with the accounting policies set out in Note 29. While the outcome of legal proceedings and regulatory matters is inherently uncertain, management believes that, based on the information available to it, appropriate provisions have been made in respect of these matters as at 31 December 2015 (see Note 29). Where an individual provision is material, the fact that a provision has been made is stated and quantified, except to the extent doing so would be seriously prejudicial. Any provision recognised does not constitute an admission of wrongdoing or legal liability. It is not practicable to provide an aggregate estimate of potential liability for our legal proceedings and regulatory matters as a class of contingent liabilities.

### Securities litigation

As a result of an August 2002 restatement of previously reported consolidated financial statements and other corporate events, including the 2002 settlement with 46 states and the District of Columbia relating to real estate lending practices, Household International, Inc. ( Household International ) and certain former officers were named as defendants in a class action lawsuit, *Jaffe v. Household International, Inc., et al.*, filed in August 2002 in the US District Court for the Northern District of Illinois (the Illinois District Court ). The complaint asserted claims under the US Securities Exchange Act and alleged that the defendants knowingly or recklessly made false and misleading statements of material fact relating to Household International's Consumer Lending operations, including collections, sales and lending practices, some of which ultimately led to the 2002 state settlement agreement, and facts relating to accounting practices evidenced by the financial restatement. Ultimately, a class was certified on behalf of all persons who acquired and disposed of Household International common stock between July 1999 and October 2002.

A jury trial concluded in April 2009, which was decided partly in favour of the plaintiffs. Various legal challenges to the verdict were raised in post-trial briefing.

In December 2011, following the submission of claim forms by class members, the court-appointed claims administrator reported to the Illinois District Court that the total number of claims that generated an allowed loss was 45,921, and that the aggregate amount of those claims was approximately \$2.2bn. The Illinois District Court directed further proceedings before a court-appointed Special Master to address certain issues and objections regarding the remaining claims.

In October 2013, the Illinois District Court entered a partial final judgement against the defendants in the amount of approximately \$2.5bn (including pre-judgement interest). The defendants appealed that partial final judgement.

In addition to the partial judgement that has been entered, there are also approximately \$625m in remaining claims, prior to the imposition of pre-judgement interest, that are still subject to objections that have not yet been ruled upon by the Illinois District Court.

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**Notes on the Financial Statements** (continued)**40 Legal proceedings and regulatory matters**

In May 2015, the US Court of Appeals for the Seventh Circuit issued a decision reversing the partial final judgement of the Illinois District Court and remanding the case for a new trial on loss causation, which may entail a reassessment of the quantum of damages. On remand to the Illinois District Court, the case was reassigned to a different judge, who has issued various rulings on certain preliminary issues and has entered a scheduling order that includes a trial date in June 2016.

The timing and ultimate resolution of this matter remains highly uncertain, and given the complexity and uncertainties associated with a new trial on loss causation and a reassessment of the quantum of damages, there continues to be a wide range of possible outcomes. Depending on whether and to what extent the plaintiffs are able to demonstrate loss causation, the amount of damages, based upon the claims included in the reversed partial final judgement and the other remaining claims, as well as the application of pre-judgement interest, may be up to or exceeding \$3.6bn. A provision has been recognised based on management's best estimate of probable outflows, but the amount of such provision is not disclosed as it would seriously prejudice the position of HSBC in the resolution of this matter.

**Bernard L. Madoff Investment Securities LLC**

Bernard L. Madoff ( Madoff ) was arrested in December 2008 and later pleaded guilty to running a Ponzi scheme. He has acknowledged, in essence, that while purporting to invest his customers' money in securities, he in fact never invested in securities and used other customers' money to fulfil requests to return investments. His firm, Bernard L. Madoff Investment Securities LLC ( Madoff Securities ), is being liquidated in the US by a trustee (the Trustee ).

Various non-US HSBC companies provided custodial, administration and similar services to a number of funds incorporated outside the US whose assets were invested with Madoff Securities. Based on information provided by Madoff Securities, as at 30 November 2008, the purported aggregate value of these funds was \$8.4bn, an amount that includes fictitious profits reported by Madoff. Based on information available to HSBC, we have estimated that the funds' actual transfers to Madoff Securities minus their actual withdrawals from Madoff Securities during the time that HSBC serviced the funds totalled approximately \$4bn. Various HSBC companies have been named as defendants in lawsuits arising out of Madoff Securities' fraud.

**US/UK litigation:** The Trustee has brought lawsuits against various HSBC companies in the US Bankruptcy Court and in the English High Court. The Trustee's ongoing US claims seek recovery of prepetition transfers pursuant to US bankruptcy law. The amount of these claims has not been pleaded or determined as against HSBC. The Trustee's English action seeks recovery of unspecified transfers from Madoff Securities to or through HSBC. HSBC has not yet been served with the Trustee's English action. The Trustee's deadline for serving the claim has been extended through the third quarter of 2016.

Alpha Prime Fund Ltd ( Alpha Prime ) and Senator Fund SPC ( Senator ), co-defendants in the Trustee's US actions, have each brought cross-claims against HSBC. These funds have also sued HSBC in Luxembourg (discussed below).

In June 2015, the US Bankruptcy Court heard HSBC's motion to dismiss Alpha Prime and Senator's cross-claims and a decision on that motion is pending.

Fairfield Sentry Limited, Fairfield Sigma Limited and Fairfield Lambda Limited (together, Fairfield), funds whose assets were invested with Madoff Securities, commenced multiple lawsuits in the US and the British Virgin Islands (BVI) against fund shareholders, including various HSBC companies that acted as nominees for HSBC clients, seeking restitution of payments made in connection with share redemptions. Fairfield's US actions are stayed pending the outcome of the cases in the BVI (discussed below).

In September 2013, the US Court of Appeals for the Second Circuit affirmed the dismissal of purported class action claims against HSBC and others brought by investors in three Madoff-invested funds on grounds of *forum non conveniens*. In May 2015, plaintiffs filed a motion asking the Court of Appeals to restore their class action claims on the basis of an alleged change of law. Plaintiffs' motion was denied by the Court of Appeals in June 2015.

In December 2014, three additional actions were filed in the US. The first is a purported class action brought in the United States District Court for the Southern District of New York (the New York District Court) by direct investors in Madoff Securities who were holding their investments as of December 2008, asserting various common law claims and seeking to recover damages lost to Madoff Securities' fraud on account of HSBC's purported knowledge and alleged furtherance of the fraud. HSBC moved to dismiss this action in November 2015 and a decision on that motion is pending. The other two actions were both filed by SPV Optimal SUS Ltd (SPV OSUS), the purported assignee of the Madoff-invested company, Optimal Strategic US Equity Ltd. One of these actions was filed in New York state court and the other in New York District Court. In January 2015, SPV OSUS dismissed its federal lawsuit against HSBC. The state court action against HSBC remains pending.

In May 2015, an action was filed in New York District Court by two investors in the Madoff-invested fund Hermes International Fund Limited (Hermes), asserting various common law claims against HSBC and seeking to recover damages lost to Madoff Securities' fraud. HSBC's motion to dismiss the action was filed in January 2016 and a decision on that motion is pending.

**BVI litigation:** Beginning in October 2009, Fairfield commenced multiple lawsuits in the BVI against numerous fund shareholders, including various HSBC companies that acted as nominees for clients of HSBC's private banking business and other clients who invested in Fairfield. Fairfield is seeking restitution of redemption payments made by the funds to defendants on the grounds that they were mistakenly based on inflated net asset values. In April 2014, the UK Privy Council issued a ruling in favour of other defendants in the BVI actions, and issued its order in October 2014. The Privy Council ruling found in effect that Fairfield should not be entitled to recover share redemptions that were calculated on a net asset value per

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share based on fictitious profits, and were paid to shareholders prior to the collapse of Madoff Securities. Separately, a motion was brought by defendants before the BVI court challenging the authorisation of the Fairfield liquidator (appointed in July 2009) to pursue its claims in the US. That motion was heard in March 2015 and a decision is pending.

**Bermuda litigation:** In January 2009, Kingate Global Fund Limited and Kingate Euro Fund Limited (together, Kingate ), funds whose assets were invested with Madoff Securities, commenced an action in Bermuda against HSBC Bank Bermuda Limited for recovery of funds held in Kingate s accounts, fees and dividends. This action is currently pending, but is not expected to move forward until there is a resolution as to the Trustee s separate US actions against Kingate and HSBC Bank Bermuda Limited.

Thema Fund Limited ( Thema ) and Hermes, funds whose assets were invested with Madoff Securities, each also brought three actions in Bermuda in 2009. The first set of actions was brought against HSBC Institutional Trust Services (Bermuda) Limited and seeks recovery of funds in frozen accounts held at HSBC. The second set of actions asserts liability against HSBC Institutional Trust Services (Bermuda) Limited in relation to claims for mistake, recovery of fees and damages for breach of contract. The third set of actions seeks return of fees from HSBC Bank Bermuda Limited and HSBC Securities Services (Bermuda). There has been little progress in these actions for several years, although in January 2015, Thema and Hermes served notice of intent to proceed in respect of the second set of actions referred to above.

**Cayman Islands litigation:** In February 2013, Primeo Fund (in official liquidation since April 2009), a Cayman Islands-based fund whose assets were invested with Madoff Securities, brought an action against the fund administrator, Bank of Bermuda (Cayman), and the fund custodian, HSBC Securities Services (Luxembourg) ( HSSL ), alleging breach of contract by the defendants and breach of fiduciary duty by HSSL. Primeo Fund claims damages from defendants (and equitable compensation from HSSL) to compensate it for alleged losses, including loss of profit. Trial is scheduled to begin in November 2016.

**Luxembourg litigation:** In April 2009, Herald Fund SPC ( Herald ) (in official liquidation since July 2013) commenced action against HSSL before the Luxembourg District Court seeking restitution of all cash and securities Herald purportedly lost because of Madoff Securities fraud, or in the alternative, money damages in the same amount. In March 2013, the Luxembourg District Court dismissed Herald s restitution claim for the return of the securities, although Herald s restitution claim for return of the cash and its claim for money damages were reserved. Herald appealed this judgement in May 2013. Written submissions on the merits are due to be filed by the parties in March 2016.

In October 2009, Alpha Prime commenced an action against HSSL before the Luxembourg District Court, alleging breach of contract and negligence in the appointment of Madoff Securities as a sub-custodian of Alpha Prime s assets. Alpha Prime requested a stay of these proceedings pending its negotiations with the Trustee in the US proceedings. The matter has been temporarily suspended at Alpha Prime s request.

In March 2010, Herald (Lux) SICAV ( Herald (Lux) ) (in official liquidation since April 2009) commenced an action against HSSL before the Luxembourg District Court seeking restitution of securities, or the cash equivalent, or money

damages in the alternative. Herald (Lux) has also requested the restitution of fees paid to HSSL as custodian and service agent of the fund. Written submissions on the merits are due to be filed by Herald (Lux) in March 2016.

In December 2014, Senator commenced a separate action against HSSL before the Luxembourg District Court, seeking the restitution of securities held as of the latest net asset value statement from November 2008, or in the alternative, money damages. The matter has been temporarily suspended at Senator's request.

In April 2015, Senator commenced a separate action against the Luxembourg branch of HSBC Bank plc before the Luxembourg District Court asserting identical claims to those asserted in Senator's action against HSSL. This action remains ongoing.

HSSL has been sued in various actions by shareholders in the Primeo Select Fund, Herald, Herald (Lux), and Hermes. These actions are in different stages, most of which have been dismissed, suspended or postponed.

**Ireland litigation:** In November 2013, Defender Limited, a fund whose assets were invested with Madoff Securities, commenced an action against HSBC Institutional Trust Services (Ireland) Limited ( HTIE ) and others, alleging breach of the custodian agreement and claiming damages and indemnification for fund losses. A trial date has not yet been scheduled.

In May 2013 and November 2013, settlements were reached in respect of claims filed against HTIE in the Irish High Court by Thema International Fund plc ( Thema International ) and Alternative Advantage Plc ( AA ), respectively. Only two actions by individual Thema International shareholders against HTIE and Thema International remain active. An application to dismiss the two remaining shareholder claims was heard in December 2015 and a decision is pending.

In December 2014, a new proceeding against HTIE and HSBC Securities Services (Ireland) Limited was brought by SPV OSUS, alleging breach of the custodian agreement and claiming damages and indemnification for fund losses. In July 2015, HTIE brought a preliminary application to challenge the standing of SPV OSUS to bring proceedings against its service providers. Judgement was rendered in favour of HTIE in October 2015, resulting in the dismissal of the action. SPV OSUS filed an appeal, which is scheduled for hearing in January 2017.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact, of the various Madoff-related proceedings described above, including but not limited to the multiple jurisdictions in which the proceedings have been brought and the number of different plaintiffs and defendants in such proceedings. Based upon the information currently available, management's estimate of possible aggregate damages that might arise as a result of all claims in the various Madoff-related proceedings is up to or exceeding \$800m. Due to uncertainties and limitations of this estimate, the ultimate damages could differ significantly from this amount.

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**Notes on the Financial Statements** (continued)**40 Legal proceedings and regulatory matters****US mortgage-related investigations**

In April 2011, following completion of a broad horizontal review of industry foreclosure practices, HSBC Bank USA N.A. ( HSBC Bank USA ) entered into a consent cease-and-desist order with the Office of the Comptroller of the Currency ( OCC ), and HSBC Finance Corporation ( HSBC Finance ) and HSBC North America Holdings Inc. ( HNAH ) entered into a similar consent order with the Federal Reserve Board ( FRB ) (together with the OCC order, the Servicing Consent Orders ). The Servicing Consent Orders require prescribed actions to address the foreclosure practice deficiencies noted in the joint examination and described in the Servicing Consent Orders. HSBC Bank USA, HSBC Finance and HNAH continue to work with the OCC and the FRB to align their processes with the requirements of the Servicing Consent Orders and to implement operational changes as required; however, as set forth in a June 2015 amended consent order between HSBC Bank USA and the OCC (the Amended Consent Order ), HSBC Bank USA is not yet in compliance with all of the requirements of the OCC order. A failure to satisfy all requirements of the OCC order may result in a variety of regulatory consequences for HSBC Bank USA, including the imposition of civil money penalties. The Amended Consent Order includes business restrictions related to residential mortgage servicing that will remain in place until the OCC order is terminated. The restrictions include a prohibition against the bulk acquisition of residential mortgage servicing or residential mortgage servicing rights and a requirement to seek OCC supervisory non-objection to outsource any residential mortgage servicing activities that are not already outsourced as of the date of the Amended Consent Order.

The Servicing Consent Orders required an independent review of foreclosures pending or completed between January 2009 and December 2010 to determine if any borrower was financially injured as a result of an error in the foreclosure process (the Independent Foreclosure Review ). As required by the Servicing Consent Orders, an independent consultant was retained to conduct that review. In February 2013, HSBC Bank USA entered into an agreement with the OCC, and HSBC Finance and HNAH entered into an agreement with the FRB (together, the IFR Settlement Agreements ), pursuant to which the Independent Foreclosure Review ceased and was replaced by a broader framework under which HSBC and 12 other participating servicers agreed to provide, in the aggregate, over \$9.3bn in cash payments and other assistance to help eligible borrowers. Pursuant to the IFR Settlement Agreements, HNAH made a cash payment of \$96m into a fund used to make payments to borrowers that were in active foreclosure during 2009 and 2010 and is also providing other assistance, such as loan modifications, to help eligible borrowers. Borrowers who receive compensation will not be required to execute a release or waiver of rights and will not be precluded from pursuing litigation concerning foreclosure or other mortgage servicing practices. For participating servicers, including HSBC Bank USA and HSBC Finance, fulfilment of the terms of the IFR Settlement Agreements will satisfy the Independent Foreclosure Review requirements of the Servicing Consent Orders, including the wind-down of the Independent Foreclosure Review.

The Servicing Consent Orders do not preclude additional enforcement actions against HSBC Bank USA, HSBC Finance or HNAH by regulatory, governmental or law enforcement agencies, such as the DoJ or state Attorneys General, which could include the imposition of civil money penalties and other sanctions relating to the activities that

are the subject of the Servicing Consent Orders. In addition, the IFR Settlement Agreements do not preclude future private litigation concerning these practices.

Separate from the Servicing Consent Orders and the settlement related to the Independent Foreclosure Review discussed above, in February 2016, HSBC Bank USA, HSBC Finance, HSBC Mortgage Services Inc. and HNAH entered into an agreement with the DoJ, the US Department of Housing and Urban Development, the Consumer Financial Protection Bureau, other federal agencies (the Federal Parties ) and the Attorneys General of 49 states and the District of Columbia (the State Parties ) to resolve civil claims related to past residential mortgage loan origination and servicing practices (the National Mortgage Settlement Agreement ). The National Mortgage Settlement Agreement is similar to prior settlements reached with other US mortgage servicers and includes payment of \$100m to be allocated among participating Federal and State Parties, and \$370m in consumer relief provided through HSBC's loan modification programmes. The National Mortgage Settlement Agreement also sets forth national mortgage servicing standards to which HSBC will adhere.

In addition, in February 2016, the FRB announced the imposition against HSBC Finance and HNAH of a \$131m civil money penalty in connection with the FRB's Servicing Consent Order of April 2011. Pursuant to the terms of the FRB order, the penalty will be satisfied by the cash payments made to the Federal Parties and the consumer relief provided pursuant to the National Mortgage Settlement Agreement.

The National Mortgage Settlement Agreement and the FRB order do not completely preclude other enforcement actions by regulatory, governmental or law enforcement agencies related to foreclosure and other mortgage servicing practices, including, but not limited to, matters relating to the securitisation of mortgages for investors, which could include the imposition of civil money penalties, criminal fines or other sanctions. In addition, these practices have in the past resulted in private litigation, and the National Mortgage Settlement Agreement would not preclude further private litigation concerning these practices.

#### US mortgage securitisation activity and litigation

HSBC Bank USA was a sponsor/seller of loans used to facilitate whole loan securitisations underwritten by HSBC Securities (USA) Inc. ( HSI ). From 2005 to 2007, HSBC Bank USA purchased and sold \$24bn of such loans to HSI, which were subsequently securitised and sold by HSI to third parties. The outstanding principal balance on these loans was approximately \$5.2bn as at 31 December 2015.

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Participants in the US mortgage securitisation market that purchased and repackaged whole loans have been the subject of lawsuits and governmental and regulatory inquiries, which have been directed at groups within the US mortgage market such as servicers, originators, underwriters, trustees or sponsors of securitisations, and at particular participants within these groups. As the industry's residential mortgage foreclosure issues continue, HSBC Bank USA has taken title to an increasing number of foreclosed homes as trustee on behalf of various mortgage securitisation trusts. As nominal record owner of these properties, HSBC Bank USA has been sued by municipalities and tenants alleging various violations of law, including laws regarding property upkeep and tenants' rights. While HSBC believes and continues to maintain that the obligations at issue and any related liabilities are properly those of the servicer of each trust, HSBC continues to receive significant adverse publicity in connection with these and similar matters, including foreclosures that are serviced by others in the name of HSBC, as trustee.

Between June and December 2014, a number of lawsuits were filed in state and federal court in New York and Ohio against HSBC Bank USA as trustee of over 280 mortgage securitisation trusts. These lawsuits are brought on behalf of the trusts by a putative class of investors including, amongst others, BlackRock and PIMCO funds. Similar lawsuits were filed simultaneously against other non-HSBC financial institutions that served as mortgage securitisation pool trustees. The complaints against HSBC Bank USA allege that the trusts have sustained losses in collateral value of approximately \$38bn. The lawsuits seek unspecified damages resulting from alleged breaches of the US Trust Indenture Act, breach of fiduciary duties, negligence, breach of contract and breach of the common law duty of trust. HSBC filed motions to dismiss in several of these lawsuits, which were, for the most part, denied. In December 2015, three new actions containing similar allegations were filed in state and federal court in New York against HSBC Bank USA as trustee of over 40 mortgage securitisation trusts, many of which are at issue in the previously filed trustee cases. The complaints in the new actions against HSBC Bank USA allege that the trusts have sustained losses in collateral value of approximately \$285m.

Various HSBC companies have also been named as defendants in a number of actions in connection with residential mortgage-backed security (RMBS) offerings, which generally allege that the offering documents for securities issued by mortgage securitisation trusts contained material misstatements and omissions, including statements regarding the underwriting standards governing the underlying mortgage loans.

HSBC Bank USA, HSBC Finance and Decision One Mortgage Company LLC (an indirect subsidiary of HSBC Finance) have been named as defendants in various mortgage loan repurchase actions brought by trustees of mortgage securitisation trusts. In the aggregate, these actions seek to have the HSBC defendants repurchase mortgage loans, or pay compensatory damages in lieu of repurchase, totalling at least \$1bn.

In addition to actions brought by trustees of securitisation trusts, HSBC Mortgage Corporation (USA) Inc. and Decision One Mortgage Company LLC have been named as defendants in two separate actions filed by Residential Funding Company LLC (RFC), a mortgage loan purchase counterparty. These actions seek unspecified damages in relation to alleged losses suffered by RFC as a result of approximately 25,000 mortgage loans purchased from HSBC between 1986 and 2007. Discovery is in progress in both of these actions.

Since 2010, various HSBC entities have received subpoenas and requests for information from the DoJ and the Massachusetts state Attorney General seeking the production of documents and information regarding HSBC's

involvement in specific private-label RMBS transactions as an issuer, sponsor, underwriter, depositor, trustee, custodian or servicer. In November 2014, HNAH, on behalf of itself and various subsidiaries including, but not limited to, HSBC Bank USA, HSI Asset Securitization Corp., HSI, HSBC Mortgage Corporation (USA), HSBC Finance and Decision One Mortgage Company LLC, received a subpoena from the US Attorney's Office for the District of Colorado, pursuant to the Financial Industry Reform, Recovery and Enforcement Act ( FIRREA ), concerning the origination, financing, purchase, securitisation and servicing of subprime and non-subprime residential mortgages. Five non-HSBC banks have previously reported settlements with the DoJ of FIRREA and other mortgage-backed securities-related matters. HSBC is cooperating with the US authorities and is continuing to produce documents and information responsive to their requests.

HSBC expects the focus on mortgage securitisations to continue. As a result, HSBC companies may be subject to additional claims, litigation and governmental or regulatory scrutiny relating to its participation in the US mortgage securitisation market.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact of these matters. Based upon the information currently available, it is possible that any liabilities that might arise as a result of these matters could be significant.

#### Anti-money laundering and sanctions-related matters

In October 2010, HSBC Bank USA entered into a consent cease-and-desist order with the OCC, and HNAH entered into a consent cease-and-desist order with the FRB (the Orders ). These Orders required improvements to establish an effective compliance risk management programme across HSBC's US businesses, including risk management related to the Bank Secrecy Act ( BSA ) and AML compliance. Steps continue to be taken to address the requirements of the Orders.

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**Notes on the Financial Statements** (continued)**40 Legal proceedings and regulatory matters**

In December 2012, HSBC Holdings, HNAH and HSBC Bank USA entered into agreements with US and UK government agencies regarding past inadequate compliance with the BSA, AML and sanctions laws. Among those agreements, HSBC Holdings and HSBC Bank USA entered into a five-year deferred prosecution agreement with the DoJ, the US Attorney's Office for the Eastern District of New York, and the US Attorney's Office for the Northern District of West Virginia (the US DPA); and HSBC Holdings consented to a cease-and-desist order, and HSBC Holdings and HNAH consented to a civil money penalty order with the FRB. HSBC Holdings also entered into an agreement with the Office of Foreign Assets Control (OFAC) regarding historical transactions involving parties subject to OFAC sanctions, as well as an undertaking with the UK FCA to comply with certain forward-looking AML and sanctions-related obligations. In addition, HSBC Bank USA entered into a civil money penalty order with the Financial Crimes Enforcement Network (FinCEN) of the US Treasury Department and a separate civil money penalty order with the OCC.

Under these agreements, HSBC Holdings and HSBC Bank USA made payments totalling \$1.9bn to US authorities. In July 2013, the US District Court for the Eastern District of New York approved the US DPA and retained authority to oversee implementation of that agreement. An independent compliance monitor (the Monitor) was appointed in 2013 under the agreements entered into with the DoJ and the FCA to produce annual assessments of the effectiveness of HSBC's AML and sanctions compliance programme. Additionally, the Monitor is serving as HSBC's independent consultant under the consent order of the FRB. 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.

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.

HSBC Bank USA also entered into a separate consent order with the OCC, requiring it to correct the circumstances and conditions as noted in the OCC's then-most recent report of examination, and imposing certain restrictions on HSBC Bank USA directly or indirectly acquiring control of, or holding an interest in, any new financial subsidiary, or commencing a new activity in its existing financial subsidiary, unless it receives prior approval from the OCC. HSBC Bank USA also entered into a separate consent order with the OCC requiring it to adopt an enterprise-wide compliance programme.

These settlements with US and UK authorities have led to private litigation, and do not preclude further private litigation related to HSBC's compliance with applicable BSA, AML and sanctions laws or other regulatory or law enforcement actions for BSA, AML, sanctions or other matters not covered by the various agreements.

In May 2014, a shareholder derivative action was filed by a shareholder of HSBC Holdings purportedly on behalf of HSBC Holdings, HSBC Bank USA, HNAH and HSBC USA Inc. (the Nominal Corporate Defendants) in New York

state court against certain current and former directors and officers of those HSBC companies (the Individual Defendants ). The complaint alleges that the Individual Defendants breached their fiduciary duties to the Nominal Corporate Defendants and caused a waste of corporate assets by allegedly permitting and/or causing the conduct underlying the US DPA. In March 2015, the Nominal Corporate Defendants moved to dismiss the action, and the Individual Defendants who had been served also responded to the complaint. In November 2015, the New York state court granted the motion to dismiss. The plaintiff has appealed that decision.

In July 2014, a claim was filed in the Ontario Superior Court of Justice against HSBC Holdings and a former employee purportedly on behalf of a class of persons who purchased HSBC common shares and American Depositary Shares between July 2006 and July 2012. The complaint, which seeks monetary damages of up to CA\$20bn, alleges that the defendants made statutory and common law misrepresentations in documents released by HSBC Holdings and its wholly owned subsidiary, HSBC Bank Canada, relating to HSBC s compliance with BSA, AML, sanctions and other laws.

In November 2014, a complaint was filed in the US District Court for the Eastern District of New York on behalf of representatives of US persons alleged to have been killed or injured in Iraq between April 2004 and November 2011. The complaint was filed against HSBC Holdings, HSBC Bank plc, HSBC Bank USA and HSBC Bank Middle East, as well as other non-HSBC banks and the Islamic Republic of Iran. The plaintiffs allege that defendants violated the US Anti-Terrorism Act ( US ATA ) by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the US. Defendants filed a motion to dismiss in May 2015, and a decision on that motion is pending.

In November 2015, a complaint was filed in the US District Court for the Northern District of Illinois on behalf of representatives of four US persons alleged to have been killed or injured in terrorist attacks on three hotels in Amman, Jordan in 2005. The complaint was filed against HSBC Holdings, HSBC Bank USA, HNAH, HSI, HSBC Finance, HSBC USA Inc. and HSBC Bank Middle East, as well as a non-HSBC bank. The plaintiffs allege that the HSBC defendants violated the US ATA by failing to enforce due diligence methods to prevent its financial services from being used to support the terrorist attacks.

In February 2016, a complaint was filed in the US District Court for the Southern District of Texas by representatives of US persons alleged to have been killed or injured in Mexico by Mexican drug cartels. The complaint was filed against HSBC Holdings, HSBC Bank USA, HSBC México SA, and Grupo Financiero HSBC. The plaintiffs allege that defendants violated the US ATA by providing financial services to individuals and entities associated with the Mexican drug cartels. Defendants have not yet been served with process.

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Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these lawsuits, including the timing or any possible impact on HSBC, which could be significant.

### Tax-related investigations

HSBC continues to cooperate in ongoing investigations by the DoJ and the US Internal Revenue Service regarding whether certain HSBC companies and employees, including those associated with HSBC Private Bank (Suisse) SA ( HSBC Swiss Private Bank ) and an HSBC company in India, acted appropriately in relation to certain customers who had US tax reporting obligations. In connection with these investigations, HSBC Swiss Private Bank, with due regard for Swiss law, has produced records and other documents to the DoJ. In August 2013, the DoJ informed HSBC Swiss Private Bank that it was not eligible for the Program for Non-Prosecution Agreements or Non-Target Letters for Swiss Banks since a formal investigation had previously been authorised.

In addition, various tax administration, regulatory and law enforcement authorities around the world, including in Belgium, France, Argentina and India, are conducting investigations and reviews of HSBC Swiss Private Bank and other HSBC entities in connection with allegations of tax evasion or tax fraud, money laundering and unlawful cross-border banking solicitation. HSBC Swiss Private Bank has been placed under formal criminal examination by magistrates in both Belgium and France. In February 2015, HSBC was informed that the French magistrates are of the view that they have completed their investigation with respect to HSBC Swiss Private Bank and have referred the matter to the public prosecutor for a recommendation on any potential charges to be brought, whilst reserving the right to continue investigating other conduct at HSBC. In April 2015, HSBC Holdings was informed that it has been placed under formal criminal investigation by the French magistrates in connection with the conduct of HSBC Swiss Private Bank in 2006 and 2007 for alleged tax offences, and a 1bn bail was imposed. HSBC Holdings appealed the magistrates' decision and, in June 2015, bail was reduced to 100m. The ultimate financial impact of this matter could differ significantly, however, from the bail amount of 100m.

In Argentina, in November 2014, the Argentine tax authority filed a complaint against various individuals, including current and former HSBC employees, alleging tax evasion and an unlawful association amongst HSBC Swiss Private Bank, HSBC Bank Argentina, HSBC Bank USA and certain HSBC employees, which allegedly enabled numerous HSBC customers to evade their Argentine tax obligations. In addition, the Argentine Congress convened a special committee to investigate similar allegations, as well as issues related to allegations of Argentine income tax evasion more broadly. The committee issued its final report in December 2015.

In India, in February 2015, the Indian tax authority issued a summons and request for information to an HSBC company in India. In August 2015 and November 2015, HSBC entities received notices issued by two offices of the Indian tax authority, alleging that the Indian tax authority had sufficient evidence to initiate prosecution against HSBC Swiss Private Bank and its Dubai entity for abetting tax evasion of four different Indian individuals and/or families and requesting that the HSBC entities show why such prosecution should not be initiated.

With respect to each of these ongoing matters, HSBC is cooperating with the relevant authorities in a manner consistent with relevant laws. There are many factors that may affect the range of outcomes, and the resulting financial impact, of these investigations and reviews, which could be significant.

In light of the media attention regarding these matters, it is possible that other tax administration, regulatory or law enforcement authorities will also initiate or enlarge similar investigations or regulatory proceedings.

**London interbank offered rates, European interbank offered rates and other benchmark interest rate investigations and litigation**

Various regulators and competition and law enforcement authorities around the world, including in the UK, the US, the EU, Switzerland, South Korea and elsewhere, are conducting investigations and reviews related to certain past submissions made by panel banks and the processes for making submissions in connection with the setting of Libor, Euribor and other benchmark interest rates. As certain HSBC companies are members of such panels, HSBC has been the subject of regulatory demands for information and is cooperating with those investigations and reviews.

In May 2014, HSBC received a Statement of Objections from the European Commission (the Commission), alleging anti-competitive practices in connection with the pricing of euro interest rate derivatives. The Statement of Objections sets out the Commission's preliminary views and does not prejudge the final outcome of its investigation. HSBC responded to the Commission's Statement of Objections in March 2015, and a hearing before the Commission took place in June 2015. A decision by the Commission is pending.

In addition, HSBC and other US dollar Libor panel banks have been named as defendants in a number of private lawsuits filed in the US with respect to the setting of US dollar Libor. The complaints assert claims under various US laws, including US antitrust and racketeering laws, the US Commodity Exchange Act (CEA), and state law. The lawsuits include individual and putative class actions, most of which have been transferred and/or consolidated for pre-trial purposes before the United States District Court for the Southern District of New York (the New York District Court).

In March 2013, the New York District Court overseeing the consolidated proceedings related to US dollar Libor issued a decision in the six oldest actions, dismissing the plaintiffs' federal and state antitrust claims, racketeering claims, and unjust enrichment claims in their entirety, but allowing certain of their CEA claims that were not barred by the applicable statute of

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**Notes on the Financial Statements** (continued)**40 Legal proceedings and regulatory matters**

limitations to proceed. Some of those plaintiffs appealed the New York District Court's decision to the US Court of Appeals for the Second Circuit, which later dismissed those appeals as premature. In January 2015, the US Supreme Court reversed the Court of Appeals' decision and remanded the case to the Court of Appeals for consideration on the merits of the plaintiffs' appeal. Oral argument in the Court of Appeals was held in November 2015, and the parties are awaiting a decision.

Other plaintiffs sought to file amended complaints in the New York District Court to assert additional allegations. In June 2014, the New York District Court issued a decision that, amongst other things, denied the plaintiffs' request for leave to amend their complaints to assert additional theories of Libor manipulation against HSBC and certain non-HSBC banks, but granted leave to assert such manipulation claims against two other banks; and granted defendants' motion to dismiss certain additional claims under the CEA as barred by the applicable statute of limitations. Proceedings with respect to all other actions in the consolidated proceedings were stayed pending this decision. The stay was lifted in September 2014, and amended complaints were filed in certain other individual and class actions thereafter. The defendants filed motions to dismiss, and in August 2015 and November 2015, the court issued decisions granting the motions in part, although it has not yet entered an order specifying which particular claims are dismissed against which defendants.

Separately, HSBC and other panel banks have also been named as defendants in two putative class actions filed in the New York District Court on behalf of persons who transacted in financial instruments allegedly related to the euroyen Tokyo interbank offered rate (Tibor) and/or Japanese yen Libor. The complaints allege, amongst other things, misconduct related to euroyen Tibor, although HSBC is not a member of the Japanese Bankers Association's euroyen Tibor panel, as well as Japanese yen Libor, in violation of US antitrust laws, the CEA, and state law.

The first of the two actions was filed in April 2012, and HSBC responded by filing a motion to dismiss. In March 2014, the New York District Court dismissed the plaintiffs' claims under US antitrust law and state law, but sustained their claims under the CEA. In June 2014, the plaintiffs then moved for leave to file an amended complaint adding new claims and parties. That motion was denied in March 2015, except insofar as it granted leave to add certain defendants not affiliated with HSBC and reserving on the question of whether the California State Teachers Retirement System (CALSTRS) may intervene and be added as a plaintiff. In October 2015, the New York District Court denied the motion of CALSTRS to intervene. In November 2015, CALSTRS filed an appeal of that ruling to the United States Court of Appeals for the Second Circuit, which remains pending.

The second action was filed in July 2015. In February 2016, HSBC and the other banks named in the complaint filed a motion to dismiss the action, and a decision on that motion is pending.

In November 2013, HSBC and other panel banks were also named as defendants in a putative class action filed in the New York District Court on behalf of persons who transacted in euro futures contracts and other financial instruments allegedly related to Euribor. The complaint alleges, amongst other things, misconduct related to Euribor

in violation of US antitrust laws, the CEA and state law. The court previously stayed proceedings until May 2015. After the stay expired, the plaintiffs filed an amended complaint. In October 2015, HSBC filed a motion to dismiss the action, which remains pending.

In September and October 2014, HSBC Bank plc and other panel banks were named as defendants in a number of putative class actions that were filed and consolidated in the New York District Court on behalf of persons who transacted in interest rate derivatives or purchased or sold financial instruments that were either tied to US dollar International Swaps and Derivatives Association fix ( ISDAfix ) rates or were executed shortly before, during, or after the time of the daily ISDAfix setting window. The complaint alleges, amongst other things, misconduct related to these activities in violation of US antitrust laws, the CEA and state law. In February 2015, plaintiffs filed a second consolidated amended complaint replacing HSBC Bank plc with HSBC Bank USA. A motion to dismiss that complaint was filed in April 2015, and a decision is pending.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact, of these lawsuits. Based upon the information currently available, it is possible that any liabilities that might arise as a result of the claims in these actions could be significant.

### Foreign exchange rate investigations and litigation

Various regulators and competition and law enforcement authorities around the world, including in the US, the EU, Brazil, South Korea and elsewhere, are conducting investigations and reviews into trading by HSBC and others on the foreign exchange markets. HSBC has been cooperating with these ongoing investigations and reviews.

In May 2015, the DoJ resolved its investigations with respect to five non-HSBC financial institutions, four of whom agreed to plead guilty to criminal charges of conspiring to manipulate prices in the foreign exchange spot market, and resulting in the imposition of criminal fines in the aggregate of more than \$2.5bn. Additional penalties were imposed at the same time by the FRB and other banking regulators. HSBC was not a party to these resolutions, and investigations into HSBC by the DoJ, FRB and others around the world continue.

In addition, in late 2013 and early 2014, HSBC Holdings, HSBC Bank plc, HNAH and HSBC Bank USA were named as defendants, amongst other banks, in various putative class actions filed in the New York District Court. In March 2014, the plaintiffs filed a consolidated amended complaint alleging, amongst other things, that defendants conspired to manipulate the WM/Reuters foreign exchange benchmark rates (the Consolidated Action ). Separate putative class actions were also brought on behalf of non-US plaintiffs (the Foreign Actions ). Defendants moved to dismiss all actions. In January 2015, the court denied defendants

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motion to dismiss the Consolidated Action, but granted defendants' motion to dismiss the Foreign Actions. Five additional putative class actions were subsequently filed in the New York District Court making similar allegations on behalf of persons who engaged in foreign exchange futures transactions on a US exchange, and those additional actions were subsequently consolidated with the Consolidated Action. In July 2015, the plaintiffs in the Consolidated Action filed a further amended complaint that, amongst other things, added new claims and parties, including HSBC Securities (USA), Inc. In September 2015, HSBC reached an agreement with plaintiffs to resolve the Consolidated Action, subject to court approval. In December 2015, the court granted preliminary approval of the settlement, and HSBC made payment of the agreed settlement amount into an escrow account. The court has not yet set a date for the final approval hearing.

In addition to the above actions, a putative class action was filed in the New York District Court in June 2015 making similar allegations on behalf of Employee Retirement Income Security Act of 1974 ( ERISA ) plan participants, and another complaint was filed in the US District Court for the Northern District of California in May 2015. HSBC filed a motion to transfer the California action to New York, which was granted in November 2015.

In September 2015, two additional putative class actions making similar allegations under Canadian law were issued in Canada against various HSBC entities, including HSBC Bank Canada, and numerous other financial institutions.

As at 31 December 2015, HSBC has recognised a provision in the amount of \$1.2bn. There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters. Due to uncertainties and limitations of these estimates, the ultimate penalties could differ significantly from the amount provided.

#### Precious metals fix-related litigation and investigations

Beginning in March 2014, numerous putative class actions were filed in the US District Courts for the Southern District of New York, the District of New Jersey and the Northern District of California, naming HSBC and other members of The London Gold Market Fixing Limited as defendants. The complaints allege that, from January 2004 to the present, defendants conspired to manipulate the price of gold and gold derivatives during the afternoon London gold fix for their collective benefit in violation of US antitrust laws, the CEA and New York state law. The actions were subsequently consolidated in the New York District Court. An amended complaint was filed in March 2015, which defendants moved to dismiss. A hearing has been scheduled for March 2016.

Beginning in July 2014, numerous putative class actions were filed in the US District Courts for the Southern and Eastern Districts of New York, naming HSBC and other members of The London Silver Market Fixing Ltd as defendants. The complaints allege that, from January 1999 to the present, defendants conspired to manipulate the price of silver and silver derivatives for their collective benefit in violation of US antitrust laws, the CEA and New York state law. The actions were subsequently consolidated in the New York District Court. An amended complaint was filed in April 2015, which defendants moved to dismiss. A hearing has been scheduled for March 2016.

Between late 2014 and early 2015, numerous putative class actions were filed in the US District Court for the Southern District of New York, naming HSBC, and other members of The London Platinum and Palladium Fixing Company Limited as defendants. The complaints allege that, from January 2008 to the present, defendants conspired

to manipulate the price of platinum group metals ( PGM ) and PGM-based financial products for their collective benefit in violation of US antitrust laws and the CEA. An amended complaint was filed in August 2015, which defendants moved to dismiss.

Additionally, in December 2015, a putative class action under Canadian law was filed in the Ontario Superior Court of Justice against various HSBC entities, including HSBC Bank Canada, and other financial institutions. Plaintiffs allege that, from January 2004 to March 2014, defendants conspired to manipulate the price of gold and gold-related investment instruments in violation of the Canadian Competition Act and common law.

Various regulators and competition and law enforcement authorities, including in the US and the EU, are conducting investigations and reviews relating to HSBC's precious metals operations. HSBC has been cooperating with these ongoing investigations. In November 2014, the Antitrust Division and Criminal Fraud Section of the DoJ issued a document request to HSBC Holdings, seeking the voluntary production of certain documents in connection with a criminal investigation that the DoJ is conducting of alleged anti-competitive and manipulative conduct in precious metals trading. In January 2016, the Antitrust Division of the DoJ informed HSBC that it was closing its investigation; however, the Criminal Fraud Section's investigation remains ongoing.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

#### Credit default swap regulatory investigation and litigation

In July 2013, HSBC received a Statement of Objections from the Commission relating to its ongoing investigation of alleged anti-competitive activity by a number of banks and other market participants in the credit derivatives market between 2006 and 2009. The Statement of Objections sets out the Commission's preliminary views and does not prejudge the final outcome of its investigation. HSBC submitted a response and attended a hearing in May 2014. Following the hearing, the Commission decided in December 2015 to close the case against all 13 banks, including all of the HSBC entities; however, the Commission's investigation relating to Markit and ISDA is ongoing.

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**Notes on the Financial Statements** (continued)**40 Legal proceedings and regulatory matters / 41 Related party transactions**

In addition, HSBC Holdings, HSBC Bank plc and HSBC Bank USA were named as defendants, amongst others, in numerous putative class actions filed in the New York District Court and the Illinois District Court. These class actions allege that the defendants, which include ISDA, Markit and several other financial institutions, conspired to restrain trade in violation of US antitrust laws by, amongst other things, restricting access to credit default swap pricing exchanges and blocking new entrants into the exchange market. The plaintiffs in these suits purport to represent a class of all persons who purchased credit default swaps from or sold credit default swaps to defendants primarily in the US.

In October 2013, these cases were consolidated in the New York District Court (the Consolidated Action ). In September 2015, the HSBC defendants reached an agreement with plaintiffs to resolve the Consolidated Action, subject to court approval. In October 2015, the court granted preliminary approval of the settlement. The final settlement approval hearing is scheduled for April 2016.

**Economic plans: HSBC Bank Brasil S.A.**

In the mid-1980s and early 1990s, certain economic plans were introduced by the government of Brazil to reduce escalating inflation. The implementation of these plans adversely impacted savings account holders, thousands of which consequently commenced legal proceedings against financial institutions in Brazil, including HSBC Bank Brasil S.A. ( HSBC Brazil ), alleging, amongst other things, that savings account balances were adjusted by a different price index than that contractually agreed, which caused them a loss of income. Certain of these cases have reached the Brazilian Supreme Court. The Supreme Court has suspended all cases pending before lower courts until it delivers a final judgement on the constitutionality of the changes resulting from the economic plans. It is anticipated that the outcome of the Supreme Court's final judgement will set a precedent for all cases pending before the lower courts. Separately, the Brazilian Superior Civil Court is considering matters relating to, amongst other things, contractual and punitive interest rates to be applied to calculate any loss of income.

There is a high degree of uncertainty as to the terms on which the proceedings in the Supreme Court and Superior Civil Court will be resolved and the timing of such resolutions, including the amount of losses that HSBC Brazil may be liable to pay in the event of an unfavourable judgement. Such losses may lie in a range from a relatively insignificant amount to an amount up to \$564m (based on the exchange rate between the USD and the BRL as at 31 December 2015), although the upper end of this range is considered unlikely.

**Regulatory review of consumer enhancement services products**

HSBC Finance, through its legacy Cards and Retail Services business, offered or participated in the marketing, distribution, or servicing of products, such as identity theft protection and credit monitoring products, that were ancillary to the provision of credit to the consumer. HSBC Finance ceased offering these products by May 2012. The offering and administration of these and other enhancement services products, such as debt protection products, has

been the subject of enforcement actions against other institutions by regulators, including the Consumer Financial Protection Bureau, the OCC, and the Federal Deposit Insurance Corporation. Such enforcement actions have resulted in orders to pay restitution to customers and the assessment of penalties in substantial amounts. We have made restitution to certain customers in connection with certain enhancement services products, and we continue to cooperate with our regulators in connection with their ongoing review. In light of the actions that regulators have taken in relation to other non-HSBC credit card issuers regarding their enhancement services products, one or more regulators may order us to pay additional restitution to customers and/or impose civil money penalties or other relief arising from the prior offering and administration of such enhancement services products by HSBC Finance; however, management no longer expects the resulting financial impact to be material.

#### **Fédération Internationale de Football Association ( FIFA ) related investigations**

HSBC has received inquiries from the DoJ regarding its banking relationships with certain individuals and entities that are or may be associated with FIFA. The DoJ is investigating whether multiple financial institutions, including HSBC, permitted the processing of suspicious or otherwise improper transactions, or failed to observe applicable AML laws and regulations. HSBC is cooperating with the DoJ's investigation.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of this matter, including the timing or any possible impact on HSBC, which could be significant.

#### **Hiring practices investigation**

The US Securities and Exchange Commission (the SEC) is investigating multiple financial institutions, including HSBC, in relation to hiring practices of candidates referred by or related to government officials or employees of state-owned enterprises in Asia-Pacific. HSBC has received various requests for information and is cooperating with the SEC's investigation.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of this matter, including the timing or any possible impact on HSBC, which could be significant.

#### **41 Related party transactions**

Related parties of the Group and HSBC Holdings include subsidiaries, associates, joint ventures, post-employment benefit plans for HSBC employees, Key Management Personnel, close family members of Key Management Personnel and entities which are controlled or jointly controlled by Key Management Personnel or their close family members.

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Particulars of transactions with related parties, disclosed pursuant to the requirements of IAS 24 Related Party Disclosures, are tabulated below. The disclosure of the year-end balance and the highest amounts outstanding during the year is considered to be the most meaningful information to represent the amount of the transactions and the amount of outstanding balances during the year.

Key Management Personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of HSBC Holdings, being the Directors and Group Managing Directors of HSBC Holdings.

### Key Management Personnel

#### *Compensation of Key Management Personnel*

	<b>2015</b>	2014	2013
	<b>\$m</b>	\$m	\$m
Short-term employee benefits	<b>40</b>	41	38
Post-employment benefits	<b>1</b>	1	2
Other long-term employee benefits	<b>9</b>	7	10
Share-based payments	<b>51</b>	54	35
<b>Year ended 31 December</b>	<b>101</b>	103	85

#### *Transactions, arrangements and agreements involving related parties*

Particulars of advances (loans and quasi-loans), credits and guarantees entered into by subsidiaries of HSBC Holdings during 2015 with Directors, disclosed pursuant to section 413 of the Companies Act 2006, are shown below:

	<b>2015</b>	2014
	<b>\$m</b>	\$m
<b>Advances and credits at 31 December</b>	<b>4</b>	5

#### *Transactions and balances during the year with Key Management Personnel*

**2015**

2014

	<b>Highest amounts outstanding</b>		<b>Highest amounts outstanding</b>
	<b>Balance at 31 December \$m</b>	<b>during year at 31 December \$m</b>	<b>Balance at 31 December \$m</b>
<b>Key Management Personnel<sup>1</sup></b>	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>
Advances and credits <sup>2</sup>	218	411	309
Guarantees <sup>3</sup>	67	91	78

1 Includes Key Management Personnel, close family members of Key Management Personnel and entities which are controlled or jointly controlled by Key Management Personnel or their close family members.

2 The 2014 year-end balance has been restated from \$194m to \$309m and the 2014 highest amount outstanding during the year has been restated from \$227m to \$347m.

3 The 2014 year-end balance has been restated from nil to \$78m and the 2014 highest amount outstanding during the year has been restated from nil to \$79m.

Some of the transactions were connected transactions as defined by the Rules Governing The Listing of Securities on The Stock Exchange of Hong Kong Limited, but were exempt from any disclosure requirements under the provisions of those rules. The above transactions were made in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with persons of a similar standing or, where applicable, with other employees. The transactions did not involve more than the normal risk of repayment or present other unfavourable features.

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## Notes on the Financial Statements (continued)

**41 Related party transactions / 42 Events after the balance sheet date / 43 HSBC's subsidiaries***Shareholdings, options and other securities of Key Management Personnel*

	<b>2015</b> <b>(000s)</b>	2014 (000s)
Number of options held over HSBC Holdings ordinary shares under employee share plans	<b>29</b>	28
Number of HSBC Holdings ordinary shares held beneficially and non-beneficially	<b>18,961</b>	17,533
Number of HSBC Bank 2.875% Notes 2015 due 30 April 2015 held beneficially and non-beneficially		5
<b>At 31 December</b>	<b>18,990</b>	17,566

*Associates and joint ventures*

The Group provides certain banking and financial services to associates and joint ventures including loans, overdrafts, interest and non-interest bearing deposits and current accounts. Details of the interests in associates and joint ventures are given in Note 19.

*Transactions and balances during the year with associates and joint ventures*

	<b>2015</b>		2014	
	<b>Highest balance during the year \$m</b>	<b>Balance at 31 December \$m</b>	Highest balance during the year \$m	Balance at 31 December \$m
Amounts due from joint ventures:				
unsubordinated	<b>195</b>	<b>151</b>	205	205
Amounts due from associates:				
subordinated			58	
unsubordinated	<b>4,209</b>	<b>2,035</b>	5,451	4,273
	<b>4,404</b>	<b>2,186</b>	5,714	4,478
Amounts due to associates	<b>1,047</b>	<b>92</b>	650	162

Guarantees	905	904	952	952
Commitments			17	

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

### Post-employment benefit plans

At 31 December 2015, \$4.3bn (2014: \$4.5bn) of HSBC post-employment benefit plan assets were under management by HSBC companies, earning management fees of \$8m in 2015 (2014: \$12m). At 31 December 2015 HSBC's post-employment benefit plans had placed deposits of \$811m (2014: \$223m) with its banking subsidiaries, earning interest payable to the schemes of nil (2014: \$6m). The above outstanding balances arose from the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

HSBC Bank (UK) Pension Scheme enters into swap transactions with HSBC to help manage inflation and interest rate sensitivity of its liabilities. At 31 December 2015 the gross notional value of these swaps was \$13.3bn (2014: \$24bn), the swaps had a positive fair value to the scheme of \$0.5bn (2014: \$0.9bn positive); and HSBC had delivered collateral of \$1.1bn (2014: \$2.0bn) to the scheme in respect of these arrangements. This earned HSBC interest of nil (2014: \$5m). All swaps were executed at prevailing market rates and within standard market bid/offer spreads. Over the year, the scheme reduced its level of swap transactions with HSBC.

The International Staff Retirement Benefit Scheme enters into swap transactions with HSBC to manage the inflation and interest rate sensitivity of its liabilities and selected assets. At 31 December 2015, the gross notional value of the swaps was \$1.7bn (2014: \$1.9bn) and the swaps had a net negative fair value to the scheme of \$96m (2014: \$107m negative). All swaps were executed at prevailing market rates and within standard market bid/offer spreads.

### HSBC Holdings

Details of HSBC Holdings' subsidiaries are shown in Note 43.

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*Transactions and balances during the year with subsidiaries*

	2015		2014	
	Highest balance during the year	Balance at 31 December	Highest balance during the year	Balance at 31 December
	\$m	\$m	\$m	\$m
<b>Assets</b>				
Cash at bank	620	242	436	249
Derivatives	3,409	2,466	3,179	2,771
Loans and advances	47,229	44,350	55,026	43,910
Financial investments	4,427	4,285	4,073	4,073
Investments in subsidiaries	97,770	97,770	96,264	96,264
<b>Total related party assets at 31 December</b>	<b>153,455</b>	<b>149,113</b>	158,978	147,267
<b>Liabilities</b>				
Amounts owed to HSBC undertakings	2,892	2,152	12,046	2,892
Derivatives	2,459	2,277	1,169	1,169
Subordinated liabilities:				
at amortised cost	1,670	891	1,743	1,670
designated at fair value	982	855	3,186	981
<b>Total related party liabilities at 31 December</b>	<b>8,003</b>	<b>6,175</b>	18,144	6,712
Guarantees	68,333	68,333	53,180	52,023
Commitments	16		1,245	16

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

Some employees of HSBC Holdings are members of the HSBC Bank (UK) Pension Scheme, which is sponsored by a separate Group company. HSBC Holdings incurs a charge for these employees equal to the contributions paid into the scheme on their behalf. Disclosure in relation to the scheme is made in Note 6.

**42 Events after the balance sheet date**

A fourth interim dividend for 2015 of \$0.21 per ordinary share (a distribution of approximately \$4,134m) was declared by the Directors after 31 December 2015.

These accounts were approved by the Board of Directors on 22 February 2016 and authorised for issue.

### 43 HSBC Holdings subsidiaries, joint ventures and associates

In accordance with Section 409 of the Companies Act 2006 a list of HSBC Holdings plc's subsidiaries, joint ventures and associates, the country of incorporation and the effective percentage of equity owned at 31 December 2015 is disclosed below.

Subsidiaries	Country	Security	Direct (%)	Total (%)
0866101 B.C. Ltd	Canada	C\$ Common shares		100
0866102 B.C. Ltd	Canada	C\$ Common shares		100
ACN 087 652 113 Pty Limited	Australia	A\$0.16667 Ordinary shares		100
Albouys Nominees Limited	England and Wales	£1.00 Ordinary shares		100
Allblack Investments Limited	Jersey	£0.0037 Ordinary and £0.0037 Preference shares		100
AMP Client HSBC Custody Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (A) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (E) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (F) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (H) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (M) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (P) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (R) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance December (W) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance June (A) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance June (D) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance June (E) Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance Limited	England and Wales	£1.00 Ordinary shares		100
Assetfinance March (B) Limited	Northern Ireland	£1.00 Ordinary shares		100

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Assetfinance March (D) Limited	England and Wales	£1.00 Ordinary shares	100
Assetfinance March (F) Limited	England and Wales	£1.00 Ordinary shares	100
Assetfinance September (F) Limited	England and Wales	£1.00 Ordinary shares	100
Assetfinance September (G) Limited	England and Wales	£1.00 Ordinary shares	100
B&Q Financial Services Limited	England and Wales	£1.00 Ordinary shares	100

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## Notes on the Financial Statements (continued)

**43 HSBC Holdings subsidiaries, joint ventures and associates**

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
Banco Losango S.A Banco Multiplo	Brazil	BRL Ordinary shares		100
Banco Nominees (Guernsey) Limited	Guernsey	£1.00 Ordinary shares		100
Banco Nominees 2 (Guernsey) Limited	Guernsey	£1.00 Ordinary shares		100
Banco Nominees Limited	Bermuda	BMD2.40 Ordinary shares		100
Bank of Bermuda (Cayman) Limited	Cayman Islands	\$1.00 Ordinary shares		100
Bank of Bermuda (Insurance Brokers) Limited	Bermuda	BMD1.00 Common shares		100
Beijing Miyun HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares		100
Beneficial Commercial Holding Corporation	United States	\$100.00 Common shares		100
Beneficial Company LLC	United States	Limited liability company no shares		100
Beneficial Consumer Discount Company	United States	\$100.00 Common shares		100
Beneficial Direct, Inc.	United States	\$100.00 Ordinary shares		100
Beneficial Financial I Inc.	United States	\$1.00 Common shares		100
Beneficial Florida Inc.	United States	\$100.00 Common shares		100
Beneficial Kentucky Inc.	United States	\$100.00 Common shares		100
Beneficial Loan & Thrift Co.	United States	\$25.00 Common shares		100
Beneficial Louisiana Inc.	United States	\$100.00 Common shares		100
Beneficial Maine Inc.	United States	\$100.00 Common shares		100
Beneficial Management Corporation of America	United States	\$10.00 Common shares		100
Beneficial Massachusetts Inc.	United States	\$100.00 Common shares		100
Beneficial Michigan Inc.	United States	\$ Common shares		100
Beneficial Mortgage Corporation	United States	\$100.00 Common shares		100

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Beneficial New Hampshire Inc.	United States	\$100.00 Common shares	100
Beneficial New York Inc.	United States	\$100.00 Common shares	100
Beneficial Oregon Inc.	United States	\$100.00 Common shares	100
Beneficial Rhode Island Inc.	United States	\$100.00 Common shares	100
Beneficial South Dakota Inc.	United States	\$ Common shares	100
Beneficial Tennessee Inc.	United States	\$100.00 Common shares	100
Beneficial West Virginia, Inc.	United States	\$1.00 Common shares	100
Beneficial Wyoming Inc.	United States	\$100.00 Common shares	100
BerCay Holdings Limited	Cayman Islands	\$20.00 Ordinary shares	100
Bermuda Asia Pacific Holdings Limited	Cook Islands	\$1.00 Ordinary shares	100
Bermuda International Securities Limited	Bermuda	BMD1.00 Ordinary shares	100
Bermuda Trust (St Helier) Limited	Jersey	\$1.00 Ordinary shares	100
Bermuda Trust Company Limited	Bermuda	BMD1.00 Common shares	100
Bermuda Trust Executors (Jersey) Limited	Jersey	£1.00 Shares	100
BFC Insurance Agency of Nevada	United States	\$ Ordinary shares	100
Billingsgate City Securities Public Limited Company	England and Wales	£0.01 Ordinary shares	100
Billingsgate Nominees Limited	England and Wales	£1.00 Issued shares	100
Cabot Park Holdings, Inc.	United States	\$1.00 Common shares	100
Cal-Pacific Services, Inc.	United States	\$100.00 Ordinary shares	100
Canada Crescent Nominees (UK) Limited	England and Wales	£1.00 Ordinary shares	100
Canada Square Nominees (UK) Limited	England and Wales	£1.00 Ordinary shares	100
Canada Square Property Participations Limited	England and Wales	£1.00 Ordinary shares	100
Canada Water Nominees (UK) Limited	England and Wales	£1.00 Ordinary shares	100
Capco/Cove, Inc.	United States	\$1.00 Common shares	100
Capital Financial Services Inc.	United States	\$1.00 Common shares	100
Card-Flo #1, Inc.	United States	\$1.00 Common shares	100
Card-Flo #3, Inc.	United States	\$0.01 Common shares	100
Castlewood Limited	Cook Islands	\$ Ordinary shares	100
Cayman International Finance Limited	Cayman Islands	\$1.20 Ordinary shares	100
Cayman Nominees Limited	Cayman Islands	KYD2.00 Ordinary shares	100
CBS/Holdings, Inc.	United States	\$1.00 Common shares	100
CC&H Holdings LLC	United States	Limited liability company no shares	100
	England and Wales	£1.00 Ordinary shares	100

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CCF & Partners Asset Management Limited			
CCF Charterhouse GmbH	Germany	1.00 Actions shares	100
CCF Charterhouse GmbH & Co Asset Leasing KG	Germany	Limited partnership no shares	100
Charterhouse Administrators (D.T.) Limited	England and Wales	£1.00 Ordinary shares	100
Charterhouse Development Limited	England and Wales	£1.00 Ordinary shares	100
Charterhouse Finance Corporation Limited	Scotland	£1.00 Ordinary shares	100
Charterhouse Management Services Limited	England and Wales	£1.00 Ordinary shares	100
Charterhouse Pensions Limited	England and Wales	£1.00 Ordinary shares	100
Chemi and Cotex Industries Limited	Tanzania, United Rep. of	TZS1.00 Ordinary shares	100
Chongqing Dazu HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Chongqing Fengdu HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Chongqing Rongchang HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
CL Residential Limited	England and Wales	£1.00 Ordinary shares	100
Compass Nominees Limited	Bermuda	BMD1.00 Common shares	100
Compass Services Limited	Bermuda	\$1.00 Ordinary shares	100
Cordico Management AG	Switzerland	CHF1,000.00 Ordinary shares	100
Corhold Limited	Virgin Islands, British	\$1.00 Bearer shares	100
Credival Participacoes Administracao e Assessoria Ltda	Brazil	BRL0.01 Quota shares	100
Crewfleet Limited	England and Wales	£1.00 Ordinary shares	100
Dalian Pulandian HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100

HSBC HOLDINGS PLC

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
Decision One Mortgage Company, LLC	United States	Limited liability company no shares		100
Dem 25	France	1.00 Actions shares		100
Dem 5	France	16.00 Actions shares		100
Dem 9	France	8.50 Actions shares		100
Dempar 1	France	Actions shares no par value		100
Dempar 4	France	Actions shares no par value		100
Eagle Rock Holdings, Inc.	United States	\$1.00 Common shares		100
Ellenville Holdings, Inc.	United States	\$1.00 Common shares		100
Elysees GmbH	Germany	Ordinary shares		100
Elysées Immo Invest	France	16.00 Actions shares		100
Emerging Growth Real Estate II GP Limited	Guernsey	£ Ordinary shares		100
EMTT Limited	England and Wales	£1.00 Ordinary shares		100
Endeavour Personal Finance Limited	England and Wales	£1.00 Ordinary shares		100
Equator Holdings Limited	England and Wales	\$1.00 Ordinary shares		100
Eton Corporate Services Limited	Guernsey	\$1.00 Ordinary shares		100
Eton Management Ltd	Virgin Islands, British	\$1.00 Ordinary shares		100
Far East Leasing SA	Panama	\$1,000.00 Ordinary shares		100
Fdm 5 SAS	France	10.00 Actions shares		100
Fdm 6 SAS	France	10.00 Actions shares		100
FEPC Leasing Ltd.	Cayman Islands	\$0.001 Ordinary and \$0.001 Preference shares		100
Finanpar 2	France	Actions shares no par value		100
Finanpar 7	France	Actions shares no par value		100
First Corporate Director Inc.	Virgin Islands, British	\$1.00 Ordinary shares		100
First Direct Investments (UK) Limited		£1.00 Ordinary shares		100

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	England and Wales		
Flandres Contentieux S.A.	France	0.16 Actions shares	100
Foncière Elysées	France	77.00 Actions shares	100
Forward Trust Rail Services Limited	England and Wales	£0.1 Ordinary shares	100
F-Street Holdings, Inc.	United States	\$1.00 Common shares	100
Fujian Yongan HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Fundo de Investimento Multimercado Credito Privado Investimento no Exterior Orion <sup>1</sup>	Brazil	BRL1.14267 Redeemable Preference shares	100
Fundo de Investimento Multimercado Credito Privado Sirius <sup>1</sup>	Brazil	BRL Ordinary shares	100
Fundo de Investimento Multimercado Investimento no Exterior Tellus <sup>1</sup>	Brazil	BRL1.07374 Redeemable Preference shares	100
G.M. Gilt-Edged Nominees Limited	England and Wales	£1.00 Ordinary shares	100
Gesellschaft fur Industrielle Beteiligungen und Finanzierung mbH	Germany	1.00 Common shares	100
Giller Ltd.	United States	\$1.00 Common shares	100
GPIF-I Equity Co., Ltd. <sup>1</sup>	Cayman Islands	KYD0.001 Liquidating Share Class shares	100
GPIF-I Finance Co., Ltd. <sup>1</sup>	Cayman Islands	\$0.001 Liquidating Share Class shares	100
Griffin International Limited	England and Wales	£1.00 Ordinary shares	100
Grundstuecksgesellschaft Trinkausstrasse Kommanditgesellschaft	Germany	DEM1.00 Common shares	100
Grupo Financiero HSBC, S. A. de C. V.	Mexico	MXN2.00 Ordinary shares	100
Guangdong Enping HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
GWML Holdings, Inc.	United States	\$1.00 Common shares	100
GZ Trust Corporation	Virgin Islands, British	\$1.00 Ordinary shares	100
HBL Nominees Limited	England and Wales	£1.00 Ordinary shares	100
HDSAP GP Limited	Guernsey	£ Ordinary shares	100
Henderson Limited	Cook Islands	\$1.00 Ordinary shares	100
HFC Bank Limited	England and Wales	£1.00 Ordinary and £1.00 Ordinary-A shares	100
HFC Commercial Realty, Inc.	United States	\$100.00 Common shares	100
HFC Company LLC			100



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HFC Leasing Inc.	United States	Limited liability company no shares	100
High Meadow Management, Inc.	United States	\$100.00 Ordinary shares	100
Hilaga Investments Limited	United States	\$1.00 Common shares	100
HITG Administration GmbH	England and Wales	£1.00 Issued shares	100
HITG, Inc.	Germany	25,000.00 Ordinary shares	100
Honey Green Enterprises Ltd.	United States	\$1.00 Common shares	100
Hongkong International Trade Finance (Holdings) Limited	Virgin Islands, British	\$1.00 Ordinary shares	100
Hongkong International Trade Finance (U.S.A.) Inc.	England and Wales	£1.00 Ordinary A and B shares	100
Household Capital Markets LLC	United States	\$1.00 Common shares	100
Household Commercial Financial Services, Inc.	United States	Limited liability company no shares	100
Household Finance Consumer Discount Company	United States	\$100.00 Ordinary shares	100
Household Finance Corporation II	United States	\$100.00 Common shares	100
Household Finance Corporation III	United States	\$100.00 Common shares	100
Household Finance Corporation of Alabama	United States	\$100.00 Common shares	100
Household Finance Corporation of California	United States	\$100.00 Common shares	100
Household Finance Corporation of Nevada	United States	\$100.00 Common shares	100
Household Finance Corporation of West Virginia	United States	\$100.00 Common shares	100
Household Finance Industrial Loan Company of Iowa	United States	\$100.00 Common shares	100
Household Finance Realty Corporation of Nevada	United States	\$100.00 Common shares	100
Household Finance Realty Corporation of New York	United States	\$100.00 Ordinary shares	100

HSBC HOLDINGS PLC

## Notes on the Financial Statements (continued)

**43 HSBC Holdings subsidiaries, joint ventures and associates**

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
Household Financial Center Inc.	United States	\$100.00 Common shares		100
Household Industrial Finance Company	United States	\$25.00 Common shares		100
Household Industrial Loan Company of Kentucky	United States	\$100.00 Common shares		100
Household Insurance Group Holding Company	United States	\$1.00 Ordinary shares		100
Household International Europe Limited	England and Wales	£1 Ordinary, £1 Red Vot Preference & £1 Red Vot shares		100
Household Pooling Corporation	United States	\$1.00 Common shares		100
Household Realty Corporation	United States	\$100.00 Common shares		100
HPUT A Limited	England and Wales	£1.00 Ordinary shares		100
HPUT B Limited	England and Wales	£1.00 Ordinary shares		100
HRMG Nominees Limited	Guernsey	£1.00 Ordinary shares		100
HSBC (BGF) Investments Limited	England and Wales	£1.00 Ordinary shares		100
HSBC (Brasil) Administradora de Consorcio Ltda.	Brazil	BRL Ordinary shares		100
HSBC (General Partner) Limited	Jersey	£1.00 Ordinary shares	100	100
HSBC (Kuala Lumpur) Nominees Sdn Bhd	Malaysia	RM10.00 Ordinary shares		100
HSBC (Malaysia) Trustee Berhad	Malaysia	RM10.00 Ordinary shares		100
HSBC (Singapore) Nominees Pte Ltd	Singapore	SGD Ordinary shares		100
HSBC Administracao de Servicos para Fundos de Pensao (Brasil) Ltda	Brazil	BRL0.01 and BRL1.00 Quota shares		100
HSBC Administradora de Inversiones S.A.	Argentina	ARS Ordinary shares		100
HSBC AFS (USA) LLC	United States	Limited liability company no shares		100
HSBC Agency (India) Private Limited	India	INR1,000,000.00 Ordinary shares		100
HSBC Alpha Funding (UK) Holdings	Cayman Islands	\$0.001 Limited and Unlimited. Liability shares		100
HSBC Alternative Investments Limited	England and Wales	£1.00 Ordinary shares		100

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HSBC Amanah Malaysia Berhad	Malaysia	RM0.50 Ordinary shares	100
HSBC Americas Corporation (Delaware)	United States	\$1.00 Common shares	100
HSBC Argentina Holdings S.A.	Argentina	ARS1.00 Ordinary shares	100
HSBC Asia Holdings (UK) Limited	England and Wales	\$1.00 Ordinary shares	100
HSBC Asia Holdings B.V.	Netherlands	1,000 A, B, C, D, E, F, G & H Preference shares 50.00 Ordinary shares	100
HSBC Asia Pacific Holdings (UK) Limited	England and Wales	£1.00 Ordinary and \$100.00 Red Preference shares	100
HSBC Asset Finance (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Asset Finance Holdings Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Asset Finance M.O.G. Holdings (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Asset Management (India) Private Limited	India	INR10.00 Equity shares	100
HSBC Assistencia Previdenciaria	Brazil	BRL0.01 Quota shares	100
HSBC Assurances Vie (France)	France	287.50 Actions shares	100
HSBC Australia Holdings Pty Limited	Australia	A\$ Ordinary and A\$ Preference shares	100
HSBC Bank (Chile)	Chile	CLP Ordinary shares	100
HSBC Bank (China) Company Limited	China	CNY1.00 Registered Capital shares	100
HSBC Bank (General Partner) Limited	Jersey	£1.00 Ordinary shares	100
HSBC Bank (RR) (Limited Liability Company)	Russian Federation	Russian limited liability company shares NPV	100
HSBC Bank (Singapore) Limited	Singapore	SGD Ordinary shares	100
HSBC Bank (Taiwan) Limited	Taiwan	TWD10.00 Ordinary shares	100
HSBC Bank (Uruguay) S.A.	Uruguay	UYU1.00 Ordinary shares	100
HSBC Bank (Vietnam) Ltd.	Vietnam	VND1.00 Ordinary shares	100
HSBC Bank A.S.	Turkey	TRL1.00 A and TRL1.00B Common shares	100
HSBC Bank Australia Limited	Australia	A\$ Ordinary shares	100
HSBC Bank Bermuda Limited	Bermuda	BMD1.00 Common shares	100
HSBC Bank Brasil S.A. - Banco Multiplo	Brazil	BRL Ordinary shares	100
HSBC Bank Canada	Canada	C\$ Common and Class 1 Preferred Shares	100
HSBC Bank Capital Funding (Sterling 1) LP <sup>1</sup>	Jersey	Limited partnership no shares	100
HSBC Bank Capital Funding (Sterling 2) LP <sup>1</sup>	Jersey	Limited partnership no shares	100
HSBC Bank International Limited	Jersey	£1.00 Ordinary shares	100
HSBC Bank Malaysia Berhad	Malaysia	RM0.50 Ordinary shares	100

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HSBC Bank Middle East Limited	Jersey	\$1 Ordinary and \$1 Cum Red Preference shares		100
HSBC Bank Nominee (Jersey) Limited	Jersey	£1.00 Ordinary shares		100
HSBC Bank Pension Trust (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Bank plc	England and Wales	£1.00 Ordinary and Preference Ordinary shares	100	100
HSBC Bank Polska S.A.	Poland	\$0.01 Third Dollar and Series 2 Preference shares PLN1.00 Ordinary and PLN1.00 Preference shares		100
HSBC Bank USA, National Association	United States	\$100 Common and \$0.01 Preference shares		100
HSBC Branch Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Brasil Holding S.A.	Brazil	BRL Ordinary shares		100
HSBC Brasil S.A. Banco de Investimento	Brazil	BRL Ordinary shares		100

HSBC HOLDINGS PLC

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
HSBC Broking Forex (Asia) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Broking Futures (Asia) Limited	Hong Kong	HK\$10.00 Ordinary and \$2.00 Deferred shares		100
HSBC Broking Futures (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Broking Nominees (Asia) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Broking Securities (Asia) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Broking Securities (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Broking Services (Asia) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Canada Holdings (UK) Limited	England and Wales	\$1.00 Ordinary shares		100
HSBC Capital (Canada) Inc.	Canada	C\$ Common shares		100
HSBC Capital (USA), Inc.	United States	\$1.00 Common shares		100
HSBC Capital Funding (Dollar 1) L.P.	Jersey	Limited partnership no shares		100
HSBC Capital Funding (Euro 3) L.P.	Jersey	Limited partnership no shares		100
HSBC Capital Funding (Sterling 1) L.P.	Jersey	Limited partnership no shares		100
HSBC Capital Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Capital Services Inc.	Canada	C\$ Common shares		100
HSBC Card Services Inc.	United States	\$100.00 Common shares		100
HSBC Casa de Bolsa, S.A. de C.V., Grupo Financiero HSBC	Mexico	MXN Share Class 1 and Class 2 shares		100
HSBC Cayman Services Limited	Cayman Islands	\$1.00 Ordinary shares		100
HSBC City Funding Holdings	England and Wales	£1.00 Ordinary shares		100
HSBC Client Holdings Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Client Share Offer Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Columbia Funding, LLC	United States	Limited liability company no shares		100

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HSBC Consumer Lending (USA) Inc.	United States	\$1.00 Common shares	100
HSBC Corporate Advisory (Malaysia) Sdn Bhd	Malaysia	RM1.00 Ordinary shares	100
HSBC Corporate Finance (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares	100
HSBC Corporate Trustee Company (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Credit Center, Inc.	United States	\$1,000.00 Common shares	100
HSBC Custody Nominees (Australia) Limited	Australia	AUD1.00 Ordinary shares	100
HSBC Custody Services (Guernsey) Limited	Guernsey	£1.00 Ordinary shares	100
HSBC Daisy Investments (Mauritius) Limited	Mauritius	\$10.00 Ordinary shares	100
HSBC Diamond (USA) LP	United States	Limited partnership no shares	100
HSBC Electronic Data Processing (Guangdong) Limited	China	HK\$1.00 Registered Capital shares	100
HSBC Electronic Data Processing (Malaysia) Sdn Bhd	Malaysia	RM1.00 Ordinary shares	100
HSBC Electronic Data Processing (Philippines), Inc.	Philippines	PHP100.00 Ordinary and Red Preference shares	100
HSBC Electronic Data Processing India Private Limited	India	INR100.00 Equity shares	100
HSBC Electronic Data Processing Lanka (Private) Limited	Sri Lanka	LKR10.00 Ordinary shares	100
HSBC Electronic Data Service Delivery (Egypt) S.A.E.	Egypt	EGP1.00 Ordinary shares	100
HSBC Enterprise Investment Company (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Epargne Entreprise (France)	France	16.00 Actions shares	100
HSBC Equator (UK) Limited	England and Wales	\$1.00 Ordinary and £1.00 Non-Vot Def shares	100
HSBC Equipment Finance (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Equities (Luxembourg) S.a r.l.	Luxembourg	1.00 Ordinary shares	100
HSBC Equity (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Europe B.V.	Netherlands	50.00 Ordinary and 50.00 Preference A & C shares	100
HSBC European Clients Depository Receipts Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Executor & Trustee Company (UK) Limited	England and Wales	£1.00 Ordinary (£0.40 paid) shares	100
HSBC Factoring (France)	France	16.00 Actions shares	100
HSBC Finance (Brunei) Berhad	Brunei Darussalam	BND1,000.00 Ordinary shares	100
HSBC Finance (Netherlands)			100

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	England and Wales	£1.00 Ordinary shares and £1.00 Ordinary Red shares	
HSBC Finance Corporation	United States	\$0.01 Common shares	100
HSBC Finance Holdings (Australia) Pty Limited	Australia	A\$1.00 Ordinary shares	100
HSBC Finance Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Finance Mortgages Inc.	Canada	C\$ Common shares	100
HSBC Finance Transformation (UK) Limited		£1.00 Ordinary shares	100
			100
HSBC Financial Services (Middle East) Limited	United Arab Emirates	AED1,000.00 Ordinary shares	100
HSBC Fondo 1, S.A. de C.V., Sociedad de Inversion de Renta Variable <sup>1</sup>	Mexico	MXN1.00 Series A shares	100
HSBC Fondo 3, S.A. de C.V., Sociedad de Inversion de Renta Variable <sup>1</sup>	Mexico	MXN1.00 Series A shares	100
HSBC Fondo 4, S.A. de C.V., Sociedad de Inversion de Renta Variable <sup>1</sup>	Mexico	MXN1.00 Series A shares	100
HSBC Fondo 5, S.A. de C.V., Sociedad de Inversion de Renta Variable <sup>1</sup>	Mexico	MXN1.00 Series A shares	100
HSBC Fondo 6, S.A. de C.V., Sociedad de Inversion de Renta Variable <sup>1</sup>	Mexico	MXN1.00 Series A shares	100
HSBC Fondo Global 1, S.A. de C.V., Sociedad de Inversion de Renta Variable <sup>1</sup>	Mexico	MXN1.00 Series A shares	100
HSBC Fund Administration (Jersey) Limited	Jersey	£1.00 Ordinary shares	100
HSBC Funding (UK) Holdings	England and Wales	£1.00 Ordinary shares	100
HSBC Funds Nominee (Jersey) Limited	Jersey	£1.00 Ordinary shares	100
HSBC Germany Holdings GmbH	Germany	1.00 Common shares	100
HSBC Gestao de Recursos Ltda	Brazil	BRL1.00 Quota shares	100
HSBC Global Asset Management (Bermuda) Limited	Bermuda	BMD1.00 Common and BMD1.00 Preference shares	100
HSBC Global Asset Management (Canada) Limited	Canada	C\$ Common shares	100
HSBC Global Asset Management (Deutschland) GmbH	Germany	1.00 Common shares	100
HSBC Global Asset Management (France)	France	16.00 Actions shares	100

HSBC HOLDINGS PLC

## Notes on the Financial Statements (continued)

**43 HSBC Holdings subsidiaries, joint ventures and associates**

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
HSBC Global Asset Management (Hong Kong) Limited	Hong Kong	HK\$100.00 Ordinary shares		100
HSBC Global Asset Management (International) Limited	Jersey	£1.00 Ordinary shares		100
HSBC Global Asset Management (Japan) K. K.	Japan	JPY Ordinary shares		100
HSBC Global Asset Management (Mexico), S.A. de C.V., Grupo Financiero HSBC	Mexico	MXN1,000.00 Ordinary shares		100
HSBC Global Asset Management (Oesterreich) GmbH	Austria	1.00 GmbH Anteil shares		100
HSBC Global Asset Management (Singapore) Limited	Singapore	SGD Ordinary shares		100
HSBC GLOBAL ASSET MANAGEMENT (Switzerland) AG	Switzerland	CHF10.00 Actions shares		100
HSBC Global Asset Management (Taiwan) Limited	Taiwan	TWD10.00 Ordinary shares		100
HSBC Global Asset Management (UK) Limited	England and Wales	£0.25 Ordinary shares		100
HSBC Global Asset Management (USA) Inc.	United States	\$1.00 Common shares		100
HSBC Global Asset Management Holdings (Bahamas) Limited	Bahamas	\$1.00 Ordinary shares		100
HSBC Global Asset Management Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Global Custody Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Global Custody Proprietary Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Global Services (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Global Services Limited	England and Wales	\$1.00 Ordinary shares	100	100
HSBC Global Shared Services (India) Private Limited	India	INR10.00 Ordinary shares		100
HSBC Group Management Services Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Group Nominees UK Limited		£1.00 Ordinary shares	100	100



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HSBC Guyerzeller Trust Company	England and Wales Cayman Islands	\$1.00 Ordinary shares	100
HSBC Holdings B.V.	Netherlands	453.78 Ordinary and Preference C, D, E, H & I shares	100
HSBC Home Equity Loan Corporation I	United States	\$1.00 Common shares	100
HSBC Home Equity Loan Corporation II	United States	\$100.00 Common shares	100
HSBC IM Pension Trust Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Infrastructure Limited	England and Wales	£1.00 Ordinary shares	100
HSBC INKA Investment-AG TGV	Germany	1.00 Stückaktien shares	100
HSBC Institutional Trust Services (Asia) Limited	Hong Kong	HK\$100.00 Ordinary shares	100
HSBC Institutional Trust Services (Bermuda) Limited	Bermuda	BMD1.00 Common shares	100
HSBC Institutional Trust Services (Ireland) Limited	Ireland	\$1.00 Ordinary shares	100
HSBC Institutional Trust Services (Mauritius) Limited	Mauritius	\$1.00 Ordinary shares	100
HSBC Institutional Trust Services (Singapore) Limited	Singapore	SGD Ordinary shares	100
HSBC Insurance (Asia) Limited	Hong Kong	HK\$1,000.00 Ordinary shares	100
HSBC Insurance (Asia-Pacific) Holdings Limited	Hong Kong	HK\$10.00 Ordinary & Cum Red Class A Preference shares HK\$10.00 Cum Red Class B and C Preference shares HK\$10.00 Cum Red Class D and E Preference shares HK\$10.00 Cum Red Class F and G Preference shares	100
HSBC Insurance (Bermuda) Limited	Bermuda	\$1.96345 Ordinary shares	100
HSBC Insurance (Singapore) Pte. Limited	Singapore	SGD Ordinary NPV shares	100
HSBC Insurance Agency (USA) Inc.	United States	\$1.00 Common shares	100
HSBC Insurance Brokers (Philippines) Inc	Philippines	PHP1.00 Ordinary shares	100
HSBC Insurance Brokers (Taiwan) Limited	Taiwan	TWD10.00 Ordinary shares	100
HSBC Insurance Holdings Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Insurance Services Holdings Limited	England and Wales	£0.10 Ordinary shares	100
HSBC Intermediate Leasing (UK) Limited		£1,000.00 Issued shares	100

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	England and Wales		
HSBC International Finance Corporation (Delaware)	United States	\$1.000.00 Common shares	100
HSBC International Financial Services (UK) Limited	England and Wales	£1.00 A , B , C and £1.00 Non-Vot Red shares	100
HSBC International Holdings (Jersey) Limited	Jersey	£1.00 Ordinary shares	100
HSBC International Nominees Limited	Virgin Islands, British	\$1.00 Ordinary shares	100
HSBC International Trade Finance Limited	England and Wales	£1.00 Ordinary shares	100
HSBC International Trustee (BVI) Limited	Virgin Islands, British	\$0.01 Class A Non-Voting shares \$6,000.00 Non-Part Voting shares	100
HSBC International Trustee (Holdings) Pte. Limited <sup>1</sup>	Singapore	SGD Ordinary shares	100
HSBC International Trustee Limited	Virgin Islands, British	\$1.00 Ordinary shares	100
HSBC Inversiones S.A.	Chile	CLP402.14 Ordinary shares	100
HSBC Inversiones y Servicios Financieros Limitada	Chile	CLP Ordinary shares	100
HSBC InvestDirect Financial Services (India) Limited	India	INR10.00 Ordinary shares	100
HSBC InvestDirect Securities (India) Private Limited	India	INR10.00 Ordinary shares	100
HSBC Investment Asia Holdings Limited	Hong Kong	HK\$10.00 Ordinary shares	100
HSBC Investment Bank Holdings B.V.	Netherlands	50.00 Ordinary shares	100
HSBC Investment Bank Holdings Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Investment Funds (Canada) Inc.	Canada	C\$ Common and C\$ Red Preference shares	100
HSBC Investment Funds (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares	100
HSBC Investment Funds (Luxembourg) SA	Luxembourg	£1.00 Ordinary shares	100
HSBC Investment Holdings (Guernsey) Limited	Guernsey	\$1.00 Ordinary shares	100
HSBC Investment Services (Africa) (Pty) Limited	South Africa	ZAR1.00 Ordinary shares	100
HSBC Investments (Bahamas) Limited	Bahamas	BSD100.00 Ordinary shares	100
HSBC Investments (North America) Inc.	United States	\$1.00 Common shares	100
HSBC Invoice Finance (UK) Limited	England and Wales	£1.00 Ordinary shares £1.00 Ordinary shares	100 100

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HSBC Issuer Services Common Depository Nominee (UK) Limited	England and Wales		
HSBC Issuer Services Depository Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Jade Limited Partnership	United States	Limited partnership no shares	100

HSBC HOLDINGS PLC

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
HSBC Latin America B.V.	Netherlands	Ordinary 500 Cl-A 250 Cl-B 50 Cl-C shares		100
HSBC Latin America Holdings (UK) Limited	England and Wales	£1.00 Ordinary shares	100	100
HSBC Leasing (Asia) Limited	Hong Kong	HK\$100.00 Ordinary shares		100
HSBC Leasing (France)	France	9.57 Actions shares		100
HSBC Life (International) Limited	Bermuda	HK\$1.00 Ordinary shares		100
HSBC Life (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Lodge Funding (UK) Holdings	England and Wales	£1.00 Ordinary shares		100
HSBC Logan Holdings USA, LLC	United States	Limited liability company no shares		100
HSBC London Holdings Limited	England and Wales	£1.00 Ordinary shares	100	100
HSBC LU Nominees Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Management (Guernsey) Limited	Guernsey	£1.00 Ordinary shares		100
HSBC Markets (NY) Inc.	United States	\$4.00 Common shares		100
HSBC Markets (USA) Inc.	United States	\$1.00 Common shares		100
HSBC Marking Name Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Middle East Holdings B.V.	Netherlands	500 Ordinary & 1,000 Preference Class A shares		100
HSBC Middle East Leasing Partnership	United Arab Emirates	Partnership no shares		100
HSBC Mortgage Corporation (Canada)	Canada	C\$ Common & Class A Preferred Shares		100
HSBC Mortgage Corporation (USA)	United States	\$1.00 Common shares		100
HSBC Mortgage Services Inc.	United States	\$100.00 Common shares		100
HSBC Nominees (Asing) Sdn Bhd	Malaysia	RM1.00 Ordinary shares		100
HSBC Nominees (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Nominees (New Zealand) Limited	New Zealand	NZD1.00 Ordinary shares		100
HSBC Nominees (Tempatan) Sdn Bhd	Malaysia	RM1.00 Ordinary shares		100
HSBC North America Holdings Inc.	United States	\$0.01 Common & Preferred Series B shares		100
HSBC North America Inc.	United States	\$1.00 Common shares		100

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HSBC Odeme Sistemleri Bilgisayar Teknolojileri Basın Yayın Ve Musteri Hizmetleri	Turkey	TRL1.00 Ordinary shares		100
HSBC Overseas Holdings (UK) Limited	England and Wales	£1.00 Ordinary shares	100	100
HSBC Overseas Investments (UK) Limited	England and Wales	£1.00 Ordinary shares	100	100
HSBC Overseas Investments Corporation (New York)	United States	\$0.01 Common shares		100
HSBC Overseas Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Participaciones (Argentina) S.A.	Argentina	ARS1.00 Ordinary shares		100
HSBC Participacoes e Investimentos Ltda	Brazil	BRL0.01 Quota shares		100
HSBC PB Corporate Services 1 Limited	Jersey	£1.00 Ordinary shares		100
HSBC PB Corporate Services 2 Limited	Jersey	£1.00 Ordinary shares		100
HSBC PB Services (Suisse) SA	Switzerland	CHF1,000.00 Ordinary shares		100
HSBC Pension Trust (Ireland) Limited	Ireland	1.26974 Ordinary shares		100
HSBC Pensiones, S.A.	Mexico	MXN Ordinary shares		100
HSBC Pensions (Jersey) Limited	Jersey	£1.00 Ordinary shares		100
HSBC PH Investments (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC PI Holdings (Mauritius) Limited	Mauritius	\$1.00 Ordinary shares		100
HSBC Portfoy Yonetimi A.S.	Turkey	TRL1.00 A Common shares		100
HSBC Preferential LP (UK)	England and Wales	£1.00 Ordinary shares		100
HSBC Private Bank (C.I.) Limited	Guernsey	\$1.00 Ordinary shares		100
HSBC Private Bank (Luxembourg) S.A.	Luxembourg	1,000.00 Ordinary shares		100
HSBC Private Bank (Monaco) SA	Monaco	155.00 Actions shares		100
HSBC Private Bank (Suisse) SA	Switzerland	CHF1,000.00 Ordinary shares		100
HSBC Private Bank (UK) Limited	England and Wales	£10.00 Issued shares		100
HSBC Private Bank International	United States	\$1,000.00 Common shares		100
HSBC Private Banking Holdings (Suisse) SA	Switzerland	CHF1,000.00 Ordinary shares		100
HSBC Private Banking Nominee 1 (Jersey) Limited	Jersey	£1.00 Ordinary shares		100
HSBC Private Banking Nominee 2 (Jersey) Limited	Jersey	£1.00 Ordinary shares		100
HSBC Private Banking Nominee 3 (Jersey) Limited	Jersey	£1.00 Ordinary shares		100
HSBC Private Equity Advisors LLC	United States	Limited liability company no shares		100
HSBC Private Equity Investments (UK) Limited	England and Wales	£1.00 Issued shares		100
HSBC Private Trustee (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Private Wealth Services (Canada) Inc.	Canada			100

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HSBC Procyon Fund Ltd	Cayman Islands	C\$ Common and C\$ Preference shares BRL2,618.38127 Red Preference shares		100
HSBC Professional Services (India) Private Limited	India	INR10.00 Ordinary shares		100
HSBC Property (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Property Funds (Holding) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Property Funds Investment Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Property Investments Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Provident Fund Trustee (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC QUEST Trustee (UK) Limited	England and Wales	£1.00 Ordinary shares	100	100
HSBC Rail (UK) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Real Estate Leasing (France)	France	15.24 Actions shares		100
HSBC Realty Credit Corporation (USA)	United States	\$1.00 Common & \$500 Preferred shares		100
HSBC REIM (France)	France	92.00 Actions shares		100

HSBC HOLDINGS PLC

## Notes on the Financial Statements (continued)

**43 HSBC Holdings subsidiaries, joint ventures and associates**

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
HSBC Representative Office (Nigeria) Limited	Nigeria	Ordinary shares no par value		100
HSBC Republic Management Services (Guernsey) Limited	Guernsey	\$0.10 Ordinary shares		100
HSBC Retail Services Inc.	United States	\$100.00 Common shares		100
HSBC Retirement Benefits Trustee (UK) Limited	England and Wales	£1.00 Issued shares	100	100
HSBC Savings Bank (Philippines) Inc.	Philippines	PHP10.00 Ordinary shares		100
HSBC Securities (Asia) Limited	Hong Kong	HK\$10.00 Ordinary and HK\$10.00 Deferred shares		100
HSBC Securities (B) Berhad	Brunei Darussalam	BND1.00 Ordinary shares		100
HSBC Securities (Canada) Inc.	Canada	Common C\$ Class A & \$ Class B shares		100
HSBC Securities (Japan) Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Securities (Philippines) Inc.	Philippines	PHP10.00 Nominal shares		100
HSBC Securities (Singapore) Pte Limited	Singapore	SGD Ordinary shares		100
HSBC Securities (South Africa) (Pty) Limited	South Africa	ZAR1.00 Ordinary shares		100
HSBC Securities (Taiwan) Corporation Limited	Taiwan	TWD10.00 Ordinary shares		100
HSBC Securities (USA) Inc.	United States	\$0.05 Common shares		100
HSBC Securities and Capital Markets (India) Private Limited	India	INR100.00 Ordinary and INR100.00 Red Preference shares		100
HSBC Securities Asia International Nominees Limited	Virgin Islands, British	\$1.00 Ordinary shares		100
HSBC Securities Asia Nominees Limited	Hong Kong	HK\$1.00 Ordinary shares		100
HSBC Securities Brokers (Asia) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
HSBC Securities Investments (Asia) Limited	Hong Kong			100

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		HK\$10.00 Ordinary shares	
HSBC Securities Services (Bermuda) Limited	Bermuda	BMD1.00 Common shares	100
HSBC Securities Services (Guernsey) Limited	Guernsey	£1.00 Ordinary Shares	100
HSBC Securities Services (Ireland) Limited	Ireland	1.25 and \$1.00 Ordinary shares	100
HSBC Securities Services (Luxembourg) S.A.	Luxembourg	\$100.00 Ordinary shares	100
HSBC Securities Services (USA) Inc.	United States	\$0.001 Common shares	100
HSBC Securities Services Holding Limited	Virgin Islands, British	\$1.00 Ordinary shares	100
HSBC Securities Services Holdings (Ireland) Limited	Ireland	1.25 and \$1.00 Ordinary shares	100
HSBC Seguros de Retiro (Argentina) S.A.	Argentina	ARS1.00 Ordinary A and Ordinary B shares	100
HSBC Seguros de Vida (Argentina) S.A.	Argentina	ARS1.00 Ordinary shares	100
HSBC Seguros, S.A de C.V., Grupo Financiero HSBC	Mexico	MXN Class I and Class II shares	100
HSBC Service Delivery (Polska) Sp. z o.o.	Poland	PLN500.00 Ordinary shares	100
HSBC Services (France)	France	18.50 Actions shares	100
HSBC Services Japan Limited	Bahamas	\$1.00 Ordinary shares	100
HSBC Servicios Financieros, S.A. de C.V	Mexico	MXN1.00 Share Class 1 and 2 shares	100
HSBC Servicios, S.A. DE C.V., Grupo Financiero HSBC	Mexico	MXN500 Series A and MXN Ordinary B shares	100
HSBC Servicos e Participacoes Ltda	Brazil	BRL0.01 Ordinary shares	100
HSBC SFH (France)	France	15.00 Actions shares	100
HSBC Software Development (Brasil) - Prestacao de Servicos Tecnologicos Ltda	Brazil	BRL1.00 Quota shares	100
HSBC Software Development (Canada) Inc	Canada	CAD1.00 Common shares	100
HSBC Software Development (Guangdong) Limited	China	\$1.00 Registered Capital shares	100
HSBC Software Development (India) Private Limited	India	INR10.00 Equity shares	100
HSBC Software Development (Malaysia) Sdn Bhd	Malaysia	RM1.00 Ordinary shares	100
HSBC South Point Investments (Barbados) LLP	England and Wales	Limited liability partnership no shares	100
HSBC Specialist Investments Limited	England and Wales	£1.00 Ordinary and £1.00 Red Preference shares	100
HSBC Stockbroker Services (Client Assets) Nominees Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Stockbrokers Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares	100
HSBC Structured Funds (Asia) Limited	Hong Kong	HK\$10.00 Ordinary shares	100



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HSBC Taxpayer Financial Services Inc.	United States	\$100.00 Common shares		100
HSBC Technology & Services (China) Limited	China	\$1.00 Registered Capital shares		100
HSBC Technology & Services (USA) Inc.	United States	\$1.00 Common shares		100
HSBC TFS I 2005 LLC		Limited liability company	no shares	100
HSBC TKM Limited	United States England and Wales	\$0.01 Ordinary shares		100
HSBC Trust Company (BVI) Limited	Virgin Islands, British Canada	\$1.00 Ordinary-A shares		100
HSBC Trust Company (Canada)		C\$ Common shares		100
HSBC Trust Company (Delaware), National Association	United States	\$100.00 Ordinary shares		100
HSBC Trust Company (UK) Limited	England and Wales	£5.00 Ordinary shares		100
HSBC Trust Company AG		CHF1,000.00 Ordinary shares		100
HSBC Trustee (C.I.) Limited	Switzerland			100
HSBC Trustee (Cayman) Limited	Jersey	£1.00 Ordinary shares		100
	Cayman Islands	\$1,000.00 Ordinary shares		100
HSBC Trustee (Cook Islands) Limited	Cook Islands	NZD Ordinary shares		100
HSBC Trustee (Guernsey) Limited	Guernsey	\$1.00 Ordinary shares		100
HSBC Trustee (Hong Kong) Limited		HK\$10.00 Ordinary		
	Hong Kong	(HK\$5.00 pt pd) shares		100
HSBC Trustee (Mauritius) Limited	Mauritius	\$1.00 Ordinary shares		100
HSBC Trustee (Singapore) Limited	Singapore	SGD Ordinary shares		100
HSBC Tulip Funding (UK)	England and Wales	£1.00 Ordinary shares		100
HSBC UK RFB Limited1	England and Wales	£1.00 Ordinary shares	100	100
HSBC USA Inc.	United States	\$5.00 Common shares		100
HSBC Valores S.A. Sociedad de Bolsa	Argentina	ARS1.00 Ordinary shares		100
HSBC Vida e Previdencia (Brasil) SA	Brazil	BRL Ordinary shares		100

HSBC HOLDINGS PLC

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
HSBC Violet Investments (Mauritius) Limited	Mauritius	\$10.00 Ordinary shares		100
HSBC Wealth Advisory Israel Ltd	Israel	ILS1.00 Ordinary shares		100
HSBC Wealth Client Nominee Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Workplace Retirement Services Fund Platform Nominee Company Limited	England and Wales	£1.00 Ordinary shares		100
HSBC Yatirim Menkul Degerler A.S.	Turkey	TRL1.00 Ordinary-A shares		100
HSBC-D1, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN2.00 Ordinary shares		100
HSBC-D10, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN1.00 Ordinary-A shares		100
HSBC-D2, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN1.00 Ordinary shares		100
HSBC-D7, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN10.00 Ordinary shares		100
HSBC-D9, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN1.40 Ordinary shares		100
HSBC-DE, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN1.098 Ordinary shares		100
HSBC-DG, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN10.00 Ordinary shares		100
HSBC-DH, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN1.00 Ordinary A shares		100
HSBC-DL, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN1.00 Ordinary A shares		100
HSBC-E2, S.A. de C.V., Sociedad de Inversion de Renta Variable1	Mexico	MXN1.00 Ordinary A shares		100
HSBC-E3, S.A. de C.V., Sociedad de Inversion en Instrumentos de Deuda1	Mexico	MXN1.00 Ordinary A shares		100
HSBC-FF, S.A. de C.V., Sociedad de Inversion de Renta Variable1	Mexico	MXN1.00 Ordinary shares		100
HSBC-V2, S.A. de C.V., Sociedad de Inversion de Renta Variable1	Mexico	MXN1.00 Ordinary shares		100
HSBC-V3, S.A. de C.V., Sociedad de Inversion de Renta Variable1	Mexico	MXN1.66 Ordinary shares		100
HSI Asset Securitization Corporation	United States	\$0.01 Common shares		100
HSIL Investments Limited	England and Wales	£1.00 Ordinary shares		100

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Hubei Macheng HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Hubei Suizhou Cengdu HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Hubei Tianmen HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Hunan Pingjiang HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Inmobiliaria Bisa, S.A. de C.V.	Mexico	MXN1.00 Serie A and B shares	100
Inmobiliaria Grufin, S.A. de C.V.	Mexico	MXN1.00 Serie A and B shares	100
Inmobiliaria Guatusi, S.A. de C.V.	Mexico	MXN10.00 Class I and II shares	100
IRERE French Offices 1	France	0.10 Ordinary shares	100
IRERE French Offices 2	France	0.10 Ordinary shares	100
IRERE French Offices 4	France	0.10 Ordinary shares	100
IRERE French Offices Holdings	France	1.00 Ordinary shares	100
IRERE French Offices Holdings 3	France	1.00 Ordinary shares	100
IRERE Property Investments (French Offices) Sarl	Luxembourg	25.00 Ordinary shares	100
James Capel & Co. Limited	England and Wales	£1.00 Issued shares	100
James Capel (Channel Islands) Nominees Limited	Jersey	£1.00 Ordinary shares	100
James Capel (Custodian) Nominees Limited	United Kingdom	£1.00 Issued shares	100
James Capel (Nominees) Limited	England and Wales	£1.00 Ordinary shares	100
James Capel (Second Nominees) Limited	England and Wales	£1.00 Issued shares	100
James Capel (Taiwan) Nominees Limited	England and Wales	£1.00 Issued shares	100
James Capel (Third Nominees) Limited	England and Wales	£1.00 Issued shares	100
John Lewis Financial Services Limited	England and Wales	£1.00 Ordinary shares	100
Katonah Close Corp.	United States	\$1.00 Common shares	100
Keyser Ullmann Limited	England and Wales	£1.00 Ordinary shares	100
Kings Meadow Nominees Limited	England and Wales	£1.00 Ordinary shares	100
Legend Estates Limited	England and Wales	£1.00 Ordinary shares	100
Lemasco Nominees Limited	Jersey	£1.00 Ordinary shares	100
Lion Corporate Services Limited	Hong Kong	HK\$10.00 Ordinary shares	100
Lion International Corporate Services Limited	Virgin Islands, British	\$1.00 Ordinary shares	100
Lion International Management Limited		\$1.00 Ordinary shares	100

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	Virgin Islands, British			
Lion Management (Hong Kong) Limited	Hong Kong	HK\$10.00 Ordinary shares		100
Lyndholme Limited	Hong Kong	HK\$10.00 Ordinary shares		100
MAGIM Client HSBC GIS Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
Marks and Spencer Financial Services plc	England and Wales	£1.00 Ordinary shares		100
Marks and Spencer Retail Financial Services Holdings Limited	England and Wales	£1.00 Ordinary shares		100
Marks and Spencer Savings and Investments Limited	England and Wales	£1.00 Ordinary shares		100
Marks and Spencer Unit Trust Management Limited	England and Wales	£1.00 Ordinary shares		100
Maxima S.A. AFJP	Argentina	ARS0.25 Ordinary shares		100
Mercantile Company Limited	England and Wales	£1.00 Ordinary and £1.00 Deferred shares		100
Midcorp Limited	England and Wales	£1.00 Ordinary and £1.00 Non-Cum Red Preference shares	100	100
Midland Australia Pty Limited	Australia	AUD1.00 Ordinary shares		100
Midland Bank (Branch Nominees) Limited	England and Wales	£1.00 Ordinary shares		100
Midland Nominees Limited	England and Wales	£1.00 Ordinary shares		100
MIL (Cayman) Limited	Cayman Islands	\$1.00 Ordinary shares		100
MIL (Jersey) Limited	Jersey	£1.00 Ordinary shares		100
MIL Properties (Cook Islands) Limited	Cook Islands	NZD1.00 Ordinary shares		100
MM Mooring #2 Corp.	United States	\$1.00 Common shares		100
Mortgage One Corporation	United States	\$100.00 Common shares		100
Mortgage Two Corporation	United States	\$100.00 Common shares		100
MW Gestion SA	Argentina	ARS12,000.00 Ordinary shares		100
Neil Corporation	United States	\$1.00 Common shares		100
Neuilly Valeurs	France	15.24 Parts shares		100
Oakwood Holdings, Inc.	United States	\$1.00 Common shares		100
One Main Street, Inc.	United States	\$1.00 Common shares		100

HSBC HOLDINGS PLC

## Notes on the Financial Statements (continued)

**43 HSBC Holdings subsidiaries, joint ventures and associates**

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
Promocion en Bienes Raices, S.A. de C.V.	Mexico	MXN1 Class I and II and Preference shares		100
Prudential Client HSBC GIS Nominee (UK) Limited	England and Wales	£1.00 Ordinary shares		100
PTC New LLC	United States	Limited liability company no shares		100
R/CLIP Corp.	United States	\$100.00 Common shares		100
Real Estate Collateral Management Company	United States	\$10.00 Ordinary shares		100
Republic Nominees Limited	Guernsey	£1.00 Ordinary shares		100
Republic Overseas Capital Corporation S.A.P.C. Ufipro Recouvrement	United States	\$10.00 Common shares		100
Saf Baiyun	France	46.00 Parts shares		100
Saf Chang Jiang	France	10.00 Actions shares		100
Saf Chang Jiang Ba	France	10.00 Actions shares		100
Saf Chang Jiang Er	France	10.00 Actions shares		100
Saf Chang Jiang Jiu	France	10.00 Actions shares		100
Saf Chang Jiang Liu	France	10.00 Actions shares		100
Saf Chang Jiang Qi	France	10.00 Actions shares		100
Saf Chang Jiang San	France	10.00 Actions shares		100
Saf Chang Jiang Shi	France	10.00 Actions shares		100
Saf Chang Jiang Shi Liu	France	1.00 Actions shares		100
Saf Chang Jiang Shi Wu	France	1.00 Actions shares		100
Saf Chang Jiang Shi Er	France	10.00 Actions shares		100
Saf Chang Jiang Shiyi	France	10.00 Actions shares		100
Saf Chang Jiang Wu	France	10.00 Actions shares		100
Saf Chang Jiang Yi	France	10.00 Actions shares		100
Saf Guangzhou	France	10.00 Actions shares		100
Saf Palissandre	France	10.00 Actions shares		100
Saf Zhu Jiang	France	10.00 Actions shares		100
Saf Zhu Jiang Ba	France	10.00 Actions shares		100
Saf Zhu Jiang Er	France	10.00 Actions shares		100
Saf Zhu Jiang Jiu	France	10.00 Actions shares		100
Saf Zhu Jiang Liu	France	10.00 Actions shares		100
Saf Zhu Jiang Qi	France	10.00 Actions shares		100
Saf Zhu Jiang San	France	10.00 Actions shares		100

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Saf Zhu Jiang Shi	France	10.00 Actions shares	100
Saf Zhu Jiang Shi Ba	France	1.00 Actions shares	100
Saf Zhu Jiang Shi Er	France	1.00 Actions shares	100
Saf Zhu Jiang Shi Jiu	France	1.00 Actions shares	100
Saf Zhu Jiang Shi Liu	France	1.00 Actions shares	100
Saf Zhu Jiang Shi Qi	France	1.00 Actions shares	100
Saf Zhu Jiang Shi Wu	France	1.00 Actions shares	100
Saf Zhu Jiang Shiyi	France	10.00 Actions shares	100
Saf Zhu Jiang Wu	France	10.00 Actions shares	100
Saf Zhu Jiang Yi	France	10.00 Actions shares	100
Samada Limited	Jersey	£1.00 Ordinary shares	100
Samuel Montagu & Co. Limited	England and Wales	£1.00 Ordinary shares	100
SCI Hermet Mathurins	France	15.24 Parts shares	100
SCI HSBC Assurances Immo Second Corporate Director Inc.	France Virgin Islands,	152.44 Parts shares	100
Secondary Club Deal I GP Limited	British Guernsey	\$1.00 Ordinary shares £ Ordinary shares	100
Secondary Club Deal II GP Limited	Guernsey	\$ Ordinary shares	100
SFSS Nominees (Pty) Limited	South Africa	ZAR1.00 Ordinary shares	100
Shandong Rongcheng HSBC Rural Bank Company Limited	China	CNY1.00 Registered Capital shares	100
Shenfield Nominees Limited	England and Wales	£1.00 Ordinary shares	100
Shuttle Developments Limited	England and Wales	£1.00 Ordinary shares	100
Sico Limited	Virgin Islands, British	\$1.00 Ordinary shares	100
Silliman Associates Limited Partnership	United States	Limited partnership no shares	100
Silliman Corporation	United States	\$1.00 Common shares	100
SNC Dorique	Reunion	1.00 Parts shares	100
SNC Kerouan	France	1.00 Parts shares	100
SNC Les Mercuriales	France	1.00 Parts shares	100
SNC Makala	France	1.00 Parts shares	100
SNC Nuku-Hiva Bail	France	0.01 Parts shares	100
SNCB/M6-2008 A	France	1.00 Actions shares	100
SNCB/M6-2007 A	France	10.00 Actions shares	100
SNCB/M6-2007 B	France	10.00 Actions shares	100
Société Financière et Mobilière	France	16.00 Actions shares	100
Société Française et Suisse	France	1.00 Actions shares	100
Societe Immobiliere Atlas S.A.	Switzerland	CHF1,000.00 Ordinary shares	100
Société Immobilière Malesherbes-Anjou	France	70.00 Actions shares	100
Solandra 3	France	100.00 Actions shares	100
Somers & Co	United States	Partnership no shares	100
Somers (U.K.) Limited	England and Wales	£1.00 Ordinary shares	100

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Somers Dublin Limited	Ireland	1.25 Ordinary shares	100
Somers Nominees (Far East) Limited	Bermuda	\$1.00 Common shares	100
Sopingest	France	Ordinary shares no par value	100
South Yorkshire Light Rail Limited	England and Wales	£0.10 Ordinary shares	100
SPE 1 2005 Manager Inc.	United States	\$1.00 Common shares	100

HSBC HOLDINGS PLC

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
St Cross Trustees Limited	England and Wales	£1.00 Ordinary shares		100
Sterling Credit Limited	England and Wales	£1.00 Ordinary shares		100
Sun Hung Kai Development (Lujiazui III) Limited	China	\$1.00 Registered Capital shares		100
Swan National Leasing (Commercials) Limited	England and Wales	£1 Ordinary		100
Swan National Limited	England and Wales	£1 Ordinary		100
Tayside Holdings Limited	Bahamas	\$1.00 Ordinary shares		100
Tempus Management AG	Switzerland	CHF100.00 Ordinary shares		100
Thasosfin	France	15.00 Actions shares		100
The Hongkong and Shanghai Banking Corporation Limited	Hong Kong	HK\$2.50 Ordinary and \$1 Cumulative Redeemable Preference shares, \$1 Cumulative and \$1 Non-cumulative Irredeemable Preference shares		100
The Venture Catalysts Limited	England and Wales	£1.00 Ordinary shares		100
Third Corporate Director Inc.	Virgin Islands, British	\$1.00 Ordinary shares		100
Timberlink Settlement Services (USA) Inc.	United States	\$1.00 Common shares		100
TKM International Limited	England and Wales	£1.00 Ordinary shares		100
Tooley Street View Limited	United Kingdom	£1.00 Ordinary shares	100	100
Tower Investment Management	Cayman Islands	\$1,000 Ordinary shares		100
TPBC Acquisition Corp.	United States	\$1.00 Common shares		100
Trinkaus Canada 1 GP LTD	Canada	C\$100 Common shares		100
Tropical Nominees Limited	Cayman Islands	KYD1.00 Ordinary shares		100
Trumball Management, Inc.	United States	\$1.00 Common shares		100
Turnsonic (Nominees) Limited		£1.00 Ordinary shares		100



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Vadep Holding AG	England and Wales	CHF1,000.00 Ordinary shares	100
Valeurs Mobilières Elysées	Switzerland	16.00 Actions shares	100
Vintage I Secondary GP Limited	France	£ Ordinary shares	100
Vintage III Special Situations GP Limited	Guernsey	\$ Ordinary shares	100
Wardley Limited	Guernsey	HK\$200.00 Ordinary shares	100
Wayfoong Credit Limited	Hong Kong	HK\$100.00 Ordinary shares	100
Wayfoong Finance Limited	Hong Kong	HK\$1,000.00 Ordinary shares	100
Wayfoong Nominees Limited	Hong Kong	HK\$1.00 Ordinary shares	100
Westminster House, LLC	Hong Kong	Limited liability company no shares	100
Woodex Limited	United States	BMD1.00 Common shares	100
XDP, Inc.	Bermuda	\$1.00 Common shares	100
HSBC Bank Argentina S.A.	United States	ARS1.00 Ordinary A and Ordinary B shares	99.99
HSBC France	Argentina	5.00 Actions shares	99.99
HSBC Mexico, S.A., Institucion de Banca Multiple, Grupo Financiero HSBC	France	MXN2.00 Ordinary shares	99.99
HSBC Empresa de Capitalizacao (Brasil) S.A.	Mexico	BRL Ordinary shares	99.97
HSBC Corretora de Titulos e Valores Mobiliarios S.A.	Brazil	BRL Ordinary shares	99.96
HSBC Inmobiliaria (Mexico), S.A. de C.V.	Brazil	MXN1,000.00 Series A and Series B shares	99.96
HSBC Seguros (Brasil) S.A.	Mexico	BRL Ordinary and BRL Preference shares	99.77
HSBC Corretora de Seguros (Brasil) S.A.	Brazil	BRL Ordinary shares	99.75
HSBC Financial Services (Lebanon) s.a.l.	Brazil	LBP1,000,000.00 Ordinary B shares	99.65
HSBC InvestDirect (India) Limited	Lebanon	INR10.00 Ordinary shares	99.54
PT Bank Ekonomi Raharja	India	IRD100.00 and IRD1,000.00 Ordinary shares	98.81
SAS Orona	Indonesia	Franc Pacific 10,000 Actions	94.93
HSBC Bank Egypt S.A.E.	New Caledonia	EGP84.00 Ordinary shares	94.53
SAS Bosquet -Audrain	Egypt	Franc Pacific 10,000 Actions	94.90
HSBC Securities (Egypt) S.A.E.	New Caledonia	EGP100.00 Ordinary shares	94.64
SAS Cyatheas Pasteur	Egypt	10.00 Action shares	94.00
HSBC Fund Services (Korea) Limited	France	KRW5,000.00 Ordinary shares	92.96
HSBC Transaction Services GmbH	Korea, Republic of Germany	1.00 GmbH Anteil shares	90.20

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HSBC Gestion (Monaco) S.A.	Monaco	Ordinary shares	86.59
Beau Soleil Limited Partnership		Limited partnership no	
	Hong Kong	shares	85.00
PT HSBC Securities Indonesia		IDR1,000,000.00	
	Indonesia	Common shares	85.00
HSBC Trinkaus & Burkhardt (International) S.A.	Luxembourg	1.00 Common shares	80.65
HSBC Trinkaus & Burkhardt AG		Stückaktien shares no par	
	Germany	value	80.65
HSBC Trinkaus & Burkhardt Gesellschaft fur Bankbeteiligungen mbH	Germany	DEM1.00 Common shares	80.65
HSBC Trinkaus Consult GmbH		DEM1.00 Common shares	
	Germany	shares	80.65
HSBC Trinkaus Europa Immobilien-Fonds Nr. 5 GmbH	Germany	Ordinary shares no par value	80.65
HSBC Trinkaus Family Office GmbH	Germany	1.00 GmbH Anteil shares	80.65
HSBC Trinkaus Immobilien Beteiligungs KG	Germany	1.00 Ordinary shares	80.65
HSBC Trinkaus Real Estate GmbH		DEM1.00 Common shares	
	Germany	shares	80.65
Trinkaus Australien Immobilien Fonds Nr. 1 Brisbane GmbH & Co. KG	Germany	1.00 Ordinary shares	80.65
Trinkaus Australien Immobilien Fonds Nr. 1 Treuhand-GmbH	Germany	1.00 GmbH Anteil shares	80.65
Trinkaus Canada Immobilien-Fonds Nr. 1 Verwaltungs-GmbH	Germany	1.00 Ordinary shares	80.65
Trinkaus Europa Immobilien-Fonds Nr.3 Objekt Utrecht Verwaltungs-GmbH	Germany	DEM1.00 Ordinary shares	80.65
Trinkaus Immobilien-Fonds Geschaeftsfuehrungs-GmbH	Germany	1.00 GmbH Anteil shares	80.65
Trinkaus Immobilien-Fonds Verwaltungs-GmbH	Germany	1.00 GmbH-Anteil shares	80.65
Trinkaus Private Equity Management GmbH	Germany	1.00 Ordinary shares	80.65
Trinkaus Private Equity Verwaltungs GmbH	Germany	1.00 GmbH Anteil shares	80.65

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## Notes on the Financial Statements (continued)

**43 HSBC Holdings subsidiaries, joint ventures and associates**

<b>Subsidiaries</b> <i>(continued)</i>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
INKA Internationale Kapitalanlagegesellschaft mbH GPIF Co-Investment, LLC	Germany	1.00 Common shares Limited liability		80.65
HSBC Middle East Finance Company Limited	United States United Arab Emirates	company no shares AED1.00 Ordinary shares		80.00
HSBC Bank (Mauritius) Limited	Mauritius	\$ Ordinary No Par Value shares		80.00
HSBC Bank Malta p.l.c. HSBC Global Asset Management (Malta) Limited	Malta	0.30 Ordinary shares		72.96
HSBC Insurance Management Services (Europe) Limited	Malta	2.32937 Ordinary shares		70.03
HSBC Life Assurance (Malta) Limited	Malta	1.00 Ordinary A and Ordinary B shares		70.03
HSBC Bank Armenia cjsc	Malta	1.16469 Ordinary shares		70.03
Mexanicana de Fomento S.A. de C.V.	Armenia	AMD30,250.00 Ordinary shares		70.00
HSBC Saudi Arabia Limited	Mexico	MXN1.00 Series A and B shares		69.80
Fulcher Enterprises Company Limited	Saudi Arabia	SAR50,000.00 Ordinary shares		69.40
Hang Seng (Nominee) Limited	Hong Kong	HK\$10.00 Ordinary shares		62.14
Hang Seng Bank (China) Limited	Hong Kong	HK\$100.00 Ordinary shares		62.14
Hang Seng Bank (Trustee) Limited	China	CNY1.00 Registered Capital shares		62.14
Hang Seng Bank Limited	Hong Kong	HK\$10.00 Ordinary shares		62.14
Hang Seng Bullion Company Limited	Hong Kong	HK\$5.00 Ordinary shares		62.14
Hang Seng Credit Limited	Hong Kong	HK\$100.00 Ordinary shares		62.14
Hang Seng Data Services Limited	Hong Kong	HK\$100.00 Ordinary shares		62.14
	Hong Kong	HK\$10.00 Ordinary shares		62.14

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Hang Seng Finance Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Financial Information Limited		HK\$10.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Futures Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Indexes Company Limited		HK\$10.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Insurance Company Limited		HK\$10.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Investment Management Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Investment Services Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Life Limited		HK\$1,000.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Real Estate Management Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Securities Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
Hang Seng Security Management Limited		HK\$1.00 Ordinary	
	Hong Kong	shares	62.14
Haseba Investment Company Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
High Time Investments Limited		HK\$1.00 Ordinary	
	Hong Kong	shares	62.14
HSI International Limited		HK\$1.00 Ordinary	
	Hong Kong	shares	62.14
Imenson Limited		HK\$10.00 Ordinary	
	Hong Kong	shares	62.14
Yan Nin Development Company Limited		HK\$100.00 Ordinary	
	Hong Kong	shares	62.14
Fundacion HSBC, A.C. <sup>1</sup>	Mexico	Parts shares	60.00
SNC Les Oliviers D Antibes	France	15.00 Parts shares	60.00
HSBC Land Title Agency (USA) LLC		Limited liability	
	United States	company no shares	55.00
The Malta Development Fund Limited	Malta	2.32937 Ordinary shares	53.07
HSBC Bank Oman S.A.O.G.		OMR0.10 Ordinary	
	Oman	shares	51.00
Beneficial Homeowner Service Corporation	United States	\$100.00 Common shares	50.00
Electronic Payment Services Company		HK\$1.00 Ordinary	
(Hong Kong) Limited	Hong Kong	shares	50.00
ProServe Bermuda Limited		BMD1.00 Common	
	Bermuda	shares	50.00
REDUS Halifax Landing, LLC		Limited liability	
	United States	company no shares	50.00
Urban Solutions (Cardiff) Limited	England and		
	Wales	£1 Ordinary shares	50.00
Vaultex Isle of Man Insurance Limited	Isle of Man	£1 Ordinary shares	50.00

**Joint ventures**

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HCM Holdings Limited	England and Wales	£0.01 Ordinary shares	51.00
GSI Retail Property Holdings Limited	Guernsey	1.00 Ordinary shares	50.00
HSBC Life Insurance Company Limited	China	CNY1.00 Ordinary shares	50.00
HSBC Kingdom Africa Investments (Cayman) Limited	Cayman Islands	\$1.00 Ordinary shares	50.00
Urban Solutions Cardiff Holdings Limited	England and Wales	£1.00 Ordinary B shares	50.00
Urban Solutions Greenwich Holdings Limited	England and Wales	£1.00 Ordinary B shares	50.00
Urban Solutions (Greenwich) Limited	England and Wales	£1.00 Ordinary shares	50.00
Vaultex UK Limited	England and Wales	£1.00 Ordinary shares	50.00
HSBC Jintrust Fund Management Company Limited	China	CNY1.00 Registered Capital shares	49.00
Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited	India	INR10.00 Ordinary shares	26.00
<b>Associates</b>			
HSBC Amanah Takaful (Malaysia) Berhad	Malaysia	RM50.00 Ordinary shares	49.00
HSBC Middle East Securities L.L.C	United Arab Emirates	AED1,000.00 Ordinary shares	49.00
Spire Topco Hotels Limited	England and Wales	£0.01 A and £0.01 B shares	46.79
SABB Takaful	Saudi Arabia	SAR10.00 Ordinary shares	45.50
AREIT Management Ltd	Cayman Islands	\$1.00 Ordinary A shares	41.90
Rewards Management Middle East FZ LLC	United Arab Emirates	AED1,000.00 Ordinary shares	40.00
The Saudi British Bank	Saudi Arabia	SAR10.00 Ordinary shares	40.00
EPS Company (Hong Kong) Limited	Hong Kong	HK\$250,000 Ordinary shares	38.66
Jepp Star Limited	Virgin Islands, British	£1.00 Ordinary shares	34.00
Novo Star Limited	Virgin Islands, British	\$100.00 Ordinary shares	34.00
Chemi & Cotex (Rwanda) Limited	Rwanda	RWF1,000 Ordinary shares	34.00
Chemi & Cotex Kenya Limited	Kenya	KES100 Ordinary shares	33.33
MENA Infrastructure Fund (GP) Ltd	United Arab Emirates	\$1.00 Ordinary shares	33.33
SCI Karuvefa	Guadeloupe	1.00 Parts shares	33.33

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<b>Associates (continued)</b>	<b>Country</b>	<b>Security</b>	<b>Direct (%)</b>	<b>Total (%)</b>
CFAC Payment Scheme Limited	England and Wales	£1.00 Preference shares		33.33
Trinkaus Europa Immobilien-Fonds Nr. 7 Frankfurt Mertonviertel KG	Germany	Limited partnership with no shares		33.10
GZHS Research Co Ltd	China	RMB Common stock		33.00
Hampton Owners LLC	United States	Limited liability company no shares		25.82
Trinkaus Europa Immobilien-Fonds Nr. 4 Objekte Basel Nauenstrasse KG	Germany	Limited partnership with no shares		25.11
Ashwood Energy Limited	Virgin Islands, British	US\$1.00 Ordinary shares		25.00
House Network Sdn Bhd	Malaysia	RM1.00 Ordinary shares		25.00
Rosimian Limited	England and Wales	£0.01 B shares		25.00
The London Gold Market Fixing Limited	England and Wales	Limited by guarantee no share capital		25.00
GIE GNIFI	New Caledonia	No shares		25.00
sino AG	Germany	1.00 Common stock		25.00
Icon Brickell LLC	United States	Limited liability company no shares		24.90
Business Growth Fund plc	England and Wales	£1.00 Ordinary shares		23.98
NAS Holding Limited	Virgin Islands, British	Ordinary share of no par value		22.13
NAS United Healthcare Services LLC	Virgin Islands, British	Ordinary share of no par value		22.13
Bank of Communications Co., Ltd	China	CNY1.00 H shares		19.03

1 Management has determined that these subsidiaries are excluded from consolidation in the Group accounts as these entities do not meet the definition of subsidiaries in accordance with IFRSs. HSBC's consolidation policy is described in Note 1(g).

#### **44 Non-statutory accounts**

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The information set out in these accounts does not constitute the Company's statutory accounts for the years ended 31 December 2015 or 2014. Those accounts have been reported on by the Company's auditors: their reports were unqualified and did not contain a statement under Section 498(2) or (3) of the Companies Act 2006. The accounts for 2014 have been delivered to the Registrar of Companies and those for 2015 will be delivered in due course.

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**Report of the Directors: Risk (pages 120-225)**

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**Report of the Directors: Risk** (continued)**Credit risk****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
--------------	--------------	------

<b>At year-end</b>			
<b>Maximum exposure to credit risk</b>			
total assets subject to credit risk	2,234	2,434	
off-balance sheet commitments subject to credit risk	713	699	
	<b>2,947</b>	3,133	123
<b>Gross loans and advances</b>			
personal lending	374	393	143
wholesale lending	650	706	136
	<b>1,024</b>	1,099	124
<b>Impaired loans</b>			
personal lending	12	15	128
wholesale lending	12	14	128
	<b>24</b>	29	128
<b>Impaired loans as a % of gross loans and advances</b>			
personal lending	3.1%	3.9%	
wholesale lending	1.9%	2.0%	
total	<b>2.3%</b>	2.7%	
	<b>\$bn</b>	\$bn	
<b>Impairment allowances</b>			
personal lending	2.9	4.6	135
wholesale lending	6.7	7.8	136
	<b>9.6</b>	12.4	134
Loans and advances net of impairment allowances	<b>1,015</b>	1,087	
<b>For year ended 31 December</b>			
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)	
	<b>3.7</b>	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)*

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

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.*

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**Report of the Directors: Risk** (continued)**Credit risk**

*Gross loans and impairment allowances on loans and advances to customers and banks reported in Assets held for sale*

*(Audited)*

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

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
<b>Year ended 31 December</b>	<b>3,722</b>
<b>Credit exposure</b>	

### 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.*

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.*

HSBC HOLDINGS PLC

*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
	924,454	(52,190)	872,264	974,660	(67,094)	907,566

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Loans and advances to customers held at amortised cost						
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 <sup>2</sup>	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 <sup>2</sup>	666,430		666,430	651,380		651,380
<b>At 31 December</b>	<b>2,946,955</b>	<b>(311,898)</b>	<b>2,635,057</b>	<b>3,132,558</b>	<b>(386,402)</b>	<b>2,746,156</b>

For footnote, see page 191

*Loan and other credit-related commitments<sup>2</sup>*

				North	Latin	
	Europe	Asia	MENA	America	America	Total
	\$m	\$m	\$m	\$m	\$m	\$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

<b>At 31 December 2015</b>	<b>195,546</b>	<b>274,719</b>	<b>23,417</b>	<b>141,422</b>	<b>31,326</b>	<b>666,430</b>
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
<i>For footnote, see page 191.</i>						

### 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.

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**Report of the Directors: Risk** (continued)

**Credit risk**

*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 first lien residential mortgages	170,526	132,707	6,705	58,186	5,958	374,082	36.5
other personal	125,544	94,606	2,258	50,117	1,986	274,511	26.8
Wholesale Corporate and commercial	44,982	38,101	4,447	8,069	3,972	99,571	9.7
manufacturing	191,765	211,224	22,268	62,882	11,374	499,513	48.8
international trade and services	39,003	34,272	2,504	17,507	2,572	95,858	9.4
commercial real estate	62,667	72,199	9,552	11,505	3,096	159,019	15.5
other property-related	26,256	32,371	690	7,032	1,577	67,926	6.7
government	7,323	35,206	1,908	8,982	45	53,464	5.2
other commercial <sup>4</sup>	3,653	1,132	1,695	203	772	7,455	0.7
Financial non-bank financial institutions	52,863	36,044	5,919	17,653	3,312	115,791	11.3
banks	51,969	68,321	10,239	16,308	3,996	150,833	14.7
Total wholesale	33,621	13,969	2,321	9,822	681	60,414	5.9
	18,348	54,352	7,918	6,486	3,315	90,419	8.8
	243,734	279,545	32,507	79,190	15,370	650,346	63.5
<b>Total gross loans and advances at 31 December 2015</b>	<b>414,260</b>	<b>412,252</b>	<b>39,212</b>	<b>137,376</b>	<b>21,328</b>	<b>1,024,428</b>	<b>100.0</b>
Percentage of total gross loans and advances	40.4%	40.3%	3.8%	13.4%	2.1%	100.0%	
Personal first lien residential mortgages	178,531	129,515	6,571	65,400	13,537	393,554	35.8
other personal	131,000	93,147	2,647	55,577	4,153	286,524	26.0
Wholesale Corporate and commercial	47,531	36,368	3,924	9,823	9,384	107,030	9.8
manufacturing	212,523	220,799	20,588	57,993	30,722	542,625	49.4
international trade and	39,456	37,767	2,413	15,299	12,051	106,986	9.7
	76,629	72,814	9,675	13,484	8,189	180,791	16.4

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services							
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 <sup>4</sup>	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.*

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**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)*

Strong \$m	Neither past due nor impaired			Sub- standard \$m	Past due but not impaired \$m	Impaired \$m	Total gross amount \$m	Impairment allowances <sup>5</sup> \$m
	Good \$m	Satisfactory \$m						
97,365	583	939	47			98,934		
5,318	32	416	2			5,768		
28,410						28,410		
116,633	21,243	19,894	576			158,346		



6,749	790	190	100			7,829	
77,088	10,995	10,656	299			99,038	
14,546	4,391	3,239	127			22,303	
18,250	5,067	5,809	50			29,176	
3,037	701	736	383			4,857	
139	193		64			396	
2,898	508	616	319			4,341	
		120				120	
248,101	32,056	7,209	1,110			288,476	
472,691	214,152	194,393	16,836	12,179	23,758	934,009	(9,555)
309,720	29,322	15,021	944	7,568	11,507	374,082	(2,879)
127,673	168,772	171,466	15,379	4,274	11,949	499,513	(6,435)
35,298	16,058	7,906	513	337	302	60,414	(241)
73,226	11,929	4,836	407	1	20	90,419	(18)
108,238	16,552	20,931	46		488	146,255	
382,328	18,600	16,341	4,525		1,326	423,120	
93,562	3,963	4,756	2,270			104,551	
288,766	14,637	11,585	2,255		1,326	318,569	
10,177	9,605	17,279	1,635	703	2,133	41,532	(1,454)

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	<b>10,149</b>	<b>8,815</b>	<b>16,213</b>	<b>1,567</b>	<b>701</b>	<b>2,085</b>	<b>39,530</b>	<b>(1,433)</b>
	<b>28</b>	<b>790</b>	<b>1,066</b>	<b>68</b>	<b>2</b>	<b>48</b>	<b>2,002</b>	<b>(21)</b>
	<b>8,306</b>	<b>5,688</b>	<b>10,204</b>	<b>632</b>	<b>147</b>	<b>333</b>	<b>25,310</b>	
	<b>1,084</b>	<b>3,850</b>	<b>3,798</b>	<b>343</b>	<b>22</b>	<b>52</b>	<b>9,149</b>	
	<b>7,222</b>	<b>1,838</b>	<b>6,406</b>	<b>289</b>	<b>125</b>	<b>281</b>	<b>16,161</b>	
	<b>1,553,830</b>	<b>331,141</b>	<b>293,178</b>	<b>26,199</b>	<b>13,030</b>	<b>28,058</b>	<b>2,245,436</b>	<b>(11,027)</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	
	<b>69.2</b>	<b>14.7</b>	<b>13.1</b>	<b>1.2</b>	<b>0.6</b>	<b>1.2</b>	<b>100.0</b>	

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**Report of the Directors: Risk** (continued)**Credit risk***Distribution of financial instruments by credit quality (continued)*

	Neither past due nor impaired			Sub-	Past due but not	Impaired	Total gross	Impairment
	Strong \$m	Good \$m	Satisfactory \$m	standard \$m	impaired \$m	Impaired \$m	amount \$m	allowances <sup>5</sup> \$m
ks e	127,971	1,438	195	353			129,957	
from s g nt	4,515	46	365	1			4,927	
s ness sets <sup>6</sup> and ble	27,674						27,674	
	168,521	35,042	24,740	641			228,944	
	13,938	1,641	559	32			16,170	
urities d	111,138	17,786	12,305	303			141,532	
	17,492	4,961	5,016	112			27,581	
rs ssets at	25,953	10,654	6,860	194			43,661	
	3,017	4,476	1,207	331			9,031	
and ble	5			51			56	
urities	3,011	4,476	1,124	280			8,891	

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	1		83				84	
rs	269,490	58,596	15,962	960			345,008	
s <sup>6</sup>								
o								
held	487,734	239,136	196,685	20,802	13,357	29,283	986,997	(12,337)
d	320,678	32,601	15,109	1,130	8,876	15,160	393,554	(4,600)
e and	141,375	192,799	171,748	18,986	3,922	13,795	542,625	(7,441)
l								
k								
s	25,681	13,736	9,828	686	559	328	50,818	(296)
o								
at								
cost	83,766	19,525	7,945	914	1	47	112,198	(49)
s								
ing	98,470	28,367	33,283	1,593			161,713	
s								
and	347,218	27,373	22,600	5,304		2,278	404,773	
ar								
urities	68,966	6,294	4,431	1,826			81,517	
d for	278,252	21,079	18,169	3,478		2,278	323,256	
groups	802	43	79		2	465	1,391	(16)
ent	768	43	79				890	
for								
ts	34				2	465	501	(16)
nents	12,213	7,521	12,897	631	208	419	33,889	
ances	1,507	4,644	4,281	298	34	11	10,775	
income	10,706	2,877	8,616	333	174	408	23,114	
per								
	1,631,391	421,563	315,958	31,530	13,568	32,492	2,446,502	(12,402)
e of	%	%	%	%	%	%	%	
	66.7	17.2	12.9	1.3	0.6	1.3	100.0	

For footnotes, see page 191.

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**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)*

	<b>Europe \$m</b>	<b>Asia \$m</b>	<b>MENA \$m</b>	<b>North America \$m</b>	<b>Latin America \$m</b>	<b>Total \$m</b>
Loans and advances to customers held at amortised cost	<b>1,928</b>	<b>3,405</b>	<b>909</b>	<b>5,392</b>	<b>545</b>	<b>12,179</b>
personal	<b>1,152</b>	<b>2,573</b>	<b>180</b>	<b>3,287</b>	<b>376</b>	<b>7,568</b>
corporate and commercial	<b>762</b>	<b>790</b>	<b>710</b>	<b>1,843</b>	<b>169</b>	<b>4,274</b>
non-bank financial institutions	<b>14</b>	<b>42</b>	<b>19</b>	<b>262</b>		<b>337</b>
Assets held for sale				<b>2</b>	<b>701</b>	<b>703</b>
disposal group					<b>701</b>	<b>701</b>
non-current assets held for sale				<b>2</b>		<b>2</b>
Other financial instruments	<b>10</b>	<b>39</b>	<b>15</b>	<b>80</b>	<b>4</b>	<b>148</b>
<b>At 31 December 2015</b>	<b>1,938</b>	<b>3,444</b>	<b>924</b>	<b>5,474</b>	<b>1,250</b>	<b>13,030</b>
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

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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	30-59	60-89	90-179	180 days	Total
	days	days	days	days	and over	
	\$m	\$m	\$m	\$m	\$m	\$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
<b>At 31 December 2015</b>	<b>9,959</b>	<b>2,089</b>	<b>831</b>	<b>121</b>	<b>30</b>	<b>13,030</b>

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
	130	33	18	11	17	209

Other financial  
instruments

At 31 December  
2014

10,557

2,090

819

66

36

13,568

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**Report of the Directors: Risk** (continued)**Credit risk****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*

	<b>Europe</b>	<b>Asia</b>	<b>MENA</b>	<b>North</b>	<b>Latin</b>	<b>Total</b>
	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>	<b>America</b>	<b>America</b>	<b>\$m</b>
				<b>\$m</b>	<b>\$m</b>	
Impaired loans at 1 January 2015	<b>10,242</b>	<b>2,048</b>	<b>1,981</b>	<b>11,694</b>	<b>3,365</b>	<b>29,330</b>

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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)
<b>Impaired loans at</b>						
<b>31 December 2015</b>	<b>9,677</b>	<b>2,375</b>	<b>1,766</b>	<b>8,930</b>	<b>1,030</b>	<b>23,778</b>
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

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	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 financial	7,385	1,545	1,696	862	2,307	13,795
	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.



## Report of the Directors: Risk (continued)

## Credit risk

*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 <sup>3</sup>	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
<b>Renegotiated loans at 31 December 2015</b>	<b>7,314</b>	<b>943</b>	<b>1,752</b>	<b>12,372</b>	<b>578</b>	<b>22,959</b>
<b>neither past due nor impaired</b>	<b>2,253</b>	<b>307</b>	<b>626</b>	<b>3,879</b>	<b>167</b>	<b>7,232</b>
<b>past due but not impaired</b>	<b>334</b>	<b>21</b>	<b>44</b>	<b>1,740</b>	<b>4</b>	<b>2,143</b>
<b>impaired</b>	<b>4,727</b>	<b>615</b>	<b>1,082</b>	<b>6,753</b>	<b>407</b>	<b>13,584</b>

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Impairment allowances on renegotiated loans	<b>1,402</b>	<b>193</b>	<b>575</b>	<b>1,014</b>	<b>155</b>	<b>3,339</b>
renegotiated loans as % of total gross loans	<b>1.8%</b>	<b>0.3%</b>	<b>5.6%</b>	<b>9.5%</b>	<b>3.2%</b>	<b>2.5%</b>
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 <sup>3</sup>	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	194	4	18	1	1	218
impaired						
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.

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*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 non-bank financial institutions	5,469	501	1,439	427	1,324	9,160
Loans renegotiated in the year without derecognition	413	4	323	1	1	742
personal	1,970	421	115	999	553	4,058
corporate and commercial non-bank financial institutions	471	87	7	625	250	1,440
Loans renegotiated in the year resulting in recognition of a new loan	1,494	334	89	374	303	2,594
personal	5		19			24
corporate and commercial non-bank financial institutions	222	16	196	(1)	175	608
Repayments	57			(1)	18	74
personal	156	16	4		157	333
corporate and commercial 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 non-bank financial institutions	(1,054)	(263)	(159)	(138)	(282)	(1,896)
Amounts written off	(47)		(85)			(132)
personal	(294)	(52)	(11)	(254)	(290)	(901)
corporate and commercial non-bank financial institutions	(45)	(24)	(5)	(241)	(139)	(454)
	(249)	(28)	(6)	(12)	(150)	(445)
				(1)	(1)	(2)

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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)
<b>At 31 December 2015</b>	<b>7,314</b>	<b>943</b>	<b>1,752</b>	<b>12,372</b>	<b>578</b>	<b>22,959</b>
<b>personal</b>	<b>1,759</b>	<b>340</b>	<b>69</b>	<b>11,734</b>	<b>72</b>	<b>13,974</b>
<b>corporate and</b>						
<b>commercial</b>	<b>5,215</b>	<b>599</b>	<b>1,411</b>	<b>638</b>	<b>506</b>	<b>8,369</b>
<b>non-bank financial</b>						
<b>institutions</b>	<b>340</b>	<b>4</b>	<b>272</b>			<b>616</b>
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)

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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.

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**Report of the Directors: Risk** (continued)**Credit risk***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
<b>At 31 December 2015</b>	<b>100.0</b>

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

*Renegotiated loans by arrangement type: personal lending*

	%
<b>Personal</b>	
interest rate and terms modifications	11.4
payment concessions	6.0
collection re-age	35.0
modification re-age	42.9
other	4.7
<b>At 31 December 2015</b>	<b>100.0</b>

*For footnotes, see page 191.*

**Impairment of loans and advances**

*(Audited)*

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	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	241	104	39	269	99	752
Financial	14		(18)	(7)		(11)
<b>Total loan</b>						
<b>impairment charge</b>						
<b>for the year ended</b>						
<b>31 December 2015</b>	<b>709</b>	<b>681</b>	<b>299</b>	<b>469</b>	<b>1,434</b>	<b>3,592</b>
Personal	245	321	25	117	1,095	1,803
first lien residential						
mortgages	(75)	6	(24)	26	15	(52)
other personal	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	192	101	(2)	53	379	723
Financial	44	(4)	(32)	(13)	1	(4)
<b>Total loan</b>						
<b>impairment charge</b>						
<b>for the year ended</b>						
<b>31 December 2014</b>	<b>1,079</b>	<b>644</b>	<b>(1)</b>	<b>300</b>	<b>2,033</b>	<b>4,055</b>

*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 <sup>10</sup>	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)
<b>Total loan impairment charge for the year ended 31 December 2015</b>	<b>709</b>	<b>681</b>	<b>299</b>	<b>469</b>	<b>1,434</b>	<b>3,592</b>

*For footnote, see page 99.*

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	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 <sup>10</sup>	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*



	<b>Europe</b> %	<b>Asia</b> %	<b>MENA</b> %	<b>North America</b> %	<b>Latin America</b> %	<b>Total</b> %
New allowances net of allowance releases	<b>0.31</b>	<b>0.23</b>	<b>1.07</b>	<b>0.41</b>	<b>5.37</b>	<b>0.48</b>
Recoveries	<b>(0.11)</b>	<b>(0.05)</b>	<b>(0.11)</b>	<b>(0.06)</b>	<b>(0.50)</b>	<b>(0.09)</b>
<b>Total charge for impairment losses at 31 December 2015</b>	<b>0.20</b>	<b>0.18</b>	<b>0.96</b>	<b>0.35</b>	<b>4.87</b>	<b>0.39</b>
Amount written off net of recoveries	<b>0.25</b>	<b>0.12</b>	<b>0.97</b>	<b>0.45</b>	<b>3.94</b>	<b>0.37</b>
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

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**Report of the Directors: Risk** (continued)**Credit risk***Movement in impairment allowances by industry sector and by geographical region*

	<b>Europe \$m</b>	<b>Asia \$m</b>	<b>MENA \$m</b>	<b>North America \$m</b>	<b>Latin America \$m</b>	<b>Total \$m</b>
Impairment allowances at 1 January 2015	<b>4,455</b>	<b>1,356</b>	<b>1,406</b>	<b>2,640</b>	<b>2,529</b>	<b>12,386</b>
Amounts written off						
Personal	<b>(627)</b>	<b>(416)</b>	<b>(114)</b>	<b>(554)</b>	<b>(996)</b>	<b>(2,707)</b>
first lien residential mortgages	<b>(12)</b>	<b>(6)</b>	<b>(1)</b>	<b>(344)</b>	<b>(24)</b>	<b>(387)</b>
other personal	<b>(615)</b>	<b>(410)</b>	<b>(113)</b>	<b>(210)</b>	<b>(972)</b>	<b>(2,320)</b>
Corporate and commercial	<b>(657)</b>	<b>(179)</b>	<b>(222)</b>	<b>(106)</b>	<b>(309)</b>	<b>(1,473)</b>
manufacturing and international trade and services	<b>(234)</b>	<b>(149)</b>	<b>(214)</b>	<b>(28)</b>	<b>(213)</b>	<b>(838)</b>
commercial real estate and other property-related	<b>(244)</b>	<b>(5)</b>	<b>(8)</b>	<b>(57)</b>	<b>(30)</b>	<b>(344)</b>
other commercial	<b>(179)</b>	<b>(25)</b>		<b>(21)</b>	<b>(66)</b>	<b>(291)</b>
Financial	<b>(12)</b>			<b>(2)</b>		<b>(14)</b>
Total amounts written off	<b>(1,296)</b>	<b>(595)</b>	<b>(336)</b>	<b>(662)</b>	<b>(1,305)</b>	<b>(4,194)</b>
Recoveries of amounts written off in previous years						
Personal	<b>340</b>	<b>135</b>	<b>30</b>	<b>57</b>	<b>119</b>	<b>681</b>
first lien residential mortgages	<b>6</b>	<b>4</b>		<b>26</b>	<b>(17)</b>	<b>19</b>
other personal	<b>334</b>	<b>131</b>	<b>30</b>	<b>31</b>	<b>136</b>	<b>662</b>
Corporate and commercial	<b>46</b>	<b>30</b>	<b>3</b>	<b>18</b>	<b>27</b>	<b>124</b>
manufacturing and international trade and services	<b>16</b>	<b>20</b>	<b>2</b>	<b>8</b>	<b>15</b>	<b>61</b>
commercial real estate and other property-related	<b>24</b>	<b>5</b>		<b>5</b>	<b>2</b>	<b>36</b>
other commercial	<b>6</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>10</b>	<b>27</b>
Financial	<b>2</b>			<b>1</b>		<b>3</b>
Total recoveries of amounts written off in previous years	<b>388</b>	<b>165</b>	<b>33</b>	<b>76</b>	<b>146</b>	<b>808</b>
Charge to income statement	<b>709</b>	<b>681</b>	<b>299</b>	<b>469</b>	<b>1,434</b>	<b>3,592</b>
Exchange and other movements <sup>11</sup>	<b>(387)</b>	<b>(82)</b>	<b>16</b>	<b>(482)</b>	<b>(2,084)</b>	<b>(3,019)</b>

<b>Impairment allowances at 31 December 2015</b>	<b>3,869</b>	<b>1,525</b>	<b>1,418</b>	<b>2,041</b>	<b>720</b>	<b>9,573</b>
Impairment allowances against banks:						
individually assessed			<b>18</b>			<b>18</b>
Impairment allowances against customers:						
individually assessed	<b>2,661</b>	<b>908</b>	<b>1,068</b>	<b>327</b>	<b>438</b>	<b>5,402</b>
collectively assessed <sup>9</sup>	<b>1,208</b>	<b>617</b>	<b>332</b>	<b>1,714</b>	<b>282</b>	<b>4,153</b>
<b>Impairment allowances at 31 December 2015</b>	<b>3,869</b>	<b>1,525</b>	<b>1,418</b>	<b>2,041</b>	<b>720</b>	<b>9,573</b>
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	(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	(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	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	(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 <sup>11</sup>	(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 <sup>9</sup>	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
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*For footnotes, see page 191.*

HSBC HOLDINGS PLC

*Movement in impairment allowances on loans and advances to customers and banks**(Audited)*

	<b>Banks individually</b>	<b>Customers</b>		<b>Total</b>
	<b>assessed \$m</b>	<b>Individually assessed \$m</b>	<b>Collectively assessed<sup>10</sup> \$m</b>	
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 <sup>11</sup>	(20)	(1,027)	(1,972)	(3,019)
<b>At 31 December 2015</b>	<b>18</b>	<b>5,402</b>	<b>4,153</b>	<b>9,573</b>
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
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
as a percentage of loans and advances		<b>0.6</b>	<b>0.4</b>	<b>0.9</b>
	\$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 <sup>11</sup>	(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.

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## Report of the Directors: Risk (continued)

## Credit risk

## 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	7,323	35,206	1,908	8,982	45	53,464
property-related	3,653	1,132	1,695	203	772	7,455
government	52,863	36,044	5,919	17,653	3,312	115,791
other commercial	51,969	68,321	10,239	16,308	3,996	150,833
Financial						
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
<b>Gross loans at 31 December 2015 (D)</b>	<b>243,734</b>	<b>279,545</b>	<b>32,507</b>	<b>79,190</b>	<b>15,370</b>	<b>650,346</b>
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
	237	72	267	55	1	632

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other						
property-related						
government	<b>6</b>				<b>2</b>	<b>8</b>
other commercial	<b>538</b>	<b>296</b>	<b>171</b>	<b>383</b>	<b>67</b>	<b>1,455</b>
Financial	<b>194</b>	<b>13</b>	<b>22</b>	<b>30</b>		<b>259</b>
non-bank financial						
institutions (b)	<b>194</b>	<b>13</b>	<b>4</b>	<b>30</b>		<b>241</b>
banks (c)			<b>18</b>			<b>18</b>
<b>Impairment allowances at 31 December 2015 (d)</b>	<b>2,929</b>	<b>1,269</b>	<b>1,179</b>	<b>807</b>	<b>510</b>	<b>6,694</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
(a) as a percentage of (A)	<b>1.4</b>	<b>0.6</b>	<b>5.2</b>	<b>1.2</b>	<b>4.5</b>	<b>1.3</b>
(b) as a percentage of (B)	<b>0.6</b>	<b>0.1</b>	<b>0.2</b>	<b>0.3</b>		<b>0.4</b>
(c) as a percentage of (C)			<b>0.2</b>			
(d) as a percentage of (D)	<b>1.2</b>	<b>0.5</b>	<b>3.6</b>	<b>1.0</b>	<b>3.3</b>	<b>1.0</b>
	\$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	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
	877	533	536	157	237	2,340



international trade and services						
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.*

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## 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
<b>Total gross loans and advances at 31 December 2015</b>	<b>26,256</b>	<b>32,371</b>	<b>690</b>	<b>7,032</b>	<b>1,577</b>	<b>67,926</b>
Of which:						
renegotiated loans <sup>2</sup>	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 <sup>2</sup>	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.

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**Report of the Directors: Risk** (continued)**Credit risk***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 <sup>13</sup>	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
<b>At 31 December 2015</b>	<b>26,256</b>	<b>32,371</b>	<b>690</b>	<b>7,032</b>	<b>1,577</b>	<b>67,926</b>

On demand, overdrafts or revolving < 1 year <sup>13</sup>	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.

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*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

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	<b>1,681</b>	<b>74</b>	<b>193</b>	<b>144</b>	<b>486</b>	<b>2,578</b>
<b>At 31 December 2015</b>	<b>35,793</b>	<b>40,602</b>	<b>728</b>	<b>11,423</b>	<b>1,581</b>	<b>90,127</b>
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

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**Report of the Directors: Risk** (continued)**Credit risk**

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:						



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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
<b>At 31 December 2015</b>	<b>7,537</b>	<b>2,087</b>	<b>1,480</b>	<b>2,068</b>	<b>432</b>	<b>13,604</b>
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
<b>At 31 December 2014</b>	<b>8,209</b>	<b>1,783</b>	<b>1,595</b>	<b>1,343</b>	<b>1,928</b>	<b>14,858</b>

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### 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.

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**Report of the Directors: Risk** (continued)**Credit risk***Notional contract amounts and fair values of derivatives by product type*

	2015			2014		
	Notional amount \$m	Fair value Assets \$m	Liabilities \$m	Notional amount \$m	Fair value Assets \$m	Liabilities \$m
Foreign exchange	<b>5,690,354</b>	<b>96,341</b>	<b>95,598</b>	5,573,415	97,312	95,759
exchange traded	<b>195,612</b>	<b>167</b>	<b>76</b>	81,785	229	369
central counterparty cleared OTC	<b>29,263</b>	<b>406</b>	<b>443</b>	18,567	321	349
non-central counterparty cleared OTC	<b>5,465,479</b>	<b>95,768</b>	<b>95,079</b>	5,473,063	96,762	95,041
Interest rate exchange traded	<b>14,675,036</b>	<b>279,154</b>	<b>271,367</b>	22,328,518	473,243	468,152
central counterparty cleared OTC	<b>1,259,888</b>	<b>49</b>	<b>8</b>	1,432,333	112	161
non-central counterparty cleared OTC	<b>8,774,674</b>	<b>117,877</b>	<b>117,695</b>	15,039,001	261,880	264,509
Equity exchange traded	<b>4,640,474</b>	<b>161,228</b>	<b>153,664</b>	5,857,184	211,251	203,482
non-central counterparty cleared OTC	<b>501,834</b>	<b>8,732</b>	<b>10,383</b>	568,932	11,694	13,654
Credit central counterparty cleared OTC	<b>265,129</b>	<b>1,888</b>	<b>2,601</b>	289,140	2,318	3,201
	<b>236,705</b>	<b>6,844</b>	<b>7,782</b>	279,792	9,376	10,453
	<b>463,344</b>	<b>6,961</b>	<b>6,884</b>	550,197	9,340	10,061
	<b>90,863</b>	<b>1,779</b>	<b>2,069</b>	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 exchange traded	51,683	3,148	2,699	77,565	3,884	3,508
non-central counterparty cleared OTC	8,136	38		7,015	80	23
	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
<b>Gross</b>	<b>21,382,251</b>	<b>394,336</b>	<b>386,931</b>	<b>29,098,627</b>	<b>595,473</b>	<b>591,134</b>
<b>Offset</b>		<b>(105,860)</b>	<b>(105,860)</b>		<b>(250,465)</b>	<b>(250,465)</b>
<b>Total at 31 December</b>		<b>288,476</b>	<b>281,071</b>		<b>345,008</b>	<b>340,669</b>

*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*

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

*For footnotes, see page 191.*

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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
<b>At 31 December 2015</b>	<b>44,190</b>	<b>27,454</b>	<b>779</b>	<b>72,350</b>	<b>1,482</b>	<b>146,255</b>
With customers	25,841	5,409		35,060		66,310
With banks	34,748	22,813	19	29,008	8,815	95,403
<b>At 31 December 2014</b>	<b>60,589</b>	<b>28,222</b>	<b>19</b>	<b>64,068</b>	<b>8,815</b>	<b>161,713</b>

### 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
<b>Total gross loans at 31 December 2015 (C)</b>	<b>170,526</b>	<b>132,707</b>	<b>6,705</b>	<b>58,186</b>	<b>5,958</b>	<b>374,082</b>
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
<b>Total impairment allowances at 31 December 2015 (c)</b>	<b>945</b>	<b>256</b>	<b>238</b>	<b>1,232</b>	<b>208</b>	<b>2,879</b>
	%	%	%	%	%	%
(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

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**Report of the Directors: Risk** (continued)**Credit risk***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

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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
<b>Total at 31 December 2015</b>	<b>17,680</b>

#### *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<sup>16</sup>*

	2015 \$m	2014 \$m
Residential mortgages:		
first lien	17,157	21,915
Other personal lending:		
second lien	2,089	2,509
<b>Total (A) at 31 December</b>	<b>19,246</b>	<b>24,424</b>
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.



## Report of the Directors: Risk (continued)

## Credit risk

*Trends in two months and over contractual delinquency in the US*

	2015 \$m	2014 \$m
<b>In personal lending in the US</b>		
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
<b>Total at 31 December</b>	<b>2,134</b>	<b>3,511</b>
	%	%
<b>As a percentage of the equivalent loans and receivables balances</b>		
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
<b>Total at 31 December</b>	<b>5.4</b>	<b>8.1</b>

*Gross loan portfolio of HSBC Finance real estate secured balances*

	Modified		Total	Total non-	Total	Total	Impairment
	Re-aged <sup>17</sup>	and re-aged	renegotiated	renegotiated	gross	impairment	allowance
	\$m	\$m	loans	loans	loans	allowances	gross loan
			\$m	\$m	\$m	\$m	\$m
<b>December</b>							
<b>15</b>	4,858	5,257	519	10,634	8,612	19,246	986
	6,637	6,581	587	13,805	10,619	24,424	1,679

December  
14*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 and re-aged	Modified	Total	
<b>At 31 December 2015</b>	<b>66</b>	<b>54</b>	<b>6</b>	<b>126</b>
At 31 December 2014	85	64	6	155

**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.



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### **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-ageing 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.

*(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

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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

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**Report of the Directors: Risk** (continued)**Credit risk***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:								

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

Impairment allowances on loans and advances to customers	<b>9,555</b>	<b>(1,189)</b>	<b>(1,593)</b>	12,337	15,143	16,112	17,511
Loan impairment charge	<b>3,592</b>	<b>(682)</b>	<b>219</b>	4,055	6,048	8,160	11,505
new allowances net of allowance releases	<b>4,400</b>	<b>(821)</b>	<b>211</b>	5,010	7,344	9,306	12,931
recoveries	<b>(808)</b>	<b>139</b>	<b>8</b>	(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.

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

	31 December 2014 as reported \$m	Currency translation adjustment <sup>18</sup> \$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 %
<b>Impaired loans</b>							
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)
<b>Impairment allowances</b>							
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)



<b>Loan impairment charge</b>								
Europe	1,079	(134)	945	(236)	<b>709</b>	<b>(34.3)</b>	<b>(25.0)</b>	
Asia	644	(27)	617	64	<b>681</b>	<b>5.7</b>	<b>10.4</b>	
Middle East and North Africa	(1)	(1)	(2)	301	<b>299</b>			
North America	300	(10)	290	179	<b>469</b>	<b>56.3</b>	<b>61.7</b>	
Latin America	2,033	(510)	1,523	(89)	<b>1,434</b>	<b>(29.5)</b>	<b>(5.8)</b>	
	4,055	(682)	3,373	219	<b>3,592</b>	<b>(11.4)</b>	<b>6.5</b>	

For footnote, see page 191.

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

			31 December 2014 at					
	31 December 2014	Currency translation adjustment <sup>18</sup>	31 December 2015 exchange rates	Movement constant currency basis	31 December 2015 as reported \$m	Reported change %	Constant currency change %	
	as reported \$m	\$m	\$m	\$m	\$m	%	%	
<b>Loan impairment charge</b>								
Europe	1,079	(134)	945	(236)	<b>709</b>	<b>(34.3)</b>	<b>(25.0)</b>	
new allowances	2,445	(303)	2,142	(97)	<b>2,045</b>	<b>(16.4)</b>	<b>(4.5)</b>	
releases	(1,062)	140	(922)	(26)	<b>(948)</b>	<b>(10.7)</b>	<b>2.8</b>	
recoveries	(304)	29	(275)	(113)	<b>(388)</b>	<b>27.6</b>	<b>41.1</b>	
Asia	644	(27)	617	64	<b>681</b>	<b>5.7</b>	<b>10.4</b>	
new allowances	1,115	(61)	1,054	224	<b>1,278</b>	<b>14.6</b>	<b>21.3</b>	
releases	(318)	21	(297)	(135)	<b>(432)</b>	<b>35.8</b>	<b>45.5</b>	
recoveries	(153)	13	(140)	(25)	<b>(165)</b>	<b>7.8</b>	<b>17.9</b>	
Middle East and North Africa	(1)	(1)	(2)	301	<b>299</b>			
new allowances	355	(7)	348	144	<b>492</b>	<b>38.6</b>	<b>41.4</b>	
releases	(314)	6	(308)	148	<b>(160)</b>	<b>(49.0)</b>	<b>(48.1)</b>	
recoveries	(42)		(42)	9	<b>(33)</b>	<b>(21.4)</b>	<b>(21.4)</b>	
North America	300	(10)	290	179	<b>469</b>	<b>56.3</b>	<b>61.7</b>	
	908	(20)	888	(157)	<b>731</b>	<b>(19.5)</b>	<b>(17.7)</b>	

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new								
allowances								
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.

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**Report of the Directors: Risk** (continued)**Credit risk***Loan impairment charges by industry sector over five years*

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

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

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

*Movement in impairment allowances over five years*

	<b>2015</b>	2014	2013	2012	2011
	<b>\$m</b>	\$m	\$m	\$m	\$m
Impairment allowances at 1 January	<b>12,386</b>	15,201	16,169	17,636	20,241
Amounts written off	<b>(4,194)</b>	(6,379)	(6,655)	(9,812)	(12,480)
personal	<b>(2,707)</b>	(3,733)	(4,367)	(6,905)	(10,431)
corporate and commercial	<b>(1,473)</b>	(2,425)	(2,229)	(2,677)	(2,009)
financial	<b>(14)</b>	(221)	(59)	(230)	(40)
Recoveries of amounts written off in previous years	<b>808</b>	955	1,296	1,146	1,426
personal	<b>681</b>	818	1,097	966	1,175
corporate and commercial	<b>124</b>	128	198	172	242

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financial	<b>3</b>	9	1	8	9
Loan impairment charge	<b>3,592</b>	4,055	6,048	8,160	11,505
Exchange and other movements <sup>11</sup>	<b>(3,019)</b>	(1,446)	(1,657)	(961)	(3,056)
<b>Impairment allowances at 31 December</b>	<b>9,573</b>	<b>12,386</b>	<b>15,201</b>	<b>16,169</b>	<b>17,636</b>
Impairment allowances individually assessed	<b>5,420</b>	6,244	7,130	6,629	6,662
collectively assessed	<b>4,153</b>	6,142	8,071	9,540	10,974
<b>Impairment allowances at 31 December</b>	<b>9,573</b>	12,386	15,201	16,169	17,636
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Amount written off net of recoveries as a percentage of average gross loans and advances to customers	<b>0.4</b>	0.6	0.6	1.0	1.2
<i>For footnote, see page 191.</i>					

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*Gross loans and advances to customers by country*

	<b>First lien residential mortgages</b>	<b>Other personal<sup>3</sup></b>	<b>Property- related</b>	<b>Commercial, international trade and other</b>	<b>Total</b>
	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>
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

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North America	<b>50,117</b>	<b>8,069</b>	<b>16,014</b>	<b>56,690</b>	<b>130,890</b>
US	<b>34,382</b>	<b>4,813</b>	<b>11,435</b>	<b>42,439</b>	<b>93,069</b>
Canada	<b>14,418</b>	<b>3,029</b>	<b>4,315</b>	<b>13,490</b>	<b>35,252</b>
Other	<b>1,317</b>	<b>227</b>	<b>264</b>	<b>761</b>	<b>2,569</b>
Latin America	<b>1,986</b>	<b>3,972</b>	<b>1,622</b>	<b>10,433</b>	<b>18,013</b>
Mexico	<b>1,881</b>	<b>2,828</b>	<b>1,498</b>	<b>7,844</b>	<b>14,051</b>
Other	<b>105</b>	<b>1,144</b>	<b>124</b>	<b>2,589</b>	<b>3,962</b>
<b>At 31 December 2015</b>	<b>274,511</b>	<b>99,571</b>	<b>121,390</b>	<b>438,537</b>	<b>934,009</b>
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
	286,524	107,030	125,680	467,763	986,997

At  
31 December  
2014

*For footnote, see page 191.*

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**Report of the Directors: Risk** (continued)**Credit risk**

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)*

Maximum exposure	2015		Maximum exposure	2014	
	Offset	Exposure to credit		Offset	Exposure to credit



	\$m	\$m	risk (net) \$m	\$m	\$m	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
<b>At 31 December</b>	<b>119,786</b>	<b>(2,467)</b>	<b>117,319</b>	<b>103,042</b>	<b>(2,610)</b>	<b>100,432</b>

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).

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*Carrying amount of HSBC's consolidated holdings of ABSs*

	Trading \$m	Available for sale \$m	Designated at fair value Held to maturity \$m	profit or loss through \$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
<b>At 31 December 2015</b>	<b>3,301</b>	<b>28,571</b>	<b>14,004</b>	<b>24</b>	<b>798</b>	<b>46,698</b>	<b>9,334</b>
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
	172	3,660			218	4,050	2,526

Leveraged finance-related assets							
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

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**Risk elements in the loan portfolio**

The disclosure of credit risk elements in this section reflects US accounting practice and classifications. The purpose of the disclosure is to present within the US disclosure framework those elements of the loan portfolios with a greater risk of loss. The three main classifications of credit risk elements presented are:

impaired loans;

unimpaired loans contractually more than 90 days past due as to interest or principal; and

troubled debt restructurings not included in the above.

**Interest foregone on impaired and restructured loans**

Interest income that would have been recognised under the original terms of impaired and restructured loans amounted to approximately \$2.1bn in 2015 (2014: \$2.2bn). The table below analyses this by geographic region.

	<b>2015</b>	2014
	<b>\$m</b>	\$m
Europe	<b>276</b>	218
Asia	<b>164</b>	113
Middle East and North Africa	<b>138</b>	135
North America	<b>1,097</b>	1,350
Latin America	<b>409</b>	411
<b>Year ended 31 December</b>	<b>2,084</b>	<b>2,227</b>

**Interest recognised on impaired and restructured loans**

Interest income from such loans of approximately \$1.3bn was recorded in 2015 (2014: \$1.5bn). The table below analyses this by geographical region.

	2015 \$m	2014 \$m
Europe	92	112
Asia	57	38
Middle East and North Africa	27	40
North America	832	995
Latin America	248	284
<b>Year ended 31 December</b>	<b>1,256</b>	<b>1,469</b>
<b>Impaired loans</b>		

In the following tables we present information on our impaired loans and advances in accordance with the classification approach described on page 128.

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. In accordance with IFRSs, we recognise interest income on assets after they have been written down as a result of an impairment loss.

The balance of impaired loans at 31 December 2015 was \$5.6bn lower than at 31 December 2014. This reduction was largely due to the reclassification of the assets of our Brazilian operations as Assets held for sale, and a combination of the continued run-off of the CML portfolio and reductions in corporate individually assessed impaired loans in Europe.

#### Unimpaired loans more than 90 days past due

Examples of unimpaired loans more than 90 days past due include individually assessed mortgages that are in arrears more than 90 days where there are no other indicators of impairment, but where the value of collateral is sufficient to repay both the principal debt and all potential interest for at least one year; and short-term trade facilities past due more than 90 days for technical reasons such as delays in documentation, but where there is no concern over the creditworthiness of the counterparty.

The amount of unimpaired loans contractually more than 90 days past due as to principal or interest at 31 December 2015 was \$132m, \$60m higher than at 31 December 2014. The increase was primarily in Middle East and North Africa.

#### Troubled debt restructurings

Under US GAAP, a troubled debt restructuring ( TDR ) is a loan the terms of which have been modified for economic or legal reasons related to the borrower's financial difficulties to grant a concession to the borrower that the lender would not otherwise consider. A modification which results in a delay in payment that is considered insignificant is not regarded as a concession for the purposes of this disclosure. The SEC requires separate disclosure of any loans which meet the definition of a TDR that are not included in the previous two loan categories. These are classified as TDRs in the table on page 153c. Loans that have been identified as a TDR under the US guidance retain this designation until maturity or derecognition. This treatment differs from the Group's impaired loans disclosure convention under IFRSs under which a loan may return to unimpaired status after demonstrating a significant reduction in the risk of non-payment of future cash flows. As a result, reported TDRs include those loans that have returned to unimpaired status under the Group's disclosure convention for renegotiated loans.

The balance of TDRs not included as impaired loans at 31 December 2015 was \$6.2bn, \$0.8bn lower than 2014 due to a reduction across all regions except Asia.

**Potential problem loans**

Potential problem loans are loans where information on possible credit problems among borrowers causes management to seriously doubt their ability to comply with the loan repayment terms. The following concentrations of credit risk have a higher risk of containing potential problem loans.

Mortgage lending on page 144 includes disclosure about certain homogeneous groups of loans which are collectively assessed for impairment, which may represent exposures to potential problem loans, including interest-only mortgages and affordability mortgages including ARMs (adjustable rate mortgages). Collectively assessed loans and advances, although not classified as impaired until more than 90 days past due, are assessed collectively

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**Report of the Directors: Financial Review** (continued)

for losses that have been incurred but have not yet been individually identified. This policy is further described on page 201 and page 356.

Renegotiated loans and forbearance on page 129 includes disclosure about the credit quality of loans whose contractual terms have been changed at some point in the life of the loan because of significant concerns about the borrower's ability to make contractual payments when due. Renegotiated loans are classified as impaired when:

there has been a change in contractual cash flow 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-repayment of future cash flows, and there are no other indicators of impairment.

Renegotiated loans that are not classified as impaired may have a higher risk of becoming delinquent in the future, and may therefore be potential problem loans. Further information regarding the credit quality classification of renegotiated loans can be found on page 198.

Areas of special interest on page 117 includes information on metals and mining, oil and gas and mainland China. Refinancing risk in the commercial real estate sector is a separate area of focus and is covered on page 137.

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*Analysis of risk elements in the loan portfolio by geographical region*

The analysis below sets out the amount of risk elements in loan portfolios included within loans and advances to customers and banks in the consolidated balance sheet, trading loans classified as in default and assets obtained by taking possession of security. The table excludes the

amount of risk elements in loan portfolios classified as *Assets held for sale* in the consolidated balance sheet, which is set out in footnote 56 on page 192a.

During 2015, our Brazilian operations were reclassified to *Assets held for sale*. Further information can be found on page 121.

	<b>2015</b>	2014	2013	2012	2011
	<b>\$m</b>	\$m	\$m	\$m	\$m
Impaired loans					
Europe	<b>9,677</b>	10,242	13,228	11,145	11,819
Asia	<b>2,375</b>	2,048	1,623	1,624	1,678
Middle East and North Africa	<b>1,766</b>	1,981	2,285	2,474	2,445
North America	<b>8,930</b>	11,694	15,123	20,345	22,758
Latin America	<b>1,030</b>	3,365	4,244	3,188	3,039
	<b>23,778</b>	29,330	36,503	38,776	41,739
Unimpaired loans contractually more than 90 days past due as to principal or interest					
Europe	<b>7</b>	6	25	33	41
Asia	<b>2</b>	1	33	14	24
Middle East and North Africa	<b>96</b>	59	56	108	214
North America	<b>27</b>	3	13	69	74
Latin America		3			10
	<b>132</b>	72	127	224	363



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Troubled debt restructurings (not included in the classifications above)					
Europe	<b>1,495</b>	1,652	1,427	1,306	753
Asia	<b>284</b>	267	277	236	230
Middle East and North Africa	<b>584</b>	778	406	593	444
North America	<b>3,698</b>	3,932	4,643	3,813	2,300
Latin America	<b>164</b>	353	482	1,001	1,037
	<b>6,225</b>	6,982	7,235	6,949	4,764
Trading loans classified as in default					
North America		4	133	166	230
Risk elements on loans <sup>57</sup>					
Europe	<b>11,179</b>	11,900	14,680	12,484	12,613
Asia	<b>2,661</b>	2,316	1,933	1,874	1,932
Middle East and North Africa	<b>2,446</b>	2,818	2,747	3,175	3,103
North America	<b>12,655</b>	15,633	19,912	24,393	25,362
Latin America	<b>1,194</b>	3,721	4,726	4,189	4,086
	<b>30,135</b>	36,388	43,998	46,115	47,096
Assets held for resale <sup>57</sup>					
Europe	<b>24</b>	29	46	51	60
Asia	<b>19</b>	14	10	19	14
Middle East and North Africa					
North America	<b>116</b>	186	370	319	359
Latin America	<b>20</b>	16	27	55	69
	<b>179</b>	245	453	444	502
Total risk elements <sup>56</sup>					
Europe	<b>11,203</b>	11,929	14,726	12,535	12,673
Asia	<b>2,680</b>	2,330	1,943	1,893	1,946
Middle East and North Africa	<b>2,446</b>	2,818	2,747	3,175	3,103
North America	<b>12,771</b>	15,819	20,282	24,712	25,721
Latin America	<b>1,214</b>	3,737	4,753	4,244	4,155
<b>At 31 December</b>	<b>30,314</b>	<b>36,633</b>	<b>44,451</b>	<b>46,559</b>	<b>47,598</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Loan impairment allowances as a percentage of risk elements on loans <sup>58</sup>	<b>31.8</b>	34.0	34.7	35.2	37.6

For footnotes, see page 192a.

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**Report of the Directors: Financial Review** (continued)**Country distribution of outstandings and cross-border exposures**

We control the risk associated with cross-border lending through a centralised structure of internal country limits. Exposures to individual countries and cross-border exposure in the aggregate are kept under continual review.

The following table summarises the aggregate of our in-country foreign currency and cross-border outstandings by type of borrower to countries which individually

represent in excess of 0.75% of our total assets. The classification is based on the country of residence of the borrower but also recognises the transfer of country risk in respect of third-party guarantees, eligible collateral held and residence of the head office when the borrower is a branch. In accordance with the Bank of England Country Exposure Report (Form CE) guidelines, outstandings comprise loans and advances (excluding settlement accounts), amounts receivable under finance leases, acceptances, commercial bills, certificates of deposit and debt and equity securities (net of short positions), and exclude accrued interest and intra-HSBC exposures.

*In-country foreign currency and cross-border amounts outstanding*

	<b>Government and official</b>			
	<b>Banks</b>	<b>institutions</b>	<b>Other</b>	<b>Total</b>
	<b>\$bn</b>	<b>\$bn</b>	<b>\$bn</b>	<b>\$bn</b>
<b>At 31 December 2015</b>				
US	4.7	51.3	24.7	80.7
Mainland China	21.2	6.8	26.0	54.0
UK	23.1	9.2	25.3	57.6
Germany	7.0	23.1	6.9	37.0
Hong Kong	3.1	0.5	30.0	33.6
Japan	7.6	19.4	14.4	41.4
France <sup>60</sup>	4.2	7.1	13.0	24.3
Canada <sup>60</sup>	6.2	8.3	7.5	22.0
At 31 December 2014				

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US	6.8	30.3	32.4	69.5
Mainland China	26.5	5.7	28.5	60.7
UK	24.0	8.3	41.8	74.2
Germany	7.7	26.6	6.7	41.0
Hong Kong	8.1	0.4	29.0	37.5
Japan	9.0	15.7	12.2	36.9
France	7.3	3.1	11.6	22.1
At 31 December 2013				
US	10.0	2.3	42.5	54.8
UK	5.9	34.3	24.5	64.7
Mainland China	28.8	6.9	19.3	55.0
Germany	10.0	12.9	31.9	54.8
France	12.8	21.1	5.6	39.5
Hong Kong	10.9	0.7	26.5	38.1
Japan	7.2	14.8	7.0	29.0
Ireland	6.2	8.7	11.2	26.1

*For footnote, see page 192a.*

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## Report of the Directors: Risk (continued)

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1 Appendix to Risk risk policies and practices.

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## 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.

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**Report of the Directors: Risk** (continued)**Liquidity and funding**

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 <sup>19</sup>	107
The Hongkong and Shanghai Banking Corporation Hong Kong Branch <sup>20</sup>	150
The Hongkong and Shanghai Banking Corporation Singapore Branch <sup>20</sup>	189
HSBC Bank USA <sup>21</sup>	116
HSBC France <sup>22</sup>	127
Hang Seng Bank	199
HSBC Canada <sup>22</sup>	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.

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*Advances to core funding ratios*<sup>23</sup>

	At 31 December	
	2015	2014
	%	%
HSBC UK liquidity group <sup>19</sup>		
Year-end	<b>101</b>	97
Maximum	<b>101</b>	102
Minimum	<b>96</b>	97
Average	<b>98</b>	100
The Hongkong and Shanghai Banking Corporation <sup>20</sup>		
Year-end	<b>69</b>	75
Maximum	<b>75</b>	75
Minimum	<b>69</b>	72
Average	<b>72</b>	74
HSBC USA <sup>21</sup>		
Year-end	<b>89</b>	100
Maximum	<b>100</b>	100
Minimum	<b>89</b>	85
Average	<b>94</b>	95
Total of HSBC's other principal entities <sup>24</sup>		
Year-end	<b>91</b>	92
Maximum	<b>95</b>	94
Minimum	<b>91</b>	92
Average	<b>93</b>	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*<sup>23</sup>

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

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**Report of the Directors: Risk** (continued)**Liquidity and funding**

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*

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

Level 2	<b>10,764</b>	7,940
Level 3	<b>5,486</b>	9,360
	<b>125,039</b>	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.*

HSBC HOLDINGS PLC



*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
<b>Interbank and intra-Group loans and deposits</b>				
HSBC UK liquidity group <sup>19</sup>	(18,534)	(3,712)	(14,110)	(2,846)
The Hongkong and Shanghai Banking Corporation <sup>20</sup>	3,702	6,027	(1,277)	6,862
HSBC USA <sup>21</sup>	(12,432)	937	(18,353)	1,648
Total of HSBC's other principal entities <sup>24</sup>	2,875	6,123	(1,522)	7,310
<b>Reverse repo, repo, stock borrowing, stock lending and outright short positions (including intra-Group)</b>				
HSBC UK liquidity group <sup>19</sup>	(16,861)	1,313	(16,070)	11,551
The Hongkong and Shanghai Banking Corporation <sup>20</sup>	15,068	12,326	8,139	8,189
HSBC USA <sup>21</sup>	19,431		(4,928)	
Total of HSBC's other principal entities <sup>24</sup>	(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)

	The Hongkong and Shanghai Banking Corporation <sup>20</sup>							
	HSBC UK liquidity group <sup>19</sup>		HSBC USA <sup>21</sup>		HSBC Canada <sup>22</sup>		Corporation <sup>20</sup>	
	2015 \$bn	2014 \$bn	2015 \$bn	2014 \$bn	2015 \$bn	2014 \$bn	2015 \$bn	2014 \$bn
<b>Commitments to conduits</b>								
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				
<b>Commitments to customers</b>								
five largest <sup>26</sup>	4.9	2.6	6.4	7.1	1.4	1.7	1.7	1.5
largest market sector <sup>27</sup>	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.

#### HSBC HOLDINGS PLC

**Report of the Directors: Risk** (continued)**Liquidity and funding**

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*<sup>28</sup>

	2015 \$m	2014 \$m
<b>Sources</b>		
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
<b>At 31 December</b>	<b>2,048,326</b>	<b>2,205,609</b>
<b>Uses</b>		
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	<b>224,837</b>	304,193
reverse repos	<b>438</b>	1,297
stock borrowing	<b>7,118</b>	7,969
settlement accounts	<b>12,127</b>	21,327
other trading assets	<b>205,154</b>	273,600
Financial investments	<b>428,955</b>	415,467
Cash and balances with central banks	<b>98,934</b>	129,957
Net deployment in other balance sheet assets and liabilities	<b>90,590</b>	99,823
<b>At 31 December</b>	<b>2,048,326</b>	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 restricts 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<sup>23</sup>

	<b>At</b>
	<b>31 December</b>
	<b>2015</b>
	<b>%</b>
HSBC UK liquidity group <sup>19</sup>	
Local currency (sterling)	<b>98</b>

US dollars	<b>128</b>
Euros	<b>111</b>
Consolidated	<b>101</b>
The Hongkong and Shanghai Banking Corporation <sup>20</sup>	
Local currency (Hong Kong dollars)	<b>76</b>
US dollars	<b>60</b>
Consolidated	<b>69</b>
HSBC USA <sup>21</sup>	
Local currency (US dollars)	<b>89</b>
Consolidated	<b>89</b>
Total of HSBC's other principal entities <sup>24</sup>	
Local currency	<b>96</b>
US dollars	<b>89</b>
Consolidated	<b>91</b>

*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.

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*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
19,447	11,803	20,565	6,712	5,274	20,150	43,463	27,398
5,830	8,426	11,250	2,944	1,224	955	108	10
4,229	2,240	7,130	2,687	1,711	10,850	27,239	18,407
883	964	1,544	875	2,166	4,158	9,741	5,262
					2,074	1,619	2,577
8,414							
20	173	195	206	173	313	1,554	114
71		446			1,800	3,202	1,028
	816			34	648	6,826	34,423
				34	648	6,338	32,494
	816					488	1,929
19,447	12,619	20,565	6,712	5,308	20,798	50,289	61,821

17,336	17,161	19,030	9,352	9,055	27,312	40,855	31,928
5,637	9,337	9,237	4,793	3,010	3,506	4,158	185
1,300	5,679	7,684	2,922	4,794	17,676	23,523	20,715
1,363	1,082	2,049	1,149	979	4,757	8,444	6,789
			205			2,765	2,942
8,602							
212	1,063	60	283	272	915	1,562	
222					458	403	1,297
	150		3	185	113	5,556	40,487
	150		3	185	113	5,556	34,750
							5,737
17,336	17,311	19,030	9,355	9,240	27,425	46,411	72,415

HSBC HOLDINGS PLC



**Report of the Directors: Risk** (continued)

**Liquidity and funding**

**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.

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*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				Total
	As a result of covered bonds	As a result of securitisations	Assets positioned at central banks (i.e. pre-positioned plus Other encumbered)	Assets readily available for encumbrance	Other assets capable of being encumbered	Reverse repos/stock borrowing receivables and derivative assets	Assets that cannot be encumbered		
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$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	37,800	224,837	
Treasury and other eligible bills			1,099	984	5,618	128		7,829	
			25,890	492	72,377	233	46	99,038	

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Debt securities								
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
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							1,221	1,221

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assets									
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	
<b>At 31 December 2015</b>	<b>6,947</b>	<b>16,617</b>	<b>63,594</b>	<b>32,206</b>	<b>627,312</b>	<b>963,242</b>	<b>444,597</b>	<b>255,141</b>	<b>2,409,656</b>

HSBC HOLDINGS PLC

**Report of the Directors: Risk** (continued)**Liquidity and funding****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)*

<b>On demand</b>	<b>Due within 3 months</b>	<b>Due between 3 months and 12 months</b>	<b>Due between 1 and 5 years</b>	<b>Due after 5 years</b>
------------------	----------------------------	---	----------------------------------	--------------------------

	\$m	\$m	\$m	\$m	\$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
	<b>1,609,715</b>	<b>279,641</b>	<b>86,087</b>	<b>97,729</b>	<b>80,069</b>
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
<b>At 31 December 2015</b>	<b>2,047,294</b>	<b>378,517</b>	<b>174,293</b>	<b>167,722</b>	<b>97,963</b>
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 PLC

## 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	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years
	\$m	\$m	\$m	\$m	\$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



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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				
<b>At 31 December 2015</b>	<b>70,655</b>	<b>4,190</b>	<b>1,977</b>	<b>10,924</b>	<b>47,429</b>
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				
<b>At 31 December 2014</b>	<b>54,546</b>	<b>2,595</b>	<b>1,662</b>	<b>12,975</b>	<b>49,269</b>

HSBC HOLDINGS PLC

**Report of the Directors: Risk** (continued)**Market risk****Market risk**

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*I Appendix to Risk risk policies and practices.*

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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.

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**Report of the Directors: Risk** (continued)**Market risk***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<sup>29</sup>*

(Audited)

	Interest		Credit		Portfolio diversification <sup>30</sup>	Total <sup>31</sup>
	Foreign exchange (FX) and commodity	rate (IR)	Equity (EQ)	spread (CS)		
	\$m	\$m	\$m	\$m	\$m	\$m
<b>At 31 December 2015</b>	<b>8.0</b>	<b>34.9</b>	<b>21.4</b>	<b>13.9</b>	<b>(24.9)</b>	<b>53.3</b>
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)*

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## 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
------------------------------	------------------------------	-------------------------------------	--------------

<b>At 31 December 2015</b>	<b>114.1</b>	<b>72.7</b>	<b>(54.0)</b>	<b>132.8</b>
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)*

	<b>2015</b>	2014
	<b>\$bn</b>	\$bn
Private equity holdings <sup>32</sup>	<b>1.9</b>	2.0
Investment to facilitate ongoing business <sup>33</sup>	<b>1.9</b>	1.2
Other strategic investments	<b>2.1</b>	7.5
<b>At 31 December</b>	<b>5.9</b>	10.7

*For footnotes, see page 192.*

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**Report of the Directors: Risk** (continued)**Market risk**

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
<b>At 31 December 2015</b>				
<b>Assets</b>				
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
<b>Liabilities</b>				
Deposits by banks	54,371		54,371	B
Customer accounts	1,289,586		1,289,586	B

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Repurchase agreements non-trading	<b>80,400</b>		<b>80,400</b>	<b>C</b>
Trading liabilities	<b>141,614</b>	<b>130,427</b>	<b>11,187</b>	<b>A</b>
Financial liabilities designated at fair value	<b>66,408</b>		<b>66,408</b>	<b>A</b>
Derivatives	<b>281,071</b>	<b>275,007</b>	<b>6,064</b>	<b>A</b>
Debt securities in issue	<b>88,949</b>		<b>88,949</b>	<b>C</b>

*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.

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*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.

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

### **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

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

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**Report of the Directors: Risk** (continued)

**Market risk**

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*

	<b>2015</b>	2014
	<b>\$m</b>	\$m
Cash and balances at central banks	<b>71,116</b>	103,008
Trading assets	<b>639</b>	4,610
Loans and advances:		
to banks	<b>42,059</b>	53,842
to customers	<b>2,773</b>	1,931
Reverse repurchase agreements	<b>29,760</b>	59,172
Financial investments	<b>335,543</b>	306,763
Other	<b>4,277</b>	2,470
<b>At 31 December</b>	<b>486,167</b>	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.

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*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<sup>34</sup>*

*(Audited)*

	Rest of		Hong Kong		Rest of		Total
	US dollar	Americas	dollar	Asia	Sterling	Euro	
	bloc	bloc	bloc	bloc	bloc	bloc	
	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>Change in 2015 net interest income arising from a shift in yield curves of:</b>							
+25 basis points at the beginning of each quarter	410 (691)	72 (74)	217 (645)	369 (290)	135 (528)	49 (30)	1,251 (2,258)

25 basis points at the beginning of each quarter							
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***

		<b>Maximum</b>	<b>Minimum</b>
		<b>impact</b>	<b>impact</b>
	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>
<b>At 31 December 2015</b>			
+ 100 basis point parallel move in all yield curves	<b>(1,235)</b>	<b>(1,259)</b>	<b>(1,137)</b>
As a percentage of total shareholders' equity	<b>(0.66%)</b>	<b>(0.67%)</b>	<b>(0.60%)</b>
100 basis point parallel move in all yield curves	<b>1,224</b>	<b>1,232</b>	<b>1,133</b>
As a percentage of total shareholders' equity	<b>0.65%</b>	<b>0.65%</b>	<b>0.60%</b>
<b>At 31 December 2014</b>			
+ 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%

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**Report of the Directors: Risk** (continued)**Market risk****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	2014
	\$m	\$m
<b>At 31 December</b>	<b>45.6</b>	29.3
Average	<b>42.3</b>	42.1
Minimum	<b>32.9</b>	29.3
Maximum	<b>47.1</b>	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<sup>24</sup>

	US dollar	Sterling	Euro	Total
	bloc \$m	bloc \$m	bloc \$m	Total \$m
<b>Change in projected net interest income as at 31 December arising from a shift in yield curves</b>				
<b>2015</b>				
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)
<b>2014</b>				
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.

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**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**

	<b>Total \$m</b>	<b>From over 1 Up to 1 year \$m</b>	<b>From over 5 to 5 years \$m</b>	<b>From over 5 to 10 years \$m</b>	<b>More than 10 years \$m</b>	<b>Non-interest bearing \$m</b>
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
<b>Total assets</b>	<b>150,194</b>	<b>45,888</b>	<b>388</b>	<b>1,136</b>		<b>102,782</b>
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

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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
<b>Net interest rate risk gap at 31 December 2015</b>		<b>20,618</b>	<b>(874)</b>	<b>363</b>	<b>(7,569)</b>	<b>(12,538)</b>
Cumulative interest rate gap		<b>20,618</b>	<b>19,744</b>	<b>20,107</b>	<b>12,538</b>	
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	

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**Report of the Directors: Risk** (continued)**Operational risk****Operational risk**

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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*

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### 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 place 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 in section 21. 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.

**Report of the Directors: Risk** (continued)

**Operational risk**

*Frequency of operational risk incidents by risk category*

*(individual loss <sup>3</sup>\$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.

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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](mailto: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.

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## Report of the Directors: Risk (continued)

## Risk management of insurance operations

## Risk management of insurance operations

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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			Other assets and liabilities <sup>37</sup>	Total
	With DPF \$m	Unit-linked \$m	Annuities \$m	Other <sup>35</sup> \$m	With DPF <sup>36</sup> \$m	Unit-linked \$m	Other \$m		
Financial assets	31,801	6,569	1,138	6,618	21,720	2,271	3,935	5,531	79,043
Financial liabilities			2						
Designated at fair value	4,698	6,435	296	563	6,421	2,000	1,859	1,015	23,217
Derivatives	49			4	111	1	29	62	233
Financial instruments	22,840		468	2,334			1,387	3,050	30,037
Financial instruments	1,743		312	3,685	13,334		23	1,233	20,027
Other financial instruments	2,471	134	60	32	1,854	270	637	171	5,538
Insurance contracts	202	264		951					1,417
Other assets								5,685	5,685
Financial instruments	838	1	11	105	888	6	23	4,576	6,449
Financial instruments	32,841	6,834	1,149	7,674	22,608	2,277	3,958	15,792	93,135
Financial instruments						2,256	3,771		6,027
Designated at fair value						2,256	3,771		6,027
Carried at historical cost									

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ities									
nce									
cts									
red tax <sup>41</sup>	32,414 11	6,791	1,082 11	7,042 3	22,609			1,056	69 1
ities								5,553	5
ities	32,425	6,791	1,093	7,045	22,609	2,256	3,771	6,609	82
equity								10,534	10
ities and y at ember 2	32,425	6,791	1,093	7,045	22,609	2,256	3,771	17,143	93

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## Report of the Directors: Risk (continued)

## Risk management of insurance operations

## Balance sheet of insurance manufacturing subsidiaries by type of contract (continued)

	Insurance contracts				Investment contracts			Other assets and liabilities <sup>37</sup> \$m	
	With DPF \$m	Unit- linked \$m	Annuities \$m	Other <sup>35</sup> \$m	With DPF <sup>36</sup> \$m	Unit- linked \$m	Other \$m		
al	29,040	11,278	1,517	6,253	24,238	2,561	4,322	5,732	8
ng assets			3						
cial									
ted at	4,304	11,111	533	782	6,346	2,223	1,684	1,713	2
ue	12	1		1	101	1	10	73	
atives									
cial									
ments	18,784		542	1,019			1,444	2,494	2
cial									
ments	2,368		344	4,148	15,677		363	1,318	2
al	3,572	166	95	303	2,114	337	821	134	
ance	190	262		617				2	
ssets								5,307	
ment	698	328	23	107	831	7	26	7,383	
ies	29,928	11,868	1,540	6,977	25,069	2,568	4,348	18,424	10
ssets						2,542	4,155		



ies									
ment									
ts									
inated at									
ue						2,542	3,770		
ed at									
ed								385	
ies									
ce	29,479	11,820	1,473	6,021	25,068				
ts									
d	12		11	18				1,180	
es								8,577	
es	29,491	11,820	1,484	6,039	25,068	2,542	4,155	9,757	9
quity								10,366	1
es and									
at									
ember	29,491	11,820	1,484	6,039	25,068	2,542	4,155	20,123	10

For footnotes, see page 191.

*Balance sheet of insurance manufacturing subsidiaries by geographical region<sup>43</sup>*

(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 HFM		29,496	583	30,079
financial investments AFS	14,525	5,503	302	20,330
other financial assets <sup>89</sup>	2,222	3,327	80	5,629
Reinsurance assets	287	1,122	8	1,417
PVIF <sup>40</sup>	807	4,761	117	5,685
Other assets and investment properties	919	1,358	4,171	6,448
<b>Total assets</b>	<b>28,910</b>	<b>58,328</b>	<b>5,895</b>	<b>93,133</b>
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 <sup>41</sup>	274	767	40	1,081
Other liabilities	832	974	3,747	5,553
<b>Total liabilities</b>	<b>27,181</b>	<b>50,367</b>	<b>5,051</b>	<b>82,599</b>
<b>Total equity</b>	<b>1,729</b>	<b>7,961</b>	<b>844</b>	<b>10,534</b>
<b>Total liabilities and equity at 31 December 2015<sup>42</sup></b>	<b>28,910</b>	<b>58,328</b>	<b>5,895</b>	<b>93,133</b>

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	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 <sup>HPM</sup>		23,546	737	24,283
financial investments <sup>AIS</sup>	16,947	6,464	807	24,218
other financial assets <sup>89</sup>	2,449	4,909	184	7,542
Reinsurance assets	308	748	15	1,071
PVIF <sup>40</sup>	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 <sup>41</sup>	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 <sup>42</sup>	38,847	53,511	8,364	100,722

For footnotes, see page 191.

*Movement in total equity of insurance operations*

(Audited)

Total equity	
2015	2014
\$m	\$m

At 1 January	<b>10,366</b>	9,700
Movements in PVIF <sup>40</sup>	<b>799</b>	261
Return on net assets	<b>410</b>	1,835
Capital transactions	<b>(468)</b>	(673)
Disposals of subsidiaries/portfolios	<b>(13)</b>	1
Exchange differences and other	<b>(560)</b>	(758)
<b>At 31 December</b>	<b>10,534</b>	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.

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**Report of the Directors: Risk** (continued)**Risk management of insurance operations***Financial assets held by insurance manufacturing subsidiaries**(Audited)*

	<b>Unit-linked contracts<sup>44</sup></b>	<b>Non-linked contracts<sup>45</sup></b>	<b>Other assets<sup>39</sup></b>	<b>Total</b>
	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>	<b>\$m</b>
Trading assets				
Debt securities		2		2
Financial assets designated at fair value	<b>8,435</b>	<b>13,837</b>	<b>1,015</b>	<b>23,287</b>
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 <sup>39</sup>	404	5,054	171	5,629
<b>Total financial assets at 31 December 2015<sup>42</sup></b>	<b>8,840</b>	<b>65,212</b>	<b>5,531</b>	<b>79,583</b>
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 <sup>39</sup>	503	6,905	134	7,542
Total financial assets at 31 December 2014 <sup>42</sup>	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

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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*<sup>42</sup>

(Audited)

	2015					2014				
	Investment returns implied by guarantee		Current yield	Cost of guarantees		Investment returns implied by guarantee		Current yield	Cost of guarantees	
	%	%	%	\$m	%	%	%	\$m	\$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	4	0.1	2.0	3.6	6		
Nominal annual return <sup>46</sup>	2.0	4.0	3.8	603	2.1	4.0	3.5	646		
Nominal annual return	4.1	5.0	3.8	28	4.1	5.0	3.5	30		
Real annual return <sup>47</sup>	0.0	6.0	5.9	28	0.0	6.0	4.7	14		
<b>At 31 December</b>				<b>748</b>				<b>777</b>		

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)*

	<b>2015</b>		<b>2014</b>	
	<b>Effect on</b>	<b>Effect on</b>	<b>Effect on</b>	<b>Effect on</b>
	<b>profit</b>	<b>total</b>	<b>profit</b>	<b>total</b>
	<b>after tax</b>	<b>equity</b>	<b>after</b>	<b>equity</b>
	<b>\$m</b>	<b>\$m</b>	<b>tax</b>	<b>\$m</b>
			<b>\$m</b>	<b>\$m</b>
+100 basis points parallel shift in yield curves	<b>39</b>	<b>(474)</b>	290	(345)
-100 basis points parallel shift in yield curves <sup>48</sup>	<b>(213)</b>	<b>404</b>	(549)	214
10% increase in equity prices	<b>176</b>	<b>176</b>	180	180
10% decrease in equity prices	<b>(158)</b>	<b>(158)</b>	(153)	(153)
10% increase in US dollar exchange rate compared to all currencies	<b>16</b>	<b>16</b>	54	54
10% decrease in US dollar exchange rate compared to all currencies	<b>(16)</b>	<b>(16)</b>	(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

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**Report of the Directors: Risk** (continued)**Risk management of insurance operations**

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				Total \$m
	Strong \$m	Good \$m	Satisfactor \$m	Sub-standard \$m	
<b>Supporting liabilities under non-linked insurance and investment contracts</b>					
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
<b>Supporting shareholders' funds<sup>9</sup></b>					
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
<b>Total<sup>42</sup></b>					
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 <sup>9</sup>					
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 <sup>42</sup>					
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.

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*Reinsurers' share of liabilities under insurance contracts*<sup>42</sup>*(Audited)*

	Neither past due nor impaired				Past due but	Total
	Strong	Good	Satisfactory	Sub-standard	not impaired	
	\$m	\$m	\$m	\$m	\$m	\$m
Unit-linked insurance	84	179				263
Non-linked insurance <sup>50</sup>	1,102	4	9			1,115
<b>At 31 December 2015</b>	<b>1,186</b>	<b>183</b>	<b>9</b>			<b>1,378</b>
Reinsurance debtors	19	3			17	39
Unit-linked insurance	75	185				260
Non-linked insurance <sup>50</sup>	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*<sup>42</sup>*(Audited)*

	Expected cash flows (undiscounted)				Total \$m
	Within 1 year \$m	1-5 years \$m	5-15 years \$m	Over 15 years \$m	
Unit-linked insurance	549	2,164	5,945	11,080	19,738
Non-linked insurance <sup>50</sup>	3,715	15,131	30,596	32,336	81,778
<b>At 31 December 2015</b>	<b>4,264</b>	<b>17,295</b>	<b>36,541</b>	<b>43,416</b>	<b>101,516</b>
Unit-linked insurance	709	3,280	9,243	14,544	27,776
Non-linked insurance <sup>50</sup>	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 Other			Total \$m
	Unit-linked investment contracts \$m	Investment contracts with DPF \$m	investment contracts \$m	
Remaining contractual maturity: undated <sup>51</sup>	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
<b>At 31 December 2015</b>	<b>2,256</b>	<b>22,609</b>	<b>3,771</b>	<b>28,636</b>
Remaining contractual maturity: undated <sup>51</sup>	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.

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**Report of the Directors: Risk** (continued)**Risk management of insurance operations / Other material risks****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*<sup>43</sup>*(Audited)*

	Europe \$m	Asia \$m	Latin America \$m	Total \$m
Non-linked insurance <sup>50</sup>	749	38,525	1,264	40,538
insurance contracts with DPF <sup>2</sup>	343	32,071		32,414
credit life	49	80		129
annuities	69	108	905	1,082
other <sup>3</sup>	288	6,266	359	6,913
Unit-linked insurance	1,341	5,450		6,791
Investment contracts with DPF <sup>36,52</sup>	22,609			22,609
<b>Liabilities under insurance contracts at 31 December 2015</b>	<b>24,699</b>	<b>43,975</b>	<b>1,264</b>	<b>69,938</b>
Non-linked insurance <sup>50</sup>	829	34,261	1,883	36,973
insurance contracts with DPF <sup>2</sup>	367	29,112		29,479
credit life	56	87		143



annuities	71	127	1,275	1,473
other <sup>3</sup>	335	4,935	608	5,878
Unit-linked insurance	1,415	5,729	4,676	11,820
Investment contracts with DPF <sup>36,52</sup>	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
<b>Effect on profit after tax and total equity at 31 December</b>		
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	<b>102</b>	122
10% increase in expense rates	<b>(85)</b>	(106)
10% decrease in expense rates	<b>83</b>	106
<i>For footnote, see page 191.</i>		

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## 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*

	<b>2015</b>	2014
	%	%
Equities <sup>54</sup>	<b>19.4</b>	19.4
Bonds	<b>64.5</b>	64.5
Alternative assets <sup>55</sup>	<b>10.6</b>	10.6
Property	<b>5.5</b>	5.5
Cash <sup>56</sup>		
<b>At 31 December</b>	<b>100.0</b>	<b>100.0</b>

*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

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**Report of the Directors: Risk** (continued)

**Other material risks / Footnotes**

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

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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.*

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**Report of the Directors: Risk** (continued)**Footnotes / Appendix to Risk Policies and practices****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).

- 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.*

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**Report of the Directors: Financial Review** (continued)

**Risk elements in the loan portfolio**

*57 In addition to the numbers presented there were \$2.1bn of impaired loans (2014: \$0.5bn); nil unimpaired loans contractually more than 90 days past due as to principal or interest (2014: \$1m); and \$8m of troubled debt restructurings (not included in the classifications above) (2014: nil), all relating to assets held for sale at 31 December 2015.*

*58 Assets held for resale represent assets obtained by taking possession of collateral held as security for financial assets.*

*59 Ratio excludes trading loans classified as in default.*

**Country distribution of outstandings and cross-border exposures**

*60 These balances were between 0.75% and 1% of total assets. All other balances were above 1%.*

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## 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**

Non-executive Directors, including the Chairman of the Group Remuneration

Overseeing controls and procedures designed to identify areas of exposure to



<b>Committee</b>	Committee, and co-opted non-director members	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
<b>Conduct &amp; Values</b>	Independent non-executive	Ensuring that in the conduct of its business, HSBC treats all stakeholders fairly
<b>Committee</b>	Directors	Advising the Board on HSBC policies, procedures and standards to ensure that the Group conducts business responsibly and consistently adheres to the HSBC Values

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Report of the Directors: Risk (continued)

Appendix to Risk Policies and practices

Authority	Membership	Responsibilities include:
<p><b>Risk Management Meeting of the GMB ( RMM )</b></p>	<p>Group Chief Risk Officer</p> <p>Chief Legal Officer</p> <p>Group Chief Executive</p> <p>Group Finance Director</p> <p>All other Group Managing Directors</p>	<p>Formulating high-level global risk policy</p> <p>Supporting the Group Chief Risk Officer in exercising delegated risk management authority</p> <p>Overseeing implementation of risk appetite and controls</p> <p>Monitoring all categories of risk and determining appropriate mitigating action</p> <p>Promoting a supportive Group culture in relation to risk management and conduct</p> <p>Implementing Global Standards throughout the Group</p>
	<p>Group Chief Risk Officer</p>	

<p><b>Global Risk Management Board</b></p>	<p>Chief Risk Officers of HSBC's global businesses and regions</p> <p>Heads of Global Risk sub-functions</p>	<p>Supporting the RMM and the Group Chief Risk Officer in providing strategic direction for the Global Risk function, setting priorities and overseeing their execution</p> <p>Overseeing consistent approach to accountability for, and mitigation of, risk across the Global Risk function</p>
<p><b>Global Business Risk Management Committees</b></p>	<p>Global Business Chief Risk Officer</p> <p>Global Business Chief Executive</p> <p>Global Business Chief Financial Officer</p> <p>Heads of Global Risk sub-functions, as appropriate</p>	<p>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</p> <p>Overseeing the implementation of global business risk appetite and controls</p> <p>Monitoring all categories of risk and determining appropriate mitigating actions</p> <p>Promoting a strong risk culture</p>
<p><b>Regional Risk Management Committees</b></p>	<p>Regional Chief Risk Officer</p> <p>Regional Chief Executive Officer</p> <p>Regional Chief Financial Officer</p> <p>Regional Global Business Chief</p>	<p>Formulating regional specific risk policy</p> <p>Overseeing the implementation of regional risk appetite and controls</p> <p>Monitoring all categories of risk and determining appropriate mitigating actions</p> <p>Promoting a strong risk culture</p>

	Heads of Global Risk sub-functions, as appropriate	
<b>Subsidiary board committees responsible for risk-related matters and global business risk committees</b>	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;

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**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.

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**Report of the Directors: Risk** (continued)

**Appendix to Risk Policies and practices**

**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

Quality classification	Debt securities and other bills	Wholesale lending and derivatives	12 month		lending	Retail
	External	Internal	probability of		Internal	Expected
	credit rating	credit rating	default %		credit rating <sup>1</sup>	loss %
Strong	A and above	CRR <sup>2</sup> 1 to CRR2	0	0.169	EL <sup>3</sup> 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 <sup>4</sup>

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.

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### 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.



**Report of the Directors: Risk** (continued)

**Appendix to Risk Policies and practices**

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.

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## **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



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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.

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## 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

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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.

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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 (MBSs) 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 (CDOs) are securities backed by a pool of bonds, loans or other assets such as asset-backed securities (ABSs). 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*

Definition	Classification
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**Categories of  
ABSs and CDOs**

<b>Sub-prime</b>	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.
<b>US Home Equity Lines of Credit ( HELoC s)</b>  (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.
<b>US Alt-A</b>	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.
<b>US Government agency and sponsored enterprises mortgage-related assets</b>	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.

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<b>Categories of ABSs and CDOs</b>	<b>Definition</b>	<b>Classification</b>
<b>UK non-conforming mortgages</b> (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.
<b>Other residential mortgages</b>	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

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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;

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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
<b>Level 1</b>	Within one month	Central government
		Central bank (including confirmed withdrawable reserves)
		Supranationals
		Multilateral development banks
		Coins and banknotes
<b>Level 2</b>	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.

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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).

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**Appendix to Risk Policies and practices**

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.

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### 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.

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**Report of the Directors: Risk** (continued)

**Appendix to Risk Policies and practices**

**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.

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### 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.

*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

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**Report of the Directors: Risk** (continued)

**Appendix to Risk Policies and practices**

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 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.

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**Appendix to Risk Policies and practices**

**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.

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### **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

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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

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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



**Report of the Directors: Risk** (continued)

**Appendix to Risk Policies and practices**

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

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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.

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**Report of the Directors: Risk** (continued)

**Appendix to Risk Policies and practices**

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.

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### **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.

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**Report of the Directors: Risk** (continued)

**Appendix to Risk Policies and practices**

*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.



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*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).

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**Report of the Directors: Risk** (continued)**Appendix to Risk Policies and practices****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.



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**Report of the Directors: Capital (pages 233-244)**

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**Report of the Directors: Capital** (continued)**Capital***Composition of regulatory capital**(Audited)*

		At 31 December	
	<i>Ref</i>	2015 \$m	2014 \$m
<b>Common equity tier 1 capital</b>			
Shareholders' equity		<b>160,664</b>	166,617
shareholders' equity per balance sheet	<i>a</i>	<b>188,460</b>	190,447
foreseeable interim dividend		<b>(3,717)</b>	(3,362)
preference share premium	<i>b</i>	<b>(1,405)</b>	(1,405)
other equity instruments	<i>c</i>	<b>(15,112)</b>	(11,532)
deconsolidation of special purpose entities	<i>a</i>	<b>(91)</b>	(323)
deconsolidation of insurance entities	<i>a, h</i>	<b>(7,471)</b>	(7,208)
Non-controlling interests		<b>3,519</b>	4,640
non-controlling interests per balance sheet	<i>d</i>	<b>9,058</b>	9,531
preference share non-controlling interests	<i>e</i>	<b>(2,077)</b>	(2,127)
non-controlling interests transferred to tier 2 capital	<i>f</i>		(473)
non-controlling interests in deconsolidated subsidiaries	<i>d</i>	<b>(933)</b>	(851)
surplus non-controlling interests disallowed in CET1		<b>(2,529)</b>	(1,440)
Regulatory adjustments to the accounting basis		<b>(4,556)</b>	(3,556)
own credit spread		<b>(159)</b>	767
debit valuation adjustment		<b>(336)</b>	(197)
defined benefit pension fund adjustment	<i>g</i>	<b>(4,009)</b>	(4,069)
cash flow hedging reserve		<b>(52)</b>	(57)
Deductions		<b>(28,764)</b>	(31,748)
goodwill and intangible assets	<i>h</i>	<b>(20,650)</b>	(22,475)
deferred tax assets that rely on future profitability (excludes those arising from temporary differences)	<i>n</i>	<b>(1,204)</b>	(1,036)
additional valuation adjustment (referred to as PVA)		<b>(1,151)</b>	(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)		<b>(839)</b>	(1,083)

negative amounts resulting from the calculation of expected loss amounts	<i>i</i>	(4,920)	(5,813)
<b>Common equity tier 1 capital on an end point basis</b>		<b>130,863</b>	135,953
<b>Tier 1 and tier 2 capital on a transitional basis</b>			
Common equity tier 1 capital on an end point basis		<b>130,863</b>	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)
<b>Common equity tier 1 capital on a transitional basis</b>		<b>130,863</b>	133,200
<b>Additional tier 1 capital on a transitional basis</b>			
Other tier 1 capital before deductions		<b>22,621</b>	19,687
preference share premium	<i>b</i>	<b>1,015</b>	1,160
preference share non-controlling interests	<i>e</i>	<b>1,711</b>	1,955
allowable non-controlling interest in AT1	<i>d</i>	<b>1,546</b>	884
Hybrid capital securities	<i>j</i>	<b>18,349</b>	15,688
Deductions		<b>(181)</b>	(148)
unconsolidated investments		<b>(121)</b>	(148)
holding of own additional tier 1 instruments		<b>(60)</b>	
<b>Tier 1 capital on a transitional basis</b>		<b>153,303</b>	<b>152,739</b>
<b>Tier 2 capital on a transitional basis</b>			
Total qualifying tier 2 capital before deductions		<b>36,852</b>	38,213
allowable non-controlling interest in tier 2	<i>d</i>	<b>14</b>	99
perpetual subordinated debt	<i>l</i>	<b>1,941</b>	2,218
term subordinated debt	<i>m</i>	<b>34,897</b>	35,656
non-controlling interests in tier 2 capital	<i>f</i>		240
Total deductions other than from tier 1 capital		<b>(322)</b>	(222)
unconsolidated investments		<b>(282)</b>	(222)
holding of own tier 2 instruments		<b>(40)</b>	
<b>Total regulatory capital on a transitional basis</b>		<b>189,833</b>	<b>190,730</b>

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.

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*Reconciliation of regulatory capital from transitional basis to an estimated CRD IV end point basis*

	At 31 December	
	2015	2014
	\$m	\$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
<b>Common equity tier 1 capital on an end point basis</b>	<b>130,863</b>	<b>135,953</b>
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 <sup>11</sup>	121	148
Additional tier 1 capital end point basis	9,370	6,078
<b>Tier 1 capital on an end point basis</b>	<b>140,233</b>	<b>142,031</b>
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 <sup>11</sup>	(121)	(148)
<b>Tier 2 capital on an end point basis</b>	<b>15,455</b>	<b>14,268</b>
<b>Total regulatory capital on an end point basis</b>	<b>155,688</b>	<b>156,299</b>

*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.

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**Report of the Directors: Capital** (continued)**Regulatory balance sheet****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**

<i>Ref</i>	Accounting	Deconsolidation	Consolidation	Regulatory
	balance sheet	of insurance/ other entities	of banking associates	balance sheet
	\$m	\$m	\$m	\$m

<b>Assets</b>					
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>i</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	<i>h</i>	1,680	(219)		1,461
impairment allowances of disposal groups held for sale		(1,454)			(1,454)
of which:					
IRB portfolios	<i>i</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	<i>g</i>	5,272			5,272
Interests in associates and joint ventures		19,139		(18,571)	568
of which:					
positive goodwill on acquisition	<i>h</i>	593		(579)	14
Goodwill and intangible assets	<i>h</i>	24,605	(6,068)	623	19,160
Deferred tax assets	<i>n</i>	6,051	195	518	6,764
<b>Total assets at 31 December 2015</b>		<b>2,409,656</b>	<b>(94,900)</b>	<b>213,083</b>	<b>2,527,839</b>
<b>Liabilities and equity</b>					
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	<i>m</i>	21,168			21,168
	<i>j</i>	1,342			1,342



hybrid capital securities included in tier 1  
capital



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		Deconsolidation		Consolidation	Regulatory
		Accounting	of	of	balance
		balance	insurance/	banking	sheet
		sheet	other	associates	sheet
		\$m	entities	\$m	\$m
	<i>Ref</i>		\$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>i</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	<i>j</i>	1,929			1,929
perpetual subordinated debt included in tier 2 capital	<i>l</i>	2,368			2,368
term subordinated debt included in tier 2 capital	<i>m</i>	18,405			18,405
Total shareholders' equity	<i>a</i>	188,460	(7,562)		180,898
of which:					
	<i>c, j</i>	15,112			15,112

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other equity instruments included in tier 1 capital				
preference share premium included in tier 1 capital	<i>b</i>	1,405		1,405
Non-controlling interests	<i>d</i>	9,058	(933)	8,125
of which:				
non-cumulative preference shares issued by subsidiaries included in tier 1 capital	<i>e</i>	2,077		2,077
non-controlling interests included in tier 2 capital, cumulative preferred stock	<i>f</i>			
non-controlling interests attributable to holders of ordinary shares in subsidiaries included in tier 2 capital	<i>f, m</i>			
<b>Total liabilities and equity at 31 December 2015</b>		<b>2,409,656</b>	<b>(94,900)</b>	<b>213,083</b>
<b>2,527,839</b>				
Assets				
Cash and balances at central banks		129,957		30,731
Items in the course of collection from other banks		4,927		80
Hong Kong Government certificates of indebtedness		27,674		27,674
Trading assets		304,193	(720)	2,357
Financial assets designated at fair value		29,037	(28,791)	3,312
Derivatives		345,008	(94)	353
Loans and advances to banks		112,149	(2,727)	7,992
Loans and advances to customers		974,660	(10,809)	116,484
of which:				
impairment allowances on IRB portfolios	<i>i</i>	(6,942)		(6,942)
impairment allowances on standardised portfolios		(5,395)		(2,744)
Reverse repurchase agreements non-trading		161,713	(30)	7,510
Financial investments		415,467	(50,420)	33,123
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
of which:				
goodwill and intangible assets of disposal groups held for sale	<i>h</i>	8		8
retirement benefit assets	<i>g</i>	5,028		5,028
impairment allowances on assets held for sale		(16)		(16)
of which:				
IRB portfolios	<i>i</i>	(16)		(16)
standardised portfolios				
Interests in associates and joint ventures		18,181		(17,479)
				702

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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

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## Report of the Directors: Capital (continued)

## Regulatory balance sheet / Leverage ratio / Regulatory developments

## Reconciliation of balance sheets financial accounting to regulatory scope of consolidation (continued)

	Accounting	Deconsolidation of insurance/ other entities	Consolidation of banking associates	Regulatory balance sheet
<i>Ref</i>	sheet \$m	\$m	\$m	\$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	21,822			21,822
hybrid capital securities included in tier 1 capital	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>i</i>	132		132
credit-related provisions on standardised portfolios		102		102
Deferred tax liabilities		1,524	(1,009)	2
Subordinated liabilities		26,664		2,056
of which:				
hybrid capital securities included in tier 1 capital	<i>j</i>	2,761		2,761
perpetual subordinated debt included in tier 2 capital	<i>l</i>	2,773		2,773
term subordinated debt included in tier 2 capital	<i>m</i>	21,130		21,130
Total shareholders equity	<i>a</i>	190,447	(7,531)	182,916
of which:				
other equity instruments included in tier 1 capital	<i>c, j</i>	11,532		11,532
preference share premium included in tier 1 capital	<i>b</i>	1,405		1,405
Non-controlling interests	<i>d</i>	9,531	(851)	8,680
of which:				
non-cumulative preference shares issued by subsidiaries included in tier 1 capital	<i>e</i>	2,127		2,127
non-controlling interests included in tier 2 capital, cumulative preferred stock	<i>f</i>	300		300
non-controlling interests attributable to holders of ordinary shares in subsidiaries included in tier 2 capital	<i>f, m</i>	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.*

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**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)
<b>Exposure measure after regulatory adjustments</b>	<b>2,794</b>	2,953
Tier 1 capital under CRD IV (end point)	140	142
<b>Leverage ratio</b>	<b>5.0%</b>	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.

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**Report of the Directors: Capital** (continued)

**Regulatory developments**

*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

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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.

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**Report of the Directors: Capital** (continued)

**Regulatory developments / Appendix to Capital**

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.

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## 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



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**Report of the Directors: Capital** (continued)

**Appendix to Capital**

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.

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**Exhibits**

Consent of PricewaterhouseCooper LLP.

Exhibit 23.1

Consent of KPMG Audit Plc.

Exhibit 23.2

**SIGNATURE**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

HSBC Holdings plc

By: /s/ Iain J Mackay  
Name: Iain J Mackay  
Title: Group Finance Director

Date: 25 February 2016