Financial statements

HSBC MyDeal

We launched MyDeal to make the deal execution process in our primary capital markets business more efficient. The customer can access the secured platform on mobile or online and receive real-time information of a deal throughout its life cycle. This includes logistics, investor feedback and book-building data.

MyDeal became available to customers in early 2019. By the end of 2019, we had used the platform in a number of jurisdictions to manage more than 84 deals with a combined value of $47.5 billion. It has received positive feedback from customers.

Financial statements

Consolidated income statement

for the year ended 31 December

	Notes*	2019 $m	2018 $m	2017 $m
Net interest income		**30,462**	30,489	28,176
– interest income[1,2]		**54,695**	49,609	40,995
– interest expense[3]		**(24,233)**	(19,120)	(12,819)
Net fee income	2	**12,023**	12,620	12,811
– fee income		**15,439**	16,044	15,853
– fee expense		**(3,416)**	(3,424)	(3,042)
Net income from financial instruments held for trading or managed on a fair value basis	3	**10,231**	9,531	8,426
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss	3	**3,478**	(1,488)	2,836
Changes in fair value of designated debt and related derivatives[4]	3	**90**	(97)	155
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**812**	695	N/A
Gains less losses from financial investments		**335**	218	1,150
Net insurance premium income	4	**10,636**	10,659	9,779
Other operating income		**2,957**	960	443
Total operating income		**71,024**	63,587	63,776
Net insurance claims and benefits paid and movement in liabilities to policyholders	4	**(14,926)**	(9,807)	(12,331)
Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions		**56,098**	53,780	51,445
Change in expected credit losses and other credit impairment charges		**(2,756)**	(1,767)	N/A
Loan impairment charges and other credit risk provisions		**N/A**	N/A	(1,769)
Net operating income		**53,342**	52,013	49,676
Employee compensation and benefits	5	**(18,002)**	(17,373)	(17,315)
General and administrative expenses		**(13,828)**	(15,353)	(15,707)
Depreciation and impairment of property, plant and equipment and right-of-use assets[5]		**(2,100)**	(1,119)	(1,166)
Amortisation and impairment of intangible assets		**(1,070)**	(814)	(696)
Goodwill impairment	21	**(7,349)**	—	—
Total operating expenses		**(42,349)**	(34,659)	(34,884)
Operating profit		**10,993**	17,354	14,792
Share of profit in associates and joint ventures	18	**2,354**	2,536	2,375
Profit before tax		**13,347**	19,890	17,167
Tax expense	7	**(4,639)**	(4,865)	(5,288)
Profit for the year		**8,708**	15,025	11,879
Attributable to:				
– ordinary shareholders of the parent company		**5,969**	12,608	9,683
– preference shareholders of the parent company		**90**	90	90
– other equity holders		**1,324**	1,029	1,025
– non-controlling interests		**1,325**	1,298	1,081
Profit for the year		**8,708**	15,025	11,879
		$	$	$
Basic earnings per ordinary share	9	**0.30**	0.63	0.48
Diluted earnings per ordinary share	9	**0.30**	0.63	0.48

* *For Notes on the financial statements, see page 240.*

1 *Interest income includes $45,708m (2018: $42,130m) of interest recognised on financial assets measured at amortised cost and $8,259m (2018: $7,020m) of interest recognised on financial assets measured at fair value through other comprehensive income.*

2 *Interest revenue calculated using the effective interest method comprises interest recognised on financial assets measured at either amortised cost or fair value through other comprehensive income.*

3 *Interest expense includes $21,922m (2018: $16,972m) of interest on financial instruments, excluding interest on financial liabilities held for trading or designated or otherwise mandatorily measured at fair value.*

4 *The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.*

5 *Includes depreciation of the right-of-use assets of $912m (2018: nil). Right-of-use assets have been recognised from 1 January 2019 following the adoption of IFRS 16. Comparatives have not been restated.*

Consolidated statement of comprehensive income

for the year ended 31 December

	2019	2018	2017
	$m	$m	$m
Profit for the year	**8,708**	15,025	11,879
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Available-for-sale investments	**N/A**	N/A	146
– fair value gains	**N/A**	N/A	1,227
– fair value gains reclassified to the income statement	**N/A**	N/A	(1,033)
– amounts reclassified to the income statement in respect of impairment losses	**N/A**	N/A	93
– income taxes	**N/A**	N/A	(141)
Debt instruments at fair value through other comprehensive income	**1,152**	(243)	N/A
– fair value gains/(losses)	**1,793**	(168)	N/A
– fair value gains transferred to the income statement on disposal	**(365)**	(95)	N/A
– expected credit recoveries/(losses) recognised in the income statement	**109**	(94)	N/A
– income taxes	**(385)**	114	N/A
Cash flow hedges	**206**	19	(192)
– fair value gains/(losses)	**551**	(267)	(1,046)
– fair value (gains)/losses reclassified to the income statement	**(286)**	317	833
– income taxes	**(59)**	(31)	21
Share of other comprehensive income/(expense) of associates and joint ventures	**21**	(64)	(43)
– share for the year	**21**	(64)	(43)
Exchange differences	**1,044**	(7,156)	9,077
– other exchange differences	**1,044**	(7,156)	8,939
– income tax attributable to exchange differences	**—**	—	138
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of defined benefit asset/liability	**13**	(329)	2,419
– before income taxes	**(17)**	(388)	3,440
– income taxes	**30**	59	(1,021)
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**(2,002)**	2,847	(2,024)
– before income taxes	**(2,639)**	3,606	(2,409)
– income taxes	**637**	(759)	385
Equity instruments designated at fair value through other comprehensive income	**366**	(27)	N/A
– fair value gains/(losses)	**364**	(71)	N/A
– income taxes	**2**	44	N/A
Effects of hyperinflation	**217**	283	N/A
Other comprehensive income/(expense) for the period, net of tax	**1,017**	(4,670)	9,383
Total comprehensive income for the year	**9,725**	10,355	21,262
Attributable to:			
– ordinary shareholders of the parent company	**6,838**	8,083	18,914
– preference shareholders of the parent company	**90**	90	90
– other equity holders	**1,324**	1,029	1,025
– non-controlling interests	**1,473**	1,153	1,233
Total comprehensive income for the year	**9,725**	10,355	21,262

Consolidated balance sheet

		At	
		31 Dec 2019	31 Dec 2018
	Notes*	**$m**	$m
Assets			
Cash and balances at central banks		**154,099**	162,843
Items in the course of collection from other banks		**4,956**	5,787
Hong Kong Government certificates of indebtedness		**38,380**	35,859
Trading assets	11	**254,271**	238,130
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	14	**43,627**	41,111
Derivatives	15	**242,995**	207,825
Loans and advances to banks		**69,203**	72,167
Loans and advances to customers		**1,036,743**	981,696
Reverse repurchase agreements – non-trading		**240,862**	242,804
Financial investments	16	**443,312**	407,433
Prepayments, accrued income and other assets	22	**136,680**	110,571
Current tax assets		**755**	684
Interests in associates and joint ventures	18	**24,474**	22,407
Goodwill and intangible assets	21	**20,163**	24,357
Deferred tax assets	7	**4,632**	4,450
Total assets		**2,715,152**	2,558,124
Liabilities and equity			
Liabilities			
Hong Kong currency notes in circulation		**38,380**	35,859
Deposits by banks		**59,022**	56,331
Customer accounts		**1,439,115**	1,362,643
Repurchase agreements – non-trading		**140,344**	165,884
Items in the course of transmission to other banks		**4,817**	5,641
Trading liabilities	23	**83,170**	84,431
Financial liabilities designated at fair value	24	**164,466**	148,505
Derivatives	15	**239,497**	205,835
Debt securities in issue	25	**104,555**	85,342
Accruals, deferred income and other liabilities	26	**118,156**	97,380
Current tax liabilities		**2,150**	718
Liabilities under insurance contracts	4	**97,439**	87,330
Provisions	27	**3,398**	2,920
Deferred tax liabilities	7	**3,375**	2,619
Subordinated liabilities	28	**24,600**	22,437
Total liabilities		**2,522,484**	2,363,875
Equity			
Called up share capital	31	**10,319**	10,180
Share premium account	31	**13,959**	13,609
Other equity instruments		**20,871**	22,367
Other reserves		**2,127**	1,906
Retained earnings		**136,679**	138,191
Total shareholders' equity		**183,955**	186,253
Non-controlling interests		**8,713**	7,996
Total equity		**192,668**	194,249
Total liabilities and equity		**2,715,152**	2,558,124

* *For Notes on the financial statements, see page 240.*

The accompanying notes on pages 240 to 322 and the audited sections in: 'Risk' on pages 73 to 151, 'Capital' on pages 152 to 155, and 'Directors' remuneration report' on pages 184 to 210 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 18 February 2020 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

Consolidated statement of cash flows

for the year ended 31 December

	2019	2018	2017
	$m	$m	$m
Profit before tax	**13,347**	19,890	17,167
Adjustments for non-cash items:			
Depreciation, amortisation and impairment[1]	**10,519**	1,933	1,862
Net gain from investing activities	**(399)**	(126)	(1,152)
Share of profits in associates and joint ventures	**(2,354)**	(2,536)	(2,375)
Gain on disposal of subsidiaries, businesses, associates and joint ventures	**(929)**	—	(79)
Change in expected credit losses gross of recoveries and other credit impairment charges	**3,012**	2,280	N/A
Loan impairment losses gross of recoveries and other credit risk provisions	**N/A**	N/A	2,603
Provisions including pensions	**2,423**	1,944	917
Share-based payment expense	**478**	450	500
Other non-cash items included in profit before tax	**(2,297)**	(1,303)	(381)
Elimination of exchange differences[2]	**(3,742)**	4,930	(20,757)
Changes in operating assets and liabilities			
Change in net trading securities and derivatives	**(18,910)**	20,855	(13,615)
Change in loans and advances to banks and customers	**(53,760)**	(44,071)	(108,984)
Change in reverse repurchase agreements – non-trading	**(7,390)**	(25,399)	(37,281)
Change in financial assets designated and otherwise mandatorily measured at fair value	**(2,308)**	(1,515)	(5,303)
Change in other assets	**(21,863)**	6,766	(6,570)
Change in deposits by banks and customer accounts	**79,163**	(5,745)	102,457
Change in repurchase agreements – non-trading	**(25,540)**	35,882	41,044
Change in debt securities in issue	**19,268**	18,806	(1,369)
Change in financial liabilities designated at fair value	**20,068**	4,500	8,508
Change in other liabilities	**23,124**	(2,187)	13,514
Dividends received from associates	**633**	910	740
Contributions paid to defined benefit plans	**(533)**	(332)	(685)
Tax paid	**(2,267)**	(3,417)	(3,175)
Net cash from operating activities	**29,743**	32,515	(12,414)
Purchase of financial investments	**(445,907)**	(399,458)	(357,264)
Proceeds from the sale and maturity of financial investments	**413,186**	386,056	418,352
Net cash flows from the purchase and sale of property, plant and equipment	**(1,343)**	(1,196)	(1,167)
Net cash flows from purchase/(disposal) of customer and loan portfolios	**1,118**	(204)	6,756
Net investment in intangible assets	**(2,289)**	(1,848)	(1,285)
Net cash flow on disposal of subsidiaries, businesses, associates and joint ventures	**(83)**	4	165
Net cash from investing activities	**(35,318)**	(16,646)	65,557
Issue of ordinary share capital and other equity instruments	**—**	6,001	5,196
Cancellation of shares	**(1,000)**	(1,998)	(3,000)
Net sales/(purchases) of own shares for market-making and investment purposes	**141**	133	(67)
Redemption of preference shares and other equity instruments	**—**	(6,078)	—
Subordinated loan capital repaid[3]	**(4,210)**	(4,077)	(3,574)
Dividends paid to shareholders of the parent company and non-controlling interests	**(9,773)**	(10,762)	(9,005)
Net cash from financing activities	**(14,842)**	(16,781)	(10,450)
Net increase/(decrease) in cash and cash equivalents	**(20,417)**	(912)	42,693
Cash and cash equivalents at 1 Jan[4]	**312,911**	323,718	263,324
Exchange differences in respect of cash and cash equivalents	**1,248**	(9,895)	17,701
Cash and cash equivalents at 31 Dec[4, 5]	**293,742**	312,911	323,718
Cash and cash equivalents comprise:			
– cash and balances at central banks	**154,099**	162,843	180,624
– items in the course of collection from other banks	**4,956**	5,787	6,628
– loans and advances to banks of one month or less	**41,626**	39,460	61,973
– reverse repurchase agreements with banks of one month or less	**65,370**	74,702	58,850
– treasury bills, other bills and certificates of deposit less than three months	**20,132**	21,685	11,593
– cash collateral and net settlement accounts	**12,376**	14,075	10,900
– less: items in the course of transmission to other banks	**(4,817)**	(5,641)	(6,850)
Cash and cash equivalents at 31 Dec[4, 5]	**293,742**	312,911	323,718

Interest received was $58,627m (2018: $45,291m; 2017: $41,676m), interest paid was $27,384m (2018: $14,172m; 2017: $10,962m) and dividends received (excluding dividends received from associates, which are presented separately above) were $2,369m (2018: $1,702m; 2017: $2,225m).

1 *The impact of the right-of-use assets recognised under IFRS 16 at the beginning of 2019 is not recognised in 2018 and 2017. This also includes the impact of a $7.3bn goodwill impairment in 2019.*
2 *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.*
3 *Subordinated liabilities changes during the year are attributable to repayments of $(4.2)bn (2018: $(4.1)bn; 2017: $(3.6)bn) of securities. Non-cash changes during the year included foreign exchange gains/(losses) of $0.6bn (2018: $(0.6)bn; 2017: $(0.6)bn) and fair value gains/(losses) of $1.4bn (2018: $(1.4)bn; 2017: $(1.2)bn).*
4 *In 2019, HSBC included settlement accounts with bank counterparties of one month or less on a net basis. Comparatives have been re-presented and also include the net impact of other cash equivalents not previously included in cash and cash equivalents. The net effect of these changes increased cash and cash equivalents by $11.8bn in 2018 and decreased cash and cash equivalents by $(13.7)bn in 2017.*
5 *At 31 December 2019, $35,735m (2018: $26,282m; 2017: $39,830m) was not available for use by HSBC, of which $19,353m (2018: $19,755m; 2017: $21,424m) related to mandatory deposits at central banks.*

Consolidated statement of changes in equity

for the year ended 31 December

				Other reserves						
	Called up share capital and share premium	Other equity instru-ments	Retained earnings[3,4]	Financial assets at FVOCI reserve	Cash flow hedging reserve	Foreign exchange reserve	Merger and other reserves[4,6]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	**23,789**	**22,367**	**138,191**	**(1,532)**	**(206)**	**(26,133)**	**29,777**	**186,253**	**7,996**	**194,249**
Profit for the year	–	–	7,383	–	–	–	–	7,383	1,325	8,708
Other comprehensive income (net of tax)	–	–	(1,759)	1,424	204	1,000	–	869	148	1,017
– debt instruments at fair value through other comprehensive income	–	–	–	1,146	–	–	–	1,146	6	1,152
– equity instruments designated at fair value through other comprehensive income	–	–	–	278	–	–	–	278	88	366
– cash flow hedges	–	–	–	–	204	–	–	204	2	206
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	–	–	(2,002)	–	–	–	–	(2,002)	–	(2,002)
– remeasurement of defined benefit asset/liability	–	–	5	–	–	–	–	5	8	13
– share of other comprehensive income of associates and joint ventures	–	–	21	–	–	–	–	21	–	21
– effects of hyperinflation	–	–	217	–	–	–	–	217	–	217
– exchange differences	–	–	–	–	–	1,000	–	1,000	44	1,044
Total comprehensive income for the year	–	–	5,624	1,424	204	1,000	–	8,252	1,473	9,725
Shares issued under employee remuneration and share plans	557	–	(495)	–	–	–	–	62	–	62
Shares issued in lieu of dividends and amounts arising thereon	–	–	2,687	–	–	–	–	2,687	–	2,687
Dividends to shareholders	–	–	(11,683)	–	–	–	–	(11,683)	(777)	(12,460)
Redemption of securities[2]	–	(1,496)	(12)	–	–	–	–	(1,508)	–	(1,508)
Transfers[7]	–	–	2,475	–	–	–	(2,475)	–	–	–
Cost of share-based payment arrangements	–	–	478	–	–	–	–	478	–	478
Cancellation of shares[9]	(68)	–	(1,000)	–	–	–	68	(1,000)	–	(1,000)
Other movements	–	–	414	–	–	–	–	414	21	435
At 31 Dec 2019	**24,278**	**20,871**	**136,679**	**(108)**	**(2)**	**(25,133)**	**27,370**	**183,955**	**8,713**	**192,668**

Consolidated statement of changes in equity (continued)

	Called up share capital and share premium	Other equity instru-ments	Retained earnings[3,4]	Other reserves: Financial assets at FVOCI reserve[5]	Other reserves: Cash flow hedging reserve	Other reserves: Foreign exchange reserve	Other reserves: Merger and other reserves[4,6]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2017	20,337	22,250	139,999	(350)	(222)	(19,072)	27,308	190,250	7,621	197,871
Impact on transition to IFRS 9[10]	—	—	(585)	(1,021)	—	—	—	(1,606)	(41)	(1,647)
At 1 Jan 2018	20,337	22,250	139,414	(1,371)	(222)	(19,072)	27,308	188,644	7,580	196,224
Profit for the year	—	—	13,727	—	—	—	—	13,727	1,298	15,025
Other comprehensive income (net of tax)	—	—	2,765	(245)	16	(7,061)	—	(4,525)	(145)	(4,670)
– debt instruments at fair value through other comprehensive income	—	—	—	(245)	—	—	—	(245)	2	(243)
– equity instruments designated at fair value through other comprehensive income	—	—	—	—	—	—	—	—	(27)	(27)
– cash flow hedges	—	—	—	—	16	—	—	16	3	19
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	—	—	2,847	—	—	—	—	2,847	—	2,847
– remeasurement of defined benefit asset/liability	—	—	(301)	—	—	—	—	(301)	(28)	(329)
– share of other comprehensive income of associates and joint ventures	—	—	(64)	—	—	—	—	(64)	—	(64)
– effects of hyperinflation	—	—	283	—	—	—	—	283	—	283
– exchange differences	—	—	—	—	—	(7,061)	—	(7,061)	(95)	(7,156)
Total comprehensive income for the year	—	—	16,492	(245)	16	(7,061)	—	9,202	1,153	10,355
Shares issued under employee remuneration and share plans	721	—	(610)	—	—	—	—	111	—	111
Shares issued in lieu of dividends and amounts arising thereon	—	—	1,494	—	—	—	—	1,494	—	1,494
Capital securities issued[1]	—	5,968	—	—	—	—	—	5,968	—	5,968
Dividends to shareholders	—	—	(11,547)	—	—	—	—	(11,547)	(710)	(12,257)
Redemption of securities[2]	—	(5,851)	(237)	—	—	—	—	(6,088)	—	(6,088)
Transfers[7]	—	—	(2,200)	—	—	—	2,200	—	—	—
Cost of share-based payment arrangements	—	—	450	—	—	—	—	450	—	450
Cancellation of shares[8,9]	2,731	—	(4,998)	—	—	—	269	(1,998)	—	(1,998)
Other movements	—	—	(67)	84	—	—	—	17	(27)	(10)
At 31 Dec 2018	23,789	22,367	138,191	(1,532)	(206)	(26,133)	29,777	186,253	7,996	194,249
At 1 Jan 2017	22,715	17,110	136,795	(477)	(27)	(28,038)	27,308	175,386	7,192	182,578
Profit for the year	—	—	10,798	—	—	—	—	10,798	1,081	11,879
Other comprehensive income (net of tax)	—	—	328	131	(194)	8,966	—	9,231	152	9,383
– available-for-sale investments	—	—	—	131	—	—	—	131	15	146
– cash flow hedges	—	—	—	—	(194)	—	—	(194)	2	(192)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	(2,024)	—	—	—	—	(2,024)	—	(2,024)
– remeasurement of defined benefit asset/liability	—	—	2,395	—	—	—	—	2,395	24	2,419
– share of other comprehensive income of associates and joint ventures	—	—	(43)	—	—	—	—	(43)	—	(43)
– exchange differences	—	—	—	—	—	8,966	—	8,966	111	9,077
Total comprehensive income for the year	—	—	11,126	131	(194)	8,966	—	20,029	1,233	21,262
Shares issued under employee remuneration and share plans	622	—	(566)	—	—	—	—	56	—	56
Shares issued in lieu of dividends and amounts arising thereon	—	—	3,206	—	—	—	—	3,206	—	3,206
Capital securities issued[1]	—	5,140	—	—	—	—	—	5,140	—	5,140
Dividends to shareholders	—	—	(11,551)	—	—	—	—	(11,551)	(660)	(12,211)
Cost of share-based payment arrangements	—	—	500	—	—	—	—	500	—	500
Cancellation of shares[9]	(3,000)	—	—	—	—	—	—	(3,000)	—	(3,000)
Other movements	—	—	489	(4)	(1)	—	—	484	(144)	340
At 31 Dec 2017	20,337	22,250	139,999	(350)	(222)	(19,072)	27,308	190,250	7,621	197,871

1 *In 2018, HSBC Holdings issued $4,150m, £1,000m and SGD750m of perpetual subordinated contingent convertible capital securities on which there were $60m of external issuance costs, $49m of intra-Group issuance costs and $11m of tax benefits. In 2017, HSBC Holdings issued $3,000m, SGD1,000m and €1,250m of perpetual subordinated contingent convertible capital securities, on which there were $14m of external issuance costs, $37m of intra-Group issuance costs and $10m of tax benefits. Under IFRSs these issuance costs and tax benefits are classified as equity.*

2 *During 2019, HSBC Holdings redeemed $1,500m 5.625% perpetual subordinated capital securities on which there were $12m of external issuance costs. In 2018, HSBC Holdings redeemed $2,200m 8.125% perpetual subordinated capital securities and its $3,800m 8.000% perpetual subordinated capital securities, Series 2, on which there were $172m of external issuance costs and $23m of intra-Group issuance costs wound down. Under IFRSs external issuance costs are classified as equity.*

3 *At 31 December 2019, retained earnings included 432,108,782 treasury shares (2018: 379,926,645; 2017: 360,590,019). In addition, treasury shares are also 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 Global Markets.*

4 *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.*

5 *The $350m at 31 December 2017 represents the IAS 39 available-for-sale fair value reserve as at 31 December 2017.*

6 *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.*

7 *Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. In 2018, a part reversal of this impairment resulted in a transfer from retained earnings back to the merger reserve of $2,200m. At 31 December 2019, an additional impairment of $2,475m was recognised and a permitted transfer of this amount was made from the merger reserve to retained earnings.*

8 *This includes a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings have been reduced by $3,000m, called up capital and share premium increased by $2,836m and other reserves increased by $164m.*

9 *For further details, refer to Note 31 in the* Annual Report and Accounts 2019. *In August 2019, HSBC announced a share buy-back of up to $1.0bn, which was completed in September 2019. In May 2018, HSBC announced a share buy-back of up to $2.0bn, which was completed in August 2018. In February 2017, HSBC announced a share buy-back of up to $1.0bn, which was completed in April 2017. In July 2017, HSBC announced a share buy-back of up to $2.0bn, which was completed in November 2017. Shares bought back from these buy-back programmes have been cancelled.*

10 *The impact of transitioning to IFRS 9 at 1 January 2018 on the consolidated financial statements of HSBC was a decrease in net assets of $1.6bn, arising from a decrease of $2.2bn from additional impairment allowances, a decrease of $0.9bn from our associates reducing their net assets, an increase of $1.1bn from the remeasurement of financial assets and liabilities as a consequence of classification changes and an increase in net deferred tax assets of $0.4bn.*

HSBC Holdings income statement

for the year ended 31 December

	Notes*	2019 $m	2018 $m	2017 $m
Net interest expense		**(2,554)**	(1,112)	(383)
– interest income		**1,249**	2,193	2,185
– interest expense		**(3,803)**	(3,305)	(2,568)
Fee (expense)/income		**(2)**	0	2
Net income from financial instruments held for trading or managed on a fair value basis	3	**1,477**	245	(181)
Changes in fair value of designated debt and related derivatives[1]	3	**(360)**	(77)	103
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**1,659**	43	—
Gains less losses from financial investments		**—**	4	154
Dividend income from subsidiaries[2]		**15,117**	55,304	10,039
Other operating income		**1,293**	960	769
Total operating income		**16,630**	55,367	10,503
Employee compensation and benefits	5	**(37)**	(37)	(54)
General and administrative expenses		**(4,772)**	(4,507)	(4,911)
Reversal of impairment/(impairment) of subsidiaries[3]		**(2,562)**	2,064	(63)
Total operating expenses		**(7,371)**	(2,480)	(5,028)
Profit before tax		**9,259**	52,887	5,475
Tax (charge)/credit		**(218)**	(62)	64
Profit for the year		**9,041**	52,825	5,539

* *For Notes on the financial statements, see page 240.*
1 *The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.*
2 *The 2018 year included $44,893m (2019: nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*
3 *The 2019 year includes $2,475m impairment of HSBC Overseas Holdings (UK) Limited (2018: reversal of $2,200m).*

HSBC Holdings statement of comprehensive income

for the year ended 31 December

	2019 $m	2018 $m	2017 $m
Profit for the year	**9,041**	52,825	5,539
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Financial investments in HSBC undertakings	**—**	—	(53)
– fair value gains/(losses)	**—**	—	(70)
– income taxes	**—**	—	17
Items that will not be reclassified subsequently to profit or loss:			
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**(396)**	865	(828)
– before income taxes	**(573)**	1,090	(1,007)
– income taxes	**177**	(225)	179
Other comprehensive (expense)/income for the year, net of tax	**(396)**	865	(881)
Total comprehensive income for the year	**8,645**	53,690	4,658

HSBC Holdings balance sheet

	Notes*	31 Dec 2019 $m	31 Dec 2018 $m
Assets			
Cash and balances with HSBC undertakings		**2,382**	3,509
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value		**61,964**	23,513
Derivatives	15	**2,002**	707
Loans and advances to HSBC undertakings		**10,218**	56,144
Financial investments		**16,106**	–
Prepayments, accrued income and other assets		**559**	126
Current tax assets		**203**	594
Investments in subsidiaries[1]		**161,473**	160,231
Intangible assets		**333**	357
Deferred tax assets		**–**	–
Total assets at 31 Dec		**255,240**	245,181
Liabilities and equity			
Liabilities			
Amounts owed to HSBC undertakings		**464**	949
Financial liabilities designated at fair value	24	**30,303**	25,049
Derivatives	15	**2,021**	2,159
Debt securities in issue	25	**56,844**	50,800
Accruals, deferred income and other liabilities		**1,915**	994
Subordinated liabilities	28	**18,361**	17,715
Deferred tax liabilities		**288**	162
Total liabilities		**110,196**	97,828
Equity			
Called up share capital	31	**10,319**	10,180
Share premium account		**13,959**	13,609
Other equity instruments		**20,743**	22,231
Other reserves		**37,539**	39,899
Retained earnings		**62,484**	61,434
Total equity		**145,044**	147,353
Total liabilities and equity at 31 Dec		**255,240**	245,181

* *For Notes on the financial statements, see page 240.*
1 *The 2018 year included $56,587m (2019: nil) capital injection to HSBC Asia Holdings Limited.*

The accompanying notes on pages 240 to 322 and the audited sections in: 'Global businesses and geographical regions' on pages 56 to 71, 'Risk' on pages 73 to 151, 'Capital' on pages 152 to 155 and 'Directors' remuneration report' on pages 184 to 210 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 18 February 2020 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

HSBC Holdings statement of cash flows

for the year ended 31 December

	2019	2018	2017
	$m	$m	$m
Profit before tax	**9,259**	52,887	5,475
Adjustments for non-cash items	**2,657**	(46,878)	(17)
– depreciation, amortisation and impairment/expected credit losses	**72**	70	33
– share-based payment expense	**1**	—	(2)
– other non-cash items included in profit before tax[1]	**2,584**	(46,948)	(48)
Changes in operating assets and liabilities			
Change in loans to HSBC undertakings	**41,471**	7,293	(1,122)
Change in financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	**(38,451)**	(7,305)	(11,944)
Change in financial investments in HSBC undertakings	**—**	—	(1,775)
Change in net trading securities and net derivatives	**(1,433)**	758	(2,183)
Change in other assets	**(437)**	231	134
Change in financial investments	**(70)**	—	—
Change in debt securities in issue	**1,899**	(1,094)	1,020
Change in financial liabilities designated at fair value	**1,227**	(740)	954
Change in other liabilities	**437**	(1,883)	721
Tax received	**459**	301	443
Net cash from operating activities	**17,018**	3,570	(8,294)
Purchase of financial investments	**(19,293)**	—	—
Proceeds from the sale and maturity of financial investments	**6,755**	—	1,165
Net cash outflow from acquisition of or increase in stake of subsidiaries	**(3,721)**	(8,992)	(89)
Repayment of capital from subsidiaries	**—**	3,627	4,070
Net investment in intangible assets	**(44)**	(121)	(150)
Net cash from investing activities	**(16,303)**	(5,486)	4,996
Issue of ordinary share capital and other equity instruments	**500**	6,652	5,647
Redemption of other equity instruments	**—**	(6,093)	—
Purchase of treasury shares	**—**	—	—
Cancellation of shares	**(1,006)**	(1,998)	(3,000)
Subordinated loan capital issued	**—**	—	—
Subordinated loan capital repaid	**(4,107)**	(1,972)	(1,184)
Debt securities issued	**10,817**	19,513	11,433
Debt securities repaid	**—**	(1,025)	—
Dividends paid on ordinary shares	**(7,582)**	(8,693)	(6,987)
Dividends paid to holders of other equity instruments	**(1,414)**	(1,360)	(1,359)
Net cash from financing activities	**(2,792)**	5,024	4,550
Net increase/(decrease) in cash and cash equivalents	**(2,077)**	3,108	1,252
Cash and cash equivalents at 1 January	**8,057**	4,949	3,697
Cash and cash equivalents at 31 Dec[2]	**5,980**	8,057	4,949
Cash and cash equivalents comprise:			
– cash at bank with HSBC undertakings	**2,382**	3,509	1,985
– loans and advances to banks of one month or less	**102**	4,548	2,964
– treasury and other eligible bills	**3,496**	—	—

Interest received was $2,216m (2018: $2,116m; 2017: $2,103m), interest paid was $3,819m (2018: $3,379m; 2017: $2,443m) and dividends received were $15,117m (2018: $10,411m; 2017: $10,039m).

1 *The 2018 year included $44,893m (2019: nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*

2 *In 2019, HSBC included settlement accounts with bank counterparties of one month or less on a net basis. Comparatives have been re-presented and also include other cash equivalents not included in 2018 cash and cash equivalents. The net effect of these changes increased cash and cash equivalents by $1,548m in 2018 and had no impact in 2017.*

HSBC Holdings statement of changes in equity

for the year ended 31 December

	Called up share capital	Share premium	Other equity instruments	Retained earnings[1,2]	Other reserves: Financial assets at FVOCI reserve	Other reserves: Merger and other reserves[2]	Total shareholders' equity
	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	**10,180**	**13,609**	**22,231**	**61,434**	**—**	**39,899**	**147,353**
Profit for the year	**—**	**—**	**—**	**9,041**	**—**	**—**	**9,041**
Other comprehensive income (net of tax)	**—**	**—**	**—**	**(396)**	**—**	**—**	**(396)**
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**—**	**—**	**—**	**(396)**	**—**	**—**	**(396)**
Total comprehensive income for the year	**—**	**—**	**—**	**8,645**	**—**	**—**	**8,645**
Shares issued under employee share plans	**36**	**521**	**—**	**(56)**	**—**	**—**	**501**
Shares issued in lieu of dividends and amounts arising thereon	**171**	**(171)**	**—**	**2,687**	**—**	**—**	**2,687**
Cancellation of shares[3]	**(68)**	**—**	**—**	**(1,000)**	**—**	**68**	**(1,000)**
Capital securities issued	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Dividends to shareholders	**—**	**—**	**—**	**(11,683)**	**—**	**—**	**(11,683)**
Redemption of capital securities	**—**	**—**	**(1,488)**	**(20)**	**—**	**—**	**(1,508)**
Transfers[5]	**—**	**—**	**—**	**2,475**	**—**	**(2,475)**	—
Other movements	**—**	**—**	**—**	**2**	**—**	**47**	**49**
At 31 Dec 2019	**10,319**	**13,959**	**20,743**	**62,484**	**—**	**37,539**	**145,044**
At 31 Dec 2017	10,160	10,177	22,107	23,903	59	37,381	103,787
Impact on transition to IFRS 9	—	—	—	949	(59)	—	890
At 1 Jan 2018	10,160	10,177	22,107	24,852	—	37,381	104,677
Profit for the year	—	—	—	52,825	—	—	52,825
Other comprehensive income (net of tax)	—	—	—	865	—	—	865
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	865	—	—	865
Total comprehensive income for the year	—	—	—	53,690	—	—	53,690
Shares issued under employee share plans	42	679	—	—	—	—	721
Shares issued in lieu of dividends and amounts arising thereon	83	(83)	—	1,494	—	—	1,494
Cancellation of shares[4]	(105)	2,836	—	(4,998)	—	269	(1,998)
Capital securities issued	—	—	5,967	—	—	—	5,967
Dividends to shareholders	—	—	—	(11,547)	—	—	(11,547)
Redemption of capital securities	—	—	(5,843)	(236)	—	—	(6,079)
Transfers[5]	—	—	—	(2,200)	—	2,200	—
Other movements	—	—	—	379	—	49	428
At 31 Dec 2018	10,180	13,609	22,231	61,434	—	39,899	147,353
At 1 Jan 2017	10,096	12,619	17,004	27,656	112	37,371	104,858
Profit for the year	—	—	—	5,539	—	—	5,539
Other comprehensive income (net of tax)	—	—	—	(828)	(53)	—	(881)
– available-for-sale investments	—	—	—	—	(53)	—	(53)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	(828)	—	—	(828)
Total comprehensive income for the year	—	—	—	4,711	(53)	—	4,658
Shares issued under employee share plans	38	584	—	(52)	—	—	570
Shares issued in lieu of dividends and amounts arising thereon	190	(190)	—	3,205	—	—	3,205
Cancellation of shares	(164)	(2,836)	—	—	—	—	(3,000)
Capital securities issued	—	—	5,103	—	—	—	5,103
Dividends to shareholders	—	—	—	(11,551)	—	—	(11,551)
Cost of share-based payment arrangements	—	—	—	(2)	—	—	(2)
Other movements	—	—	—	(64)	—	10	(54)
At 31 Dec 2017	10,160	10,177	22,107	23,903	59	37,381	103,787

Dividends per ordinary share at 31 December 2019 were $0.51 (2018: $0.51; 2017: $0.51).

1 At 31 December 2019, retained earnings included 326,191,804 ($2,543m) of treasury shares (2018: 326,503,319 ($2,546m); 2017: 326,843,840 ($2,542m)).

2 HSBC Holdings distributable reserves at 31 December 2019 of $31,656m (2018: $30,705m) represents realised profits for the year included in retained earnings of $11,516m (2018: $14,974m) and in merger reserve of $15,731m (2018: $15,731m). The distributable reserves are lower than retained earnings of $62,484m (2018: $61,434m). In 2018, $44,893m (2019: nil) represented income generated from restructuring the Group's Asia operation to meet resolution and recovery requirements, which does not form part of distributable reserves.

3 In August 2019, HSBC announced a share buy-back of up to $1.0bn, which was completed in September 2019.

4 The 2018 year included a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings has been reduced by $3,000m, share premium increased by $2,836m and other reserves increased by $164m.

5 Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. In 2018, a part reversal of this impairment resulted in a transfer from retained earnings back to the merger reserve of $2,200m. At 31 December 2019, an additional impairment of $2,475m was recognised and a permitted transfer of this amount was made from the merger reserve to retained earnings.

Notes on the financial statements

1 Basis of preparation and significant accounting policies

1.1 Basis of preparation

(a) Compliance with International Financial Reporting Standards

The consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings have been prepared in accordance with International Financial Reporting Standards ('IFRSs') as issued by the International Accounting Standards Board ('IASB'), including interpretations issued by the IFRS Interpretations Committee, and as endorsed by the European Union ('EU'). Interest Rate Benchmark Reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments', was endorsed in January 2020 and has been early adopted as set out below. Therefore, there were no unendorsed standards effective for the year ended 31 December 2019 affecting these consolidated and separate financial statements, and HSBC's application of IFRSs results in no differences between IFRSs as issued by the IASB and IFRSs as endorsed by the EU.

Standards adopted during the year ended 31 December 2019

IFRS 16 'Leases'

On 1 January 2019, we adopted the requirements of IFRS 16 retrospectively. The cumulative effect of initially applying the standard was recognised as an adjustment to the opening balance of retained earnings at that date. Comparatives were not restated. The adoption of the standard increased assets by $5bn and increased financial liabilities by the same amount with no effect on net assets or retained earnings.

On adoption of IFRS 16, we recognised lease liabilities in relation to leases that had previously been classified as 'operating leases' in accordance with IAS 17 'Leases'. These liabilities were recognised in 'other liabilities' and measured at the present value of the remaining lease payments, discounted at the lessee's incremental borrowing rate at 1 January 2019. The associated right of use ('ROU') assets were recognised in 'other assets' and measured at the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments or provisions for onerous leases recognised on the balance sheet at 31 December 2018. In addition, the following practical expedients permitted by the standard were applied:

- reliance was placed on previous assessments on whether leases were onerous;
- operating leases with a remaining lease term of less than 12 months at 1 January 2019 were treated as short-term leases; and
- initial direct costs were not included in the measurement of ROU assets for leases previously accounted for as operating leases.

The differences between IAS 17 and IFRS 16 are summarised in the table below:

IAS 17	IFRS 16
Leases were classified as either finance or operating leases. Payments made under operating leases were charged to profit or loss on a straight-line basis over the period of the lease.	Leases are recognised as an ROU asset and a corresponding liability at the date at which the leased asset is made available for use. Lease payments are allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease term so as to produce a constant period rate of interest on the remaining balance of the liability. The ROU asset is depreciated over the shorter of the ROU asset's useful economic life and the lease term on a straight-line basis. In determining the lease term, we consider all facts and circumstances that create an economic incentive to exercise an extension option or not exercise a termination option over the planning horizon of five years. In general, it is not expected that the discount rate implicit in the lease is available so the lessee's incremental borrowing rate is used. This is the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of a similar value in a similar economic environment with similar terms and conditions. The rates are determined for each economic environment in which we operate and for each term by adjusting swap rates with funding spreads (own credit spread) and cross-currency basis where appropriate.

Interest Rate Benchmark Reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments'

Amendments to IFRS 9 and IAS 39 issued in September 2019 modify specific hedge accounting requirements so that entities apply those hedge accounting requirements assuming that the interest rate benchmark on which the hedged cash flows and cash flows of the hedging instrument are based is not altered as a result of interest rate benchmark reform. These amendments replace the need for specific judgements to determine whether certain hedge accounting relationships that hedge the variability of cash flows or interest rate risk exposures for periods after the interest rate benchmarks are expected to be reformed or replaced continue to qualify for hedge accounting as at 31 December 2019. For example, in the context of cash flow hedging, the amendments require the interest rate benchmark on which the hedged cash flows are based, or on which the cash flows of the hedging instrument are based, to be assumed to be unaltered over the period of the documented hedge relationship, while uncertainty over the interest rate benchmark reform exists. The IASB is expected to provide further guidance on the implication for hedge accounting during the reform process and after the reform uncertainty is resolved.

These amendments apply from 1 January 2020 with early adoption permitted. HSBC has adopted the amendments that apply to IAS 39 from 1 January 2019 and has made the additional disclosures as required by the amendments. Further information is included in Note 15.

Amendment to IAS 12 'Income Taxes' and other changes

An amendment to IAS 12 was issued in December 2017 as part of the annual improvement cycle. The amendment clarifies that an entity should recognise the tax consequences of dividends where the transactions or events that generated the distributable profits are recognised. This amendment was applied on 1 January 2019 and had no material impact. Comparatives have not been restated.

In addition, HSBC has adopted a number of interpretations and amendments to standards, which have had an insignificant effect on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings. In 2018, HSBC adopted IFRS 9 and made voluntary presentation changes, including to certain financial liabilities, which contain both deposit and derivative components, and to cash collateral, margin and settlement accounts. The impact of this is included in the HSBC Holdings statement of changes in equity for that year end and 2017 comparatives were not restated.

(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

Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs that are effective from 1 January 2020, some of which have been endorsed for use in the EU. HSBC expects they will have an insignificant effect, when adopted, on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

Major new IFRSs

IFRS 17 'Insurance Contracts'

IFRS 17 'Insurance Contracts' was issued in May 2017 and sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. IFRS 17 is currently effective from 1 January 2021. However, the IASB is considering delaying the mandatory implementation date by one year and may make additional changes to the standard. The Group is in the process of implementing IFRS 17. Industry practice and interpretation of the standard are still developing and there may be changes to it. Therefore the likely impact of its implementation remains uncertain.

(d) Foreign currencies

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.

Transactions in foreign currencies are recorded at the rate of exchange on the date of the transaction. Assets and liabilities denominated in foreign currencies are translated at the rate of exchange at the balance sheet date, except non-monetary assets and liabilities measured at historical cost, which are translated using the rate of exchange at the initial transaction date. Exchange differences are included in other comprehensive income or in the income statement depending on where the gain or loss on the underlying item is recognised.

In the consolidated financial statements, the assets, liabilities and results of foreign operations, whose functional currency is not US dollars, are translated into the Group's presentation currency at the reporting date. Exchange differences arising are recognised in other comprehensive income. On disposal of a foreign operation, exchange differences previously recognised in other comprehensive income are reclassified to the income statement.

(e) Presentation of information

Certain disclosures required by IFRSs have been included in the sections marked as ('Audited') in this *Annual Report and Accounts 2019* as follows:

- disclosures concerning the nature and extent of risks relating to insurance contracts and financial instruments are included in the 'Report of the Directors: Risk' on pages 73 to 151;
- the 'Own funds disclosure' included in the 'Report of the Directors: Capital' on pages 152 to 155; and
- disclosures relating to HSBC's securitisation activities and structured products are included in the 'Report of the Directors: Risk' on pages 73 to 151.

In accordance with the policy to provide disclosures that help investors and other stakeholders understand the Group's performance, financial position and changes to them, 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 addition, HSBC follows the UK Finance Disclosure Code ('the UKF Disclosure Code'). The UKF Disclosure Code aims to increase the quality and comparability of UK banks' disclosures and sets out five disclosure principles together with supporting guidance agreed in 2010. In line with the principles of the UKF Disclosure 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.

(f) 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, highlighted as the 'critical accounting estimates and judgements' in section 1.2 below, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based. This could result in materially different estimates and judgements from those reached by management for the purposes of these financial statements. Management's selection of HSBC's accounting policies that contain critical estimates and judgements reflects the materiality of the items to which the policies are applied and the high degree of judgement and estimation uncertainty involved.

(g) Segmental analysis

HSBC's Chief Operating Decision Maker is the Group Chief Executive, who is supported by the rest of the Group Management Board ('GMB'), which operates as a general management committee under the direct authority of the Board. Operating segments are reported in a manner consistent with the internal reporting provided to the Group Chief Executive and the GMB.

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.

(h) 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.

1.2 Summary of significant accounting policies

(a) Consolidation and related policies

Investments in subsidiaries

Where an entity is governed by voting rights, HSBC consolidates 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 to direct relevant activities, and whether power is held as agent or principal.

Business combinations are accounted for using the acquisition method. 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. This election is made for each business combination.

HSBC Holdings' investments in subsidiaries are stated at cost less impairment losses.

Goodwill

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, except for Global Banking and Markets, for which goodwill is monitored on a global basis.

Impairment testing is performed at least once a year, or whenever there is an indication of impairment, by comparing the recoverable amount of a CGU with its carrying amount.

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.

Critical accounting estimates and judgements

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:

Judgements	Estimates
• The accuracy of forecast cash flows is subject to a high degree of uncertainty in volatile market conditions. Where such circumstances are determined to exist, management re-tests goodwill for impairment more frequently than once a year when indicators of impairment exist. This ensures 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	• 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 • 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 capital asset pricing model, 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 • Key assumptions used in estimating goodwill impairment are described in Note 21

HSBC sponsored structured entities

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 relevant counterparties so the transaction that 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.

Interests in associates and joint arrangements

Joint arrangements are investments in which HSBC, together with one or more parties, has joint control. Depending on HSBC's rights and obligations, the joint arrangement is classified as either a joint operation or a joint venture. HSBC classifies investments in entities over which it has significant influence, and that are neither subsidiaries nor joint arrangements, as associates.

HSBC recognises its share of the assets, liabilities and results in a joint operation. Investments in associates and interests in joint ventures are recognised using the equity method. The attributable share of the results and reserves of joint ventures and associates is included in the consolidated financial statements of HSBC 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 the financial statements are available and 31 December.

Investments in associates and joint ventures are assessed at each reporting date and 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, but is assessed as part of the carrying amount of the investment.

Critical accounting estimates and judgements

The most significant critical accounting judgements and estimates relate to the assessment of impairment of our investment in Bank of Communications Co. Limited ('BoCom'), which involves estimations of value in use:

Judgements	Estimates
	• Management's best estimate of BoCom's earnings are based on management's explicit forecasts over the short to medium term and the capital maintenance charge, which is management's forecast of the earnings that need to be withheld in order for BoCom to meet regulatory requirements over the forecast period, both of which are subject to uncertain factors • Key assumptions used in estimating BoCom's value in use, the sensitivity of the value in use calculations 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 in Note 18

(b) Income and expense

Operating income

Interest income and expense

Interest income and expense for all financial instruments, excluding those classified as held for trading or designated at fair value, are recognised in 'Interest income' and 'Interest expense' in the income statement using the effective interest method. However, as an exception to this, interest on debt instruments issued by HSBC for funding purposes that are designated under the fair value option to reduce an accounting mismatch and on derivatives managed in conjunction with those debt instruments is included in interest expense.

Interest on credit-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

HSBC generates fee income from services provided at a fixed price over time, such as account service and card fees, or when HSBC delivers a specific transaction at a point in time, such as broking services and import/export services. With the exception of certain fund management and performance fees, all other fees are generated at a fixed price. Fund management and performance fees can be variable depending on the size of the customer portfolio and HSBC's performance as fund manager. Variable fees are recognised when all uncertainties are resolved. Fee income is generally earned from short-term contracts with payment terms that do not include a significant financing component.

HSBC acts as principal in the majority of contracts with customers, with the exception of broking services. For most brokerage trades, HSBC acts as agent in the transaction and recognises broking income net of fees payable to other parties in the arrangement.

HSBC recognises fees earned on transaction-based arrangements at a point in time when it has fully provided the service to the customer. Where the contract requires services to be provided over time, income is recognised on a systematic basis over the life of the agreement.

Where HSBC offers a package of services that contains multiple non-distinct performance obligations, such as those included in account service packages, the promised services are treated as a single performance obligation. If a package of services contains distinct performance obligations, such as those including both account and insurance services, the corresponding transaction price is allocated to each performance obligation based on the estimated stand-alone selling prices.

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.

Net income/(expense) from financial instruments measured at fair value through profit or loss includes the following:

- 'Net income from financial instruments held for trading or managed on a fair value basis': This comprises net trading income, which includes all gains and losses from changes in the fair value of financial assets and financial liabilities held for trading and other financial instruments managed on a fair value basis, together with the related interest income, expense and dividends, excluding the effect of changes in the credit risk of liabilities managed on a fair value basis. It also includes all gains and losses from changes in the fair value of derivatives that are managed in conjunction with financial assets and liabilities measured at fair value through profit or loss.
- 'Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss': This includes interest income, interest expense and dividend income in respect of financial assets and liabilities measured at fair value through profit or loss; and those derivatives managed in conjunction with the above that can be separately identifiable from other trading derivatives.
- 'Changes in fair value of designated debt instruments and related derivatives': Interest paid on debt instruments and interest cash flows on related derivatives is presented in interest expense where doing so reduces an accounting mismatch.

- 'Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss': This includes interest on instruments that fail the solely payments of principal and interest test, see (d) below.

The accounting policies for insurance premium income are disclosed in Note 1.2(j).

(c) Valuation of financial instruments

All financial instruments are initially recognised 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, if there is a difference between the transaction price and the fair value of financial instruments whose fair value is based on a quoted price in an active market or a valuation technique that uses only data from observable markets, HSBC recognises the difference as a trading gain or loss at inception (a 'day 1 gain or loss'). In all other cases, the entire day 1 gain or loss is deferred and recognised in the income statement over the life of the transaction until the transaction matures, 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 IFRS offsetting criteria.

Critical accounting estimates and judgements

The majority of valuation techniques employ only observable market data. However, certain financial instruments are classified 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:

Judgements	Estimates
• 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)	• Details on the Group's level 3 financial instruments and the sensitivity of their valuation to the effect of applying reasonable possible alternative assumptions in determining their fair value are set out in Note 12

(d) Financial instruments measured at amortised cost

Financial assets that are held to collect the contractual cash flows and which contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at amortised cost. Such financial assets include most loans and advances to banks and customers and some debt securities. In addition, most financial liabilities are measured at amortised cost. HSBC accounts for regular way amortised cost financial instruments using trade date accounting. The carrying value of these financial assets at initial recognition includes any directly attributable transactions costs. If the initial fair value is lower than the cash amount advanced, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and recognised over the life of the loan through the recognition of interest income.

HSBC may commit to underwriting 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. When HSBC intends to hold the loan, the loan commitment is included in the impairment calculations set out below.

Non-trading reverse repurchase, repurchase and similar agreements

When debt 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.

Contracts that are economically equivalent to reverse repo or repo agreements (such as sales or purchases of debt securities entered into together with total return swaps with the same counterparty) are accounted for similarly to, and presented together with, reverse repo or repo agreements.

(e) Financial assets measured at fair value through other comprehensive income

Financial assets held for a business model that is achieved by both collecting contractual cash flows and selling and which contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at fair value through other comprehensive income ('FVOCI'). These comprise primarily debt securities. They are recognised on the trade date when HSBC enters into contractual arrangements to purchase and are normally derecognised when they are either sold or redeemed. They are subsequently remeasured at fair value and changes therein (except for those relating to impairment, interest income and foreign currency exchange gains and losses) are recognised in other comprehensive income until the assets are sold. Upon disposal, the cumulative gains or losses in other comprehensive income are recognised in the income statement as 'Gains less losses from financial instruments'. Financial assets measured at FVOCI are included in the impairment calculations set out below and impairment is recognised in profit or loss.

(f) Equity securities measured at fair value with fair value movements presented in other comprehensive income

The equity securities for which fair value movements are shown in other comprehensive income are business facilitation and other similar investments where HSBC holds the investments other than to generate a capital return. Gains or losses on the derecognition of these equity securities are not transferred to profit or loss. Otherwise, equity securities are measured at fair value through profit or loss (except for dividend income, which is recognised in profit or loss).

(g) Financial instruments designated at fair value through profit or loss

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:

- the use of the designation removes or significantly reduces an accounting mismatch;
- a group of financial assets and liabilities or a group of financial liabilities is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy; and
- the financial liability contains one or more non-closely related embedded derivatives.

Designated financial assets are recognised when HSBC enters into contracts with counterparties, which is generally on trade date, and are normally derecognised when the rights to the cash flows expire or are transferred. Designated financial liabilities are recognised when HSBC enters into contracts with counterparties, which is generally on settlement date, and are normally derecognised when extinguished. Subsequent changes in fair values are recognised in the income statement in 'Net income from financial instruments held for trading or managed on a fair value basis' or 'Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss' except for the effect of changes in the liabilities' credit risk, which is presented in 'Other comprehensive income', unless that treatment would create or enlarge an accounting mismatch in profit or loss.

Under the above criterion, the main classes of financial instruments designated by HSBC are:

- Debt instruments for funding purposes that are designated to reduce an accounting mismatch: 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.
- Financial assets and financial liabilities under unit-linked and non-linked investment contracts: A contract under which HSBC does not accept significant insurance risk from another party is not classified as an insurance contract, other than investment contracts with discretionary participation features ('DPF'), but is accounted for as a financial liability. Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries 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, at least some of the assets would otherwise be measured at either fair value through other comprehensive income or amortised cost. 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 changes in fair values to be recorded in the income statement and presented in the same line.
- Financial liabilities that contain both deposit and derivative components: These financial liabilities are managed and their performance evaluated on a fair value basis.

(h) Derivatives

Derivatives are financial instruments that derive their value from the price of underlying items such as equities, interest rates or other indices. Derivatives are recognised initially and are subsequently measured at fair value through profit or loss. Derivatives are classified as assets when their fair value is positive or as liabilities when their fair value is negative. This includes embedded derivatives in financial liabilities, which are bifurcated from the host contract when they meet the definition of a derivative on a stand-alone basis.

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 not part of fair value designated relationships, if held for risk management purposes they are designated in hedge accounting relationships where the required criteria for documentation and hedge effectiveness are met. HSBC uses these derivatives or, where allowed, other non-derivative hedging instruments in fair value hedges, cash flow hedges or hedges of net investments in foreign operations as appropriate to the risk being hedged.

Fair value hedge

Fair value hedge accounting does not change the recording of gains and losses on derivatives and other hedging instruments, but results in recognising changes in the fair value of the hedged assets or liabilities attributable to the hedged risk that would not otherwise be recognised in the income statement. If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting is discontinued and the cumulative adjustment to the carrying amount of the hedged item is amortised to the income statement on a recalculated effective interest rate, 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 gains and losses on hedging instruments is recognised in other comprehensive income and the ineffective portion of the change in fair value of derivative hedging instruments that are part of a cash flow hedge relationship is recognised immediately in the income statement within 'Net income from financial instruments held for trading or managed on a fair value basis'. 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. When a hedge relationship is discontinued, or partially 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.

Net investment hedge

Hedges of net investments in foreign operations are accounted for in a similar way to cash flow hedges. The effective portion of gains and losses on the hedging instrument is recognised in other comprehensive income and other gains and losses are 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.

(i) Impairment of amortised cost and FVOCI financial assets

Expected credit losses ('ECL') are recognised for loans and advances to banks and customers, non-trading reverse repurchase agreements, other financial assets held at amortised cost, debt instruments measured at FVOCI, and certain loan commitments and financial guarantee contracts. At initial recognition, allowance (or provision in the case of some loan commitments and financial guarantees) is required for ECL resulting from default events that are possible within the next 12 months, or less, where the remaining life is less than 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 that 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'. Purchased or originated credit-impaired financial assets ('POCI') are treated differently, as set out below.

Credit impaired (stage 3)

HSBC determines that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay, such as when a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default.

If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore, the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired.

Interest income is recognised by applying the effective interest rate to the amortised cost amount, i.e. gross carrying amount less ECL allowance.

Write-off

Financial assets (and the related impairment allowances) 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.

Renegotiation

Loans are identified as renegotiated and classified as credit impaired when we modify the contractual payment terms due to significant credit distress of the borrower. Renegotiated loans remain classified as credit impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows and retain the designation of renegotiated until maturity or derecognition.

A loan that is renegotiated is derecognised if 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 a substantially different financial instrument. Any new loans that arise following derecognition events in these circumstances are considered to be POCI and will continue to be disclosed as renegotiated loans.

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 and, 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 over the minimum observation period, and there are no other indicators of impairment. These loans could be transferred to stage 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.

Loan modifications that are not credit impaired

Loan modifications that are not identified as renegotiated are considered to be commercial restructuring. Where a commercial restructuring results in a modification (whether legalised through an amendment to the existing terms or the issuance of a new loan contract) such that HSBC's rights to the cash flows under the original contract have expired, the old loan is derecognised and the new loan is recognised at fair value. The rights to cash flows are generally considered to have expired if the commercial restructure is at market rates and no payment-related concession has been provided.

Significant increase in credit risk (stage 2)

An assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument. The assessment explicitly or implicitly compares the risk of default occurring at the reporting date compared with that at initial recognition, taking into account reasonable and supportable information, including information about past events, current conditions and future economic conditions. The assessment is unbiased, probability-weighted, and to the extent relevant, uses forward-looking information consistent with that used in the measurement of ECL. The analysis of credit risk is multifactor. The determination of whether a specific factor is relevant and its weight compared with other factors depends 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, and these criteria will differ for different types of lending, particularly between retail and wholesale. However, unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due. In addition, wholesale loans that are individually assessed, which are typically corporate and commercial customers, and included on a watch or worry list, are included in stage 2.

For wholesale portfolios, the quantitative comparison assesses default risk using a lifetime probability of default ('PD'), which encompasses a wide range of information including the obligor's customer risk rating ('CRR'), macroeconomic condition forecasts and credit transition probabilities. For origination CRRs up to 3.3, significant increase in credit risk is measured by comparing the average PD for the remaining term estimated at origination with the equivalent estimation at the reporting date. The quantitative measure of significance varies depending on the credit quality at origination as follows:

Origination CRR	Significance trigger – PD to increase by
0.1–1.2	15bps
2.1–3.3	30bps

For CRRs greater than 3.3 that are not impaired, a significant increase in credit risk is considered to have occurred when the origination PD has doubled. The significance of changes in PD was informed by expert credit risk judgement, referenced to historical credit migrations and to relative changes in external market rates.

For loans originated prior to the implementation of IFRS 9, the origination PD does not include adjustments to reflect expectations of future macroeconomic conditions since these are not available without the use of hindsight. In the absence of this data, origination PD must be approximated assuming through-the-cycle ('TTC') PDs and TTC migration probabilities, consistent with the instrument's underlying modelling approach and the CRR at origination. For these loans, the quantitative comparison is supplemented with additional CRR deterioration-based thresholds, as set out in the table below:

Origination CRR	Additional significance criteria – number of CRR grade notches deterioration required to identify as significant credit deterioration (stage 2) (> or equal to)
0.1	5 notches
1.1–4.2	4 notches
4.3–5.1	3 notches
5.2–7.1	2 notches
7.2–8.2	1 notch
8.3	0 notch

Further information about the 23-grade scale used for CRR can be found on page 85.

For certain portfolios of debt securities where external market ratings are available and credit ratings are not used in credit risk management, the debt securities will be in stage 2 if their credit risk increases to the extent they are no longer considered investment grade. Investment grade is where the financial instrument has a low risk of incurring losses, the structure has a strong capacity to meet its contractual cash flow obligations in the near term, and adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil their contractual cash flow obligations.

For retail portfolios, default risk is assessed using a reporting date 12-month PD derived from credit scores, which incorporates all available information about the customer. This PD is adjusted for the effect of macroeconomic forecasts for periods longer than 12 months and is considered to be a reasonable approximation of a lifetime PD measure. Retail exposures are first segmented into homogeneous portfolios, generally by country, product and brand. Within each portfolio, the stage 2 accounts are defined as accounts with an adjusted 12-month PD greater than the average 12-month PD of loans in that portfolio 12 months before they become 30 days past due. The expert credit risk judgement is that no prior increase in credit risk is significant. This portfolio-specific threshold identifies loans with a PD higher than would be expected from loans that are performing as originally expected, and higher than what would have been acceptable at origination. It therefore approximates a comparison of origination to reporting date PDs.

Unimpaired and without significant increase in credit risk (stage 1)

ECL resulting from default events that are possible within the next 12 months ('12-month ECL') are recognised for financial instruments that remain in stage 1.

Purchased or originated credit impaired

Financial assets that are purchased or originated at a deep discount that reflects the incurred credit losses are considered to be POCI. This population includes the recognition of a new financial instrument following a renegotiation where concessions have been granted for economic or contractual reasons relating to the borrower's financial difficulty that otherwise would not have been considered. The amount of change-in-lifetime ECL is recognised in profit or loss until the POCI is derecognised, even if the lifetime ECL are less than the amount of ECL included in the estimated cash flows on initial recognition.

Movement between stages

Financial assets can be transferred between the different categories (other than POCI) depending on their relative increase in credit risk since initial recognition. Financial instruments are transferred out of stage 2 if their credit risk is no longer considered to be significantly increased since initial recognition based on the assessments described above. Except for renegotiated loans, financial instruments are transferred out of stage 3 when they no longer exhibit any evidence of credit impairment as described above. Renegotiated loans that are not POCI will continue to be in stage 3 until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period and there are no other indicators of impairment. For loans that are assessed for impairment on a portfolio 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.

Measurement of ECL

The assessment of credit risk and the estimation of ECL are unbiased and probability-weighted, and incorporate all available information that is relevant to the assessment including information about past events, current conditions and reasonable and supportable forecasts of future events and economic conditions at the reporting date. In addition, the estimation of ECL should take into account the time value of money.

In general, HSBC calculates ECL using three main components: a probability of default, a loss given default ('LGD') and the exposure at default ('EAD').

The 12-month ECL is calculated by multiplying the 12-month PD, LGD and EAD. Lifetime ECL is calculated using the lifetime PD instead. The 12-month and lifetime PDs represent the probability of default occurring over the next 12 months and the remaining maturity of the instrument respectively.

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 drawdowns of committed facilities. The LGD represents expected losses on the EAD given the event of default, taking into account, among other attributes, the mitigating effect of collateral value at the time it is expected to be realised and the time value of money.

HSBC leverages the Basel II IRB framework where possible, with recalibration to meet the differing IFRS 9 requirements as set out in the following table:

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

While 12-month PDs are recalibrated from Basel II models where possible, the lifetime PDs are determined by projecting the 12-month PD using a term structure. For the wholesale methodology, the lifetime PD also takes into account credit migration, i.e. a customer migrating through the CRR bands over its life.

The ECL for wholesale stage 3 is determined on an individual basis using a discounted cash flow ('DCF') methodology. The expected future cash flows are based on the credit risk officer's estimates as at the reporting date, reflecting reasonable and supportable assumptions and projections of future recoveries and expected future receipts of interest. Collateral is taken into account if it is likely that the recovery of the outstanding amount will include realisation of collateral based on the estimated fair value of collateral at the time of expected realisation, less costs for obtaining and selling the collateral. The cash flows are discounted at a reasonable approximation of the original effective interest rate. For significant cases, cash flows under four different scenarios are probability-weighted by reference to the economic scenarios applied more generally by the Group and the judgement of the credit risk officer in relation to the likelihood of the workout strategy succeeding or receivership being required. For less significant cases, the effect of different economic scenarios and work-out strategies is approximated and applied as an adjustment to the most likely outcome.

Period over which ECL is measured

Expected credit loss is measured from the initial recognition of the financial asset. The maximum period considered when measuring ECL (be it 12-month or lifetime ECL) is the maximum contractual period over which HSBC is exposed to credit risk. For wholesale overdrafts, credit risk management actions are taken no less frequently than on an annual basis and therefore this period is to the expected date of the next substantive credit review. The date of the substantive credit review also represents the initial recognition of the new facility. However, where the financial instrument includes both a drawn and undrawn commitment and the contractual ability to demand repayment and cancel the undrawn commitment does not serve to limit HSBC's exposure to credit risk to the contractual notice period, the contractual period does not determine the maximum period considered. Instead, ECL is measured over the period HSBC remains exposed to credit risk that is not mitigated by credit risk management actions. This applies to retail overdrafts and credit cards, where the period is the average time taken for stage 2 exposures to default or close as performing accounts, determined on a portfolio basis and ranging from between two and six years. In addition, for these facilities it is not possible to identify the ECL on the loan commitment component separately from the financial asset component. As a result, the total ECL is recognised in the loss allowance for the financial asset unless the total ECL exceeds the gross carrying amount of the financial asset, in which case the ECL is recognised as a provision.

Forward-looking economic inputs

HSBC applies multiple forward-looking global economic scenarios determined with reference to external forecast distributions representative of our view of forecast economic conditions. This approach is considered sufficient to calculate unbiased expected loss in most economic environments. In certain economic environments, additional analysis may be necessary and may result in additional scenarios or adjustments, to reflect a range of possible economic outcomes sufficient for an unbiased estimate. The detailed methodology is disclosed in 'Measurement uncertainty and sensitivity analysis of ECL estimates' on page 92.

Critical accounting estimates and judgements

The calculation of the Group's ECL under IFRS 9 requires the Group to make a number of judgements, assumptions and estimates. The most significant are set out below:

Judgements	Estimates
• Defining what is considered to be a significant increase in credit risk • Determining the lifetime and point of initial recognition of overdrafts and credit cards • Selecting and calibrating the PD, LGD and EAD models, which support the calculations, including making reasonable and supportable judgements about how models react to current and future economic conditions • Selecting model inputs and economic forecasts, including determining whether sufficient and appropriately weighted economic forecasts are incorporated to calculate unbiased expected loss	• The sections marked as audited on pages 92 to 103, 'Measurement uncertainty and sensitivity analysis of ECL estimates' set out the assumptions used in determining ECL and provide an indication of the sensitivity of the result to the application of different weightings being applied to different economic assumptions

(j) Insurance contracts

A contract is classified as an insurance contract where HSBC accepts significant insurance risk from another party by agreeing to compensate that party on the occurrence of a specified uncertain future event. An insurance contract may also transfer financial risk, but is accounted for as an insurance contract if the insurance risk is significant. In addition, HSBC issues investment contracts with discretionary participation features ('DPF'), which are also accounted for as insurance contracts as required by IFRS 4 'Insurance Contracts'.

Net insurance premium income

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 claims and benefits paid and movements in liabilities to policyholders

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.

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.

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. The benefits to policyholders may be determined by 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 required by IFRS 4. The Group therefore recognises the premiums for these 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.

Present value of in-force long-term insurance business

HSBC recognises the value placed on insurance contracts and investment contracts with DPF, which are classified as long-term and in-force at the balance sheet date, 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 present value of in-force business ('PVIF') is determined by discounting those expected future profits 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.

(k) Employee compensation and benefits

Share-based payments

HSBC enters into both equity-settled and cash-settled share-based payment arrangements with its employees as compensation for the provision of their services.

The vesting period for these schemes may commence before the legal grant date if the employees have started to render services in respect of the award before the legal grant date, where there is a shared understanding of the terms and conditions of the arrangement. Expenses are recognised when the employee starts to render service to which the award relates.

Cancellations result from the failure to meet a non-vesting condition during the vesting period, and are treated as an acceleration of vesting recognised immediately in the income statement. Failure to meet a vesting condition by the employee is not treated as a cancellation, and the amount of expense recognised for the award is adjusted to reflect the number of awards expected to vest.

Post-employment benefit plans

HSBC operates a number of pension schemes including defined benefit, defined contribution and post-employment benefit schemes.

Payments to defined contribution schemes are charged as an expense as the employees render service.

Defined benefit pension obligations are calculated 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.

Remeasurements 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. The net defined benefit asset or liability represents the present value of defined benefit obligations reduced by the fair value of plan assets, after applying the asset ceiling test, where the 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 plans are accounted for on the same basis as defined benefit pension plans.

Critical accounting estimates and judgements

The most significant critical accounting judgements and estimates relate to the determination of key assumptions applied in calculating the defined benefit pension obligation for the principal plan.

Judgements	Estimates
	• A range of assumptions could be applied, and different assumptions could significantly alter the defined benefit obligation and the amounts recognised in profit or loss or OCI. • The calculation of the defined benefit pension obligation includes assumptions with regard to the discount rate, inflation rate, pension payments and deferred pensions, pay and mortality. Management determines these assumptions in consultation with the plan's actuaries. • Key assumptions used in calculating the defined benefit pension obligation for the principal plan and the sensitivity of the calculation to different assumptions are described in Note 5

(l) Tax

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 the tax is recognised in the same statement as the related item appears.

Current tax is the tax expected to be payable on the taxable profit for the year and on 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.

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 is calculated using the tax rates expected to apply in the periods in which the assets will be realised or the liabilities settled.

Current and deferred tax are calculated based on tax rates and laws enacted, or substantively enacted, by the balance sheet date.

Critical accounting estimates and judgements

The recognition of deferred tax assets depends on judgements

Judgements	Estimates
• Assessing 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, assessing the expected future profitability and the applicability of tax planning strategies, including corporate reorganisations	

(m) Provisions, contingent liabilities and guarantees

Provisions

Provisions are recognised when it is probable that an outflow of economic benefits will be required to settle a present legal or constructive obligation that has arisen as a result of past events and for which a reliable estimate can be made.

Critical accounting estimates and judgements

The recognition and measurement of provisions requires the Group to make a number of judgements, assumptions and estimates. The most significant are set out below:

Judgements	Estimates
• Determining whether a present obligation exists. Professional advice is taken on the assessment of litigation 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 estimates as appropriate. At more advanced stages, it is typically easier to make estimates around a better defined set of possible outcomes	• Provisions for legal proceedings and regulatory matters remain very sensitive to the assumptions used in the estimate. There could be a wider 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. The amounts of provisions recognised depend on a number of different assumptions, such as the volume of inbound complaints, the projected period of inbound complaint volumes, the decay rate of complaint volumes, the populations identified as systemically mis-sold and the number of policies per customer complaint. More information about these assumptions is included in Note 27

Contingent liabilities, contractual commitments and guarantees

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, are not recognised in the financial statements but are disclosed unless the probability of settlement is remote.

Financial guarantee contracts

Liabilities under financial guarantee contracts that 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.

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.

2 Net fee income

Net fee income by global business

	2019					
	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	$m	$m	$m	$m	$m	$m
Funds under management	**1,295**	**120**	**460**	**302**	**—**	**2,177**
Account services	**890**	**654**	**365**	**101**	**(7)**	**2,003**
Cards	**1,602**	**358**	**15**	**—**	**—**	**1,975**
Credit facilities	**75**	**785**	**743**	**15**	**—**	**1,618**
Broking income	**366**	**40**	**532**	**119**	**—**	**1,057**
Unit trusts	**921**	**22**	**2**	**90**	**—**	**1,035**
Underwriting	**—**	**6**	**821**	**3**	**(1)**	**829**
Remittances	**73**	**362**	**311**	**4**	**(3)**	**747**
Global custody	**90**	**18**	**564**	**45**	**—**	**717**
Imports/exports	**—**	**497**	**164**	**1**	**—**	**662**
Insurance agency commission	**324**	**20**	**1**	**32**	**—**	**377**
Other	**1,097**	**891**	**2,362**	**193**	**(2,301)**	**2,242**
Fee income	**6,733**	**3,773**	**6,340**	**905**	**(2,312)**	**15,439**
Less: fee expense	**(1,861)**	**(370)**	**(3,287)**	**(134)**	**2,236**	**(3,416)**
Net fee income	**4,872**	**3,403**	**3,053**	**771**	**(76)**	**12,023**

	2018						2017
	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total	Total
	$m	$m	$m	$m	$m	$m	$m
Funds under management	1,383	134	421	284	(1)	2,221	2,188
Account services	991	748	332	106	—	2,177	2,244
Cards	1,575	370	16	—	(5)	1,956	1,994
Credit facilities	71	824	813	16	(1)	1,723	1,718
Broking income	494	44	533	139	—	1,210	1,191
Unit trusts	937	25	3	73	—	1,038	1,010
Underwriting	1	10	708	4	—	723	829
Remittances	96	357	320	5	—	778	759
Global custody	100	18	584	35	(1)	736	692
Imports/exports	3	532	176	2	(4)	709	736
Insurance agency commission	354	23	1	27	(1)	404	410
Other	1,110	858	2,362	186	(2,147)	2,369	2,082
Fee income	7,115	3,943	6,269	877	(2,160)	16,044	15,853
Less: fee expense	(1,917)	(388)	(3,040)	(135)	2,056	(3,424)	(3,042)
Net Fee income	5,198	3,555	3,229	742	(104)	12,620	12,811

Net fee income includes $6,647m of fees earned on financial assets that are not at fair value through profit or loss (other than amounts included in determining the effective interest rate) (2018: $7,522m; 2017: $7,577m), $1,450m of fees payable on financial liabilities that are not at fair value through profit or loss (other than amounts included in determining the effective interest rate) (2018: $1,682m; 2017: $1,475m), $3,110m of fees earned on trust and other fiduciary activities (2018: $3,165m; 2017: $3,088m) and $237m of fees payable relating to trust and other fiduciary activities (2018: $175m; 2017: $134m).

3 Net income from financial instruments measured at fair value through profit or loss

	Footnotes	2019 $m	2018 $m	2017 $m
Net income/(expense) arising on:				
Net trading activities	1	**16,121**	6,982	8,236
Other instruments managed on a fair value basis	1	**(5,890)**	2,549	190
Net income from financial instruments held for trading or managed on a fair value basis		**10,231**	9,531	8,426
Financial assets held to meet liabilities under insurance and investment contracts		**3,830**	(1,585)	3,211
Liabilities to customers under investment contracts		**(352)**	97	(375)
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**3,478**	(1,488)	2,836
Derivatives managed in conjunction with HSBC's issued debt securities		**2,561**	(626)	(343)
Other changes in fair value		**(2,471)**	529	498
Changes in fair value of designated debt and related derivatives	2	**90**	(97)	155
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**812**	695	N/A
Year ended 31 Dec		**14,611**	8,641	11,417

1 At 1 January 2018 we changed our accounting policy for financial liabilities that contain both deposit and derivative components. As a result, net income from these instruments is reported in 'Other instruments managed on a fair value basis' rather than 'Trading activities'. Comparative periods have not been re-presented.
2 The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.

HSBC Holdings

	2019 $m	2018 $m	2017 $m
Net income/(expense) arising on:			
– trading activities	**(559)**	(176)	(392)
– other instruments managed at on a fair value basis	**2,036**	421	211
Net income from financial instruments held for trading or managed on a fair value basis	**1,477**	245	(181)
– Derivatives managed in conjunction with HSBC Holdings-issued debt securities	**764**	(337)	292
– Other changes in fair value	**(1,124)**	260	(189)
Changes in fair value of designated debt and related derivatives	**(360)**	(77)	103
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	**1,659**	43	—
Year ended 31 Dec	**2,776**	211	(78)

4 Insurance business

Net insurance premium income

	Non-linked insurance $m	Linked life insurance $m	Investment contracts with DPF[1] $m	Total $m
Gross insurance premium income	**9,353**	**489**	**2,266**	**12,108**
Reinsurers' share of gross insurance premium income	**(1,465)**	**(7)**	**—**	**(1,472)**
Year ended 31 Dec 2019	**7,888**	**482**	**2,266**	**10,636**
Gross insurance premium income	8,616	422	2,300	11,338
Reinsurers' share of gross insurance premium income	(672)	(7)	—	(679)
Year ended 31 Dec 2018	7,944	415	2,300	10,659
Gross insurance premium income	8,424	351	2,027	10,802
Reinsurers' share of gross insurance premium income	(1,016)	(7)	—	(1,023)
Year ended 31 Dec 2017	7,408	344	2,027	9,779

1 Discretionary participation features.

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

	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
	$m	$m	$m	$m
Gross claims and benefits paid and movement in liabilities	**11,305**	**1,217**	**3,810**	**16,332**
– claims, benefits and surrenders paid	**3,783**	**900**	**1,921**	**6,604**
– movement in liabilities	**7,522**	**317**	**1,889**	**9,728**
Reinsurers' share of claims and benefits paid and movement in liabilities	**(1,402)**	**(4)**	**—**	**(1,406)**
– claims, benefits and surrenders paid	**(411)**	**(17)**	**—**	**(428)**
– movement in liabilities	**(991)**	**13**	**—**	**(978)**
Year ended 31 Dec 2019	**9,903**	**1,213**	**3,810**	**14,926**
Gross claims and benefits paid and movement in liabilities	8,943	(446)	1,724	10,221
– claims, benefits and surrenders paid	3,852	1,088	1,869	6,809
– movement in liabilities	5,091	(1,534)	(145)	3,412
Reinsurers' share of claims and benefits paid and movement in liabilities	(605)	191	—	(414)
– claims, benefits and surrenders paid	(311)	(181)	—	(492)
– movement in liabilities	(294)	372	—	78
Year ended 31 Dec 2018	8,338	(255)	1,724	9,807
Gross claims and benefits paid and movement in liabilities	8,894	1,413	2,901	13,208
– claims, benefits and surrenders paid	2,883	1,044	2,002	5,929
– movement in liabilities	6,011	369	899	7,279
Reinsurers' share of claims and benefits paid and movement in liabilities	(942)	65	—	(877)
– claims, benefits and surrenders paid	(297)	(223)	—	(520)
– movement in liabilities	(645)	288	—	(357)
Year ended 31 Dec 2017	7,952	1,478	2,901	12,331

1 *Discretionary participation features.*

Liabilities under insurance contracts

	Footnotes	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
		$m	$m	$m	$m
Gross liabilities under insurance contracts at 1 Jan 2019		**57,283**	**5,789**	**24,258**	**87,330**
Claims and benefits paid		**(3,804)**	**(900)**	**(1,900)**	**(6,604)**
Increase in liabilities to policyholders		**11,326**	**1,217**	**3,789**	**16,332**
Exchange differences and other movements	2	**519**	**45**	**(183)**	**381**
Gross liabilities under insurance contracts at 31 Dec 2019		**65,324**	**6,151**	**25,964**	**97,439**
Reinsurers' share of liabilities under insurance contracts		**(3,521)**	**(71)**	**—**	**(3,592)**
Net liabilities under insurance contracts at 31 Dec 2019		**61,803**	**6,080**	**25,964**	**93,847**
Gross liabilities under insurance contracts at 1 Jan 2018		52,112	7,548	26,007	85,667
Impact on transition to IFRS 9		(69)	—	—	(69)
Claims and benefits paid		(3,852)	(1,088)	(1,869)	(6,809)
Increase in liabilities to policyholders		8,943	(446)	1,724	10,221
Exchange differences and other movements	2	149	(225)	(1,604)	(1,680)
Gross liabilities under insurance contracts at 31 Dec 2018		57,283	5,789	24,258	87,330
Reinsurers' share of liabilities under insurance contracts		(2,438)	(68)	—	(2,506)
Net liabilities under insurance contracts at 31 Dec 2018		54,845	5,721	24,258	84,824

1 *Discretionary participation features.*
2 *'Exchange differences and other movements' includes movements in liabilities arising from net unrealised investment gains recognised in other comprehensive income.*

The key factors contributing to the movement in liabilities to policyholders included movements in the market value of assets supporting policyholder liabilities, 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.

5 Employee compensation and benefits

	2019	2018	2017
	$m	$m	$m
Wages and salaries	**15,581**	14,751	15,227
Social security costs	**1,472**	1,490	1,419
Post-employment benefits	**949**	1,132	669
Year ended 31 Dec	**18,002**	17,373	17,315

Average number of persons employed by HSBC during the year by global business

	Footnotes	2019	2018	2017
Retail Banking and Wealth Management		**141,044**	135,239	134,021
Commercial Banking		**46,416**	48,757	46,716
Global Banking and Markets		**51,127**	48,990	49,100
Global Private Banking		**7,099**	8,206	7,817
Corporate Centre	1	**1,369**	1,658	7,134
Year ended 31 Dec		**247,055**	242,850	244,788

1 *The reduction in the average number of people employed was due to the completion of the cost to achieve transformation programme at the end of 2017.*

Average number of persons employed by HSBC during the year by geographical region

	2019	2018	2017
Europe	**66,392**	67,007	70,301
Asia	**133,624**	127,992	125,004
Middle East and North Africa	**9,798**	9,798	10,408
North America	**16,615**	17,350	18,610
Latin America	**20,626**	20,703	20,465
Year ended 31 Dec	**247,055**	242,850	244,788

Reconciliation of total incentive awards granted to income statement charge

	2019	2018	2017
	$m	$m	$m
Total incentive awards approved for the current year	**3,341**	3,473	3,303
Less: deferred bonuses awarded, expected to be recognised in future periods	**(337)**	(351)	(337)
Total incentives awarded and recognised in the current year	**3,004**	3,122	2,966
Add: current year charges for deferred bonuses from previous years	**327**	322	336
Other	**(55)**	(70)	(78)
Income statement charge for incentive awards	**3,276**	3,374	3,224

Share-based payments

'Wages and salaries' includes the effect of share-based payments arrangements, of which $478m were equity settled (2018: $450m; 2017: $500m), as follows:

	2019	2018	2017
	$m	$m	$m
Conditional share awards	**521**	499	520
Savings-related and other share award option plans	**30**	23	26
Year ended 31 Dec	**551**	522	546

HSBC share awards

Award	Policy
Deferred share awards (including annual incentive awards, LTI awards delivered in shares) and Group Performance Share Plans ('GPSP')	• An assessment of performance over the relevant period ending on 31 December is used to determine the amount of the award to be granted. • Deferred awards generally require employees to remain in employment over the vesting period and are generally not subject to performance conditions after the grant date. An exception to these are the LTI, which is subject to performance conditions. • Deferred share awards generally vest over a period of three, five or seven years. • Vested shares may be subject to a retention requirement post-vesting. GPSP awards are retained until cessation of employment. • Awards are subject to a malus provision prior to vesting. • Awards granted to Material Risk Takers from 2015 onwards are subject to clawback post-vesting.
International Employee Share Purchase Plan ('ShareMatch')	• The plan was first introduced in Hong Kong in 2013 and now includes employees based in 27 jurisdictions. • Shares are purchased in the market each quarter up to a maximum value of £750, or the equivalent in local currency. • Matching awards are added at a ratio of one free share for every three purchased. • Matching awards vest subject to continued employment and the retention of the purchased shares for a maximum period of two years and nine months.

Movement on HSBC share awards

	2019	2018
	Number	Number
	(000s)	(000s)
Conditional share awards outstanding at 1 Jan	**94,897**	104,525
Additions during the year	**71,858**	61,569
Released in the year	**(67,737)**	(67,899)
Forfeited in the year	**(1,963)**	(3,298)
Conditional share awards outstanding at 31 Dec	**97,055**	94,897
Weighted average fair value of awards granted ($)	**7.89**	7.66

HSBC share option plans

Main plans	Policy
Savings-related share option plans ('Sharesave')	• From 2014, employees eligible for the UK plan could save up to £500 per month with the option to use the savings to acquire shares. • These are generally exercisable within six months following either the third or fifth anniversary of the commencement of a three-year or five-year contract, respectively. • The exercise price is set at a 20% (2018: 20%) discount to the market value immediately preceding the date of invitation.

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	
	Footnotes	Number (000s)	WAEP[1] £
Outstanding at 1 Jan 2019		**57,065**	**4.92**
Granted during the year	2	**32,130**	**4.69**
Exercised during the year	3	**(11,806)**	**4.40**
Expired during the year		**(11,321)**	**5.46**
Forfeited during the year		**(1,008)**	**4.99**
Outstanding at 31 Dec 2019		**65,060**	**4.81**
Of which exercisable		***2,149***	***4.53***
Weighted average remaining contractual life (years)		**2.77**	
Outstanding at 1 Jan 2018		64,670	4.49
Granted during the year	2	20,501	5.45
Exercised during the year	3	(23,260)	4.14
Expired during the year		(3,148)	5.20
Forfeited during the year		(1,698)	4.53
Outstanding at 31 Dec 2018		57,065	4.92
Of which exercisable		*3,513*	*4.09*
Weighted average remaining contractual life (years)		2.59	

1 *Weighted average exercise price.*
2 *The weighted average fair value of options granted during the year was $1.36 (2018: $1.40).*
3 *The weighted average share price at the date the options were exercised was $7.99 (2018: $8.28).*

Post-employment benefit plans

The Group operates pension plans throughout the world for its employees. 'Pension risk' on page 134 contains details of the policies and practices associated with these pension plans. Some are defined benefit plans, of which the largest is the HBUK section of the HSBC Bank (UK) Pension Scheme ('the principal plan').

The principal plan has changed from being the combined HSBC Bank (UK) Pension Scheme to being only the HBUK section of the scheme. This is because the HSBC Bank (UK) Pension Scheme was fully sectionalised in 2018 to meet the requirements of the Banking Reform Act.

HSBC holds on its balance sheet the net surplus or deficit, which is the difference between the fair value of plan assets and the discounted value of scheme liabilities at the balance sheet date for each plan. Surpluses are only recognised to the extent that they are recoverable through reduced contributions in the future or through potential future refunds from the schemes. In assessing whether a surplus is recoverable, HSBC has considered its current right to obtain a future refund or a reduction in future contributions.

The principal plan

The principal plan has a defined benefit section and a defined contribution section. The defined benefit section was closed to future benefit accrual in 2015, with defined benefits earned by employees at that date continuing to be linked to their salary while they remain employed by HSBC. The plan is overseen by an independent corporate trustee, who has a fiduciary responsibility for the operation of the plan. Its assets are held separately from the assets of the Group.

The investment strategy of the 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 swaps to reduce interest rate risk and inflation swaps to reduce inflation risk.

The latest funding valuation of the plan at 31 December 2016 was carried out by Colin G Singer of Willis Towers Watson Limited, who is a Fellow of the UK Institute and Faculty of Actuaries, using the projected unit credit method. At that date, the market value of the plan's assets was £28.8bn ($38.1bn) and this exceeded the value placed on its liabilities on an ongoing basis by £1.4bn ($1.9bn), giving a funding level of 105%. These figures include defined contribution assets amounting to £2.0bn ($2.6bn). The main differences between the assumptions used for assessing the defined benefit liabilities for this funding valuation and those used for IAS 19 are more prudent assumptions for discount rate, inflation rate and life expectancy. The next funding valuation will have an effective date of 31 December 2019.

Although the plan was in surplus at the valuation date, HSBC continues to make further contributions to the plan to support a lower-risk investment strategy over the longer term. The remaining contributions are £160m ($212m) in each of 2020 and 2021.The main employer of the principal plan is HSBC UK Bank plc, with additional support from HSBC Holdings plc. The HSBC Bank (UK) Pension Scheme is fully sectionalised and no entities outside the ring fence participate in the HBUK section of the scheme. The sectionalisation, which took place in 2018, did not materially affect the overall funding position of the plan.

The actuary also assessed the value of the liabilities if the plan was to be stopped and an insurance company asked to secure all future pension payments. This is generally larger than the amount needed on the ongoing basis described above because an insurance company would use more prudent assumptions and include an explicit allowance for the future administrative expenses of the plan. Under this approach, the amount of assets needed was estimated to be £37bn ($49bn) at 31 December 2016.

Guaranteed minimum pension equalisation

Following a judgment issued by the High Court of Justice of England and Wales in 2018, we estimated the financial effect of equalising benefits in respect of guaranteed minimum pension ('GMP') equalisation, and any potential conversion of GMPs into non-GMP benefits, to be an approximate 0.9% increase in the principal plan's liabilities, or £187m ($239m). This was recognised in the income statement in 2018. We continue to assess the impact of GMP equalisation, although no further amounts have been recognised in 2019.

Income statement charge

	2019	2018	2017
	$m	$m	$m
Defined benefit pension plans	**176**	355	100
Defined contribution pension plans	**758**	756	603
Pension plans	**934**	1,111	703
Defined benefit and contribution healthcare plans	**15**	21	(34)
Year ended 31 Dec	**949**	1,132	669

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

	Fair value of plan assets	Present value of defined benefit obligations	Effect of limit on plan surpluses	Total
	$m	$m	$m	$m
Defined benefit pension plans	**47,567**	**(40,582)**	**(16)**	**6,969**
Defined benefit healthcare plans	**121**	**(580)**	**—**	**(459)**
At 31 Dec 2019	**47,688**	**(41,162)**	**(16)**	**6,510**
Total employee benefit liabilities (within Note 26 'Accruals, deferred income and other liabilities')				**(1,771)**
Total employee benefit assets (within Note 22 'Prepayments, accrued income and other assets')				**8,280**
Defined benefit pension plans	42,799	(36,583)	(35)	6,181
Defined benefit healthcare plans	110	(524)	—	(414)
At 31 Dec 2018	42,909	(37,107)	(35)	5,767
Total employee benefit liabilities (within Note 26 'Accruals, deferred income and other liabilities')				(2,167)
Total employee benefit assets (within Note 22 'Prepayments, accrued income and other assets')				7,934

HSBC Holdings

Employee compensation and benefit expense in respect of HSBC Holdings' employees in 2019 amounted to $37m (2018: $37m). The average number of persons employed during 2019 was 60 (2018: 43). 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.

Defined benefit pension plans

Net asset/(liability) under defined benefit pension plans

	Fair value of plan assets		Present value of defined benefit obligations		Effect of the asset ceiling		Net defined benefit asset/(liability)	
	Principal[1] plan	Other plans	Principal[1] plan	Other plans	Principal[1] plan	Other plans	Principal[1] plan	Other plans
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	**34,074**	**8,725**	**(26,616)**	**(9,967)**	**—**	**(35)**	**7,458**	**(1,277)**
Service cost	**—**	**—**	**(64)**	**(246)**	**—**	**—**	**(64)**	**(246)**
– current service cost	**—**	**—**	**(40)**	**(183)**	**—**	**—**	**(40)**	**(183)**
– past service cost and gains/(losses) from settlements	**—**	**—**	**(24)**	**(63)**	**—**	**—**	**(24)**	**(63)**
Net interest income/(cost) on the net defined benefit asset/(liability)	**939**	**269**	**(728)**	**(293)**	**—**	**—**	**211**	**(24)**
Remeasurement effects recognised in other comprehensive income	**2,205**	**867**	**(2,548)**	**(521)**	**—**	**20**	**(343)**	**366**
– return on plan assets (excluding interest income)	**2,205**	**870**	**—**	**—**	**—**	**—**	**2,205**	**870**
– actuarial gains/(losses)	**—**	**—**	**(2,548)**	**(1,348)**	**—**	**—**	**(2,548)**	**(1,348)**
– other changes	**—**	**(3)**	**—**	**827**	**—**	**20**	**—**	**844**
Exchange differences	**1,300**	**181**	**(1,036)**	**(180)**	**—**	**(1)**	**264**	**—**
Benefits paid	**(1,014)**	**(620)**	**1,014**	**694**	**—**	**—**	**—**	**74**
Other movements[2]	**370**	**271**	**(180)**	**89**	**—**	**—**	**190**	**360**
At 31 Dec 2019	**37,874**	**9,693**	**(30,158)**	**(10,424)**	**—**	**(16)**	**7,716**	**(747)**
At 1 Jan 2018	37,747	9,518	(29,552)	(10,537)	—	(37)	8,195	(1,056)
Service cost	—	—	(293)	(202)	—	—	(293)	(202)
– current service cost	—	—	(44)	(179)	—	—	(44)	(179)
– past service cost and losses from settlements	—	—	(249)	(23)	—	—	(249)	(23)
Net interest income/(cost) on the net defined benefit asset/(liability)	955	235	(743)	(265)	—	(1)	212	(31)
Remeasurement effects recognised in other comprehensive income	(1,478)	(591)	1,153	440	—	—	(325)	(151)
– return on plan assets (excluding interest income)	(1,478)	(591)	—	—	—	—	(1,478)	(591)
– actuarial gains	—	—	1,153	403	—	—	1,153	403
– other changes	—	—	—	37	—	—	—	37
Exchange differences	(2,002)	(187)	1,565	122	—	3	(437)	(62)
Benefits paid	(1,132)	(544)	1,132	550	—	—	—	6
Other movements[2]	(16)	294	122	(75)	—	—	106	219
At 31 Dec 2018	34,074	8,725	(26,616)	(9,967)	—	(35)	7,458	(1,277)

1 *Refer to page 255 for details on the principal plan.*
2 *Other movements include contributions by HSBC, contributions by employees, administrative costs and taxes paid by plan.*

HSBC expects to make $384m of contributions to defined benefit pension plans during 2020. 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

	2020	2021	2022	2023	2024	2025-2029
	$m	$m	$m	$m	$m	$m
The principal plan[1,2]	1,081	1,113	1,145	1,178	1,212	6,611
Other plans[1]	471	525	521	486	479	2,332

1 *The duration of the defined benefit obligation is 18.1 years for the principal plan under the disclosure assumptions adopted (2018: 17.0 years) and 13.2 years for all other plans combined (2018: 12.3 years).*
2 *Refer to page 255 for details on the principal plan.*

Fair value of plan assets by asset classes

	31 Dec 2019				31 Dec 2018			
	Value	Quoted market price in active market	No quoted market price in active market	Thereof HSBC[1]	Value	Quoted market price in active market	No quoted market price in active market	Thereof HSBC[1]
	$m	$m	$m	$m	$m	$m	$m	$m
The principal plan[2]								
Fair value of plan assets	**37,874**	**33,921**	**3,953**	**—**	34,074	30,670	3,404	—
– equities	**662**	**312**	**350**	**—**	3,152	3,152	—	—
– bonds	**31,699**	**31,699**	**—**	**—**	26,509	26,509	—	—
– derivatives	**2,052**	**—**	**2,052**	**—**	2,030	—	2,030	—
– other	**3,461**	**1,910**	**1,551**	**—**	2,383	1,009	1,374	—
Other plans								
Fair value of plan assets	**9,693**	**8,702**	**991**	**1,422**	8,725	7,425	1,300	1,216
– equities	**2,065**	**1,455**	**610**	**2**	2,186	1,265	921	2
– bonds	**6,608**	**6,376**	**232**	**8**	5,707	5,559	148	7
– derivatives	**—**	**—**	**—**	**1,183**	37	—	37	1,034
– other	**1,020**	**871**	**149**	**229**	795	601	194	173

1 The fair value of plan assets includes derivatives entered into with HSBC Bank plc as detailed in Note 35.
2 Refer to page 255 for details on the principal plan.

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[1]

	Discount rate	Inflation rate	Rate of increase for pensions	Rate of pay increase
	%	%	%	%
UK				
At 31 Dec 2019	**2.00**	**3.10**	**2.90**	**3.65**
At 31 Dec 2018	2.80	3.40	3.10	3.65

1 Refer to page 255 for details on the principal plan.

Mortality tables and average life expectancy at age 60[4] for the principal plan[3]

	Mortality table	Life expectancy at age 60[4] for a male member currently:		Life expectancy at age 60[4] for a female member currently:	
		Aged 60	Aged 40	Aged 60	Aged 40
UK					
At 31 Dec 2019	**SAPS S2[1]**	**28.0**	**29.4**	**28.2**	**29.8**
At 31 Dec 2018	SAPS S2[2]	28.1	29.6	28.4	30.0

1 Self-administered pension scheme ('SAPS') S2 table (males: 'Normal health pensioners' version; females: 'All pensioners' version) with a multiplier of 0.94 for male and 1.15 for female pensioners. Improvements are projected in accordance with the continual mortality investigation ('CMI') 2018 core projection model with an initial addition to improvements of 0.25% per annum and a long-term rate of improvement of 1.25% per annum. Separate tables have been applied to lower-paid pensioners and dependant members.
2 Self-administered pension scheme ('SAPS') S2 table (males: 'Normal health pensioners' version; females: 'All pensioners' version) with a multiplier of 0.94 for male and 1.15 for female pensioners. Improvements are projected in accordance with the continual mortality investigation ('CMI') 2017 core projection model with a long-term rate of improvement of 1.25% per annum. Separate tables have been applied to lower-paid pensioners and dependant members.
3 Refer to page 255 for details on the principal plan.
4 The presentation of the mortality table has been updated to show life expectancies at the age of 60 rather than 65 as presented in prior years to better reflect market disclosure practices. The prior year data have been updated accordingly.

The effect of changes in key assumptions on the principal plan[1]

	Impact on HBUK section of the HSBC Bank (UK) Pension Scheme obligation			
	Financial impact of increase		Financial impact of decrease	
	2019	2018	**2019**	2018
	$m	$m	**$m**	$m
Discount rate – increase/decrease of 0.25%	**(1,305)**	(1,078)	**1,395**	1,149
Inflation rate – increase/decrease of 0.25%	**781**	726	**(738)**	(716)
Pension payments and deferred pensions – increase/decrease of 0.25%	**1,100**	1,181	**(1,026)**	(1,112)
Pay – increase/decrease of 0.25%	**73**	28	**(72)**	(29)
Change in mortality – increase of 1 year	**1,267**	995	**N/A**	N/A

1 Refer to page 255 for details on the principal plan.

Directors' emoluments

Details of Directors' emoluments, pensions and their interests are disclosed in the Directors' remuneration report on page 184.

6 Auditor's remuneration

	2019 $m	2018 $m	2017 $m
Audit fees payable to PwC	**85.2**	86.6	84.8
Other audit fees payable	**0.9**	0.9	1.2
Year ended 31 Dec	**86.1**	87.5	86.0

Fees payable by HSBC to PwC

	Footnotes	2019 $m	2018 $m	2017 $m
Fees for HSBC Holdings' statutory audit	1	**15.7**	16.4	15.1
Fees for other services provided to HSBC		**95.0**	103.1	114.6
– audit of HSBC's subsidiaries		**69.5**	70.2	69.7
– audit-related assurance services	2	**10.0**	11.4	10.8
– other assurance services	3	**12.2**	13.5	25.2
– taxation compliance services		**1.6**	1.4	1.2
– taxation advisory services		**—**	0.1	—
– other non-audit services	3	**1.7**	6.5	7.7
Year ended 31 Dec		**110.7**	119.5	129.7

1 *Fees payable to 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.*
2 *Including services for assurance and other services that relate to statutory and regulatory filings, including comfort letters and interim reviews.*
3 *Including permitted services relating to attestation reports on internal controls of a service organisation primarily prepared for and used by third party end user.*

No fees were payable by HSBC to PwC 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

	2019 $000	2018 $000	2017 $000
Audit of HSBC's associated pension schemes	**250**	172	260
Audit-related assurance services	**—**	—	4
Year ended 31 Dec	**250**	172	264

No fees were payable by HSBC's associated pension schemes to PwC as principal auditor for the following types of 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 associated with HSBC amount to $17.2m (2018: $14.0m; 2017: $3.5m). 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 that 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.

7 Tax

Tax expense

	Footnotes	2019 $m	2018 $m	2017 $m
Current tax	1	**3,768**	4,195	4,264
– for this year		**3,689**	4,158	4,115
– adjustments in respect of prior years		**79**	37	149
Deferred tax		**871**	670	1,024
– origination and reversal of temporary differences		**684**	656	(228)
– effect of changes in tax rates		**(11)**	17	1,337
– adjustments in respect of prior years		**198**	(3)	(85)
Year ended 31 Dec	2	**4,639**	4,865	5,288

1 *Current tax included Hong Kong profits tax of $1,413m (2018: $1,532m; 2017: $1,350m). The Hong Kong tax rate applying to the profits of subsidiaries assessable in Hong Kong was 16.5% (2018: 16.5%; 2017: 16.5%).*
2 *In addition to amounts recorded in the income statement, a tax charge of $6m (2018: credit of $234m) was recorded directly to equity.*

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:

	2019		2018		2017	
	$m	%	$m	%	$m	%
Profit before tax	**13,347**		19,890		17,167	
Tax expense						
Taxation at UK corporation tax rate of 19.00% (2018: 19.00%; 2017: 19.25%)	**2,536**	**19.0**	3,779	19.0	3,305	19.25
Impact of differently taxed overseas profits in overseas locations	**253**	**1.9**	264	1.3	407	2.3
Items increasing tax charge in 2019:						
– non-deductible goodwill write-down	**1,421**	**10.7**	—	—	—	—
– local taxes and overseas withholding taxes	**484**	**3.6**	437	2.2	618	3.6
– other permanent disallowables	**481**	**3.6**	396	2.0	400	2.3
– non-deductible UK customer compensation	**382**	**2.9**	16	0.1	166	1.0
– UK tax losses not recognised	**364**	**2.7**	435	2.2	70	0.4
– adjustments in respect of prior period liabilities	**277**	**2.1**	34	0.2	64	0.4
– bank levy	**184**	**1.4**	191	1.0	180	1.0
– impacts of hyperinflation	**29**	**0.2**	78	0.4	—	—
– UK banking surcharge	**29**	**0.2**	229	1.1	136	0.8
– non-UK movements in unrecognised deferred tax	**12**	**0.1**	32	0.2	(16)	(0.1)
– non-deductible regulatory settlements	**5**	**—**	153	0.8	(132)	(0.8)
– deferred tax remeasurement due to US federal tax rate reduction	**—**	**—**	—	—	1,288	7.5
Items reducing tax charge in 2019:						
– non-taxable income and gains	**(844)**	**(6.3)**	(691)	(3.5)	(766)	(4.4)
– effect of profits in associates and joint ventures	**(467)**	**(3.5)**	(492)	(2.5)	(481)	(2.8)
– deductions for AT1 coupon payments	**(263)**	**(2.0)**	—	—	—	—
– non-taxable gain on dilution of shareholding in SABB	**(181)**	**(1.3)**	—	—	—	—
– impact of changes in tax rates	**(11)**	**(0.1)**	17	0.1	49	0.3
– other items	**(52)**	**(0.4)**	(13)	(0.1)	—	—
Year ended 31 Dec	**4,639**	**34.8**	4,865	24.5	5,288	30.8

The Group's profits are taxed at different rates depending on the country or territory in which the profits arise. The key applicable tax rates for 2019 include Hong Kong (16.5%), the US (21%) and the UK (19%). If the Group's profits were taxed at the statutory rates of the countries in which the profits arose, then the tax rate for the year would have been 20.90% (2018: 20.30%). The effective tax rate for the year was 34.8% (2018: 24.5%). The effective tax rate for 2019 was significantly higher than for 2018 as 2019 included a non-deductible impairment of goodwill of $7.3bn.

Following an amendment to IAS 12 effective 1 January 2019, the income tax consequences of distributions, including AT1 coupon payments, are recorded in the income statement tax expense. Prior periods have not been restated.

Accounting for taxes involves some estimation because the tax law is uncertain and its 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.

Movement of deferred tax assets and liabilities

	Footnotes	Loan impairment provisions	Unused tax losses and tax credits	Derivatives, FVOD[1] and other investments	Insurance business	Expense provisions	Fixed assets	Retirement obligations	Other	Total
		$m	$m	$m	$m	$m	$m	$m	$m	$m
Assets		**982**	**1,156**	**492**	**—**	**629**	**1,151**	**—**	**738**	**5,148**
Liabilities		**—**	**—**	**(376)**	**(1,271)**	**—**	**—**	**(1,387)**	**(283)**	**(3,317)**
At 1 Jan 2019		**982**	**1,156**	**116**	**(1,271)**	**629**	**1,151**	**(1,387)**	**455**	**1,831**
Income statement		**45**	**266**	**(386)**	**(303)**	**(18)**	**(185)**	**(149)**	**(141)**	**(871)**
Other comprehensive income		**—**	**—**	**544**	**—**	**—**	**—**	**30**	**(391)**	**183**
Equity		**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Foreign exchange and other adjustments		**(44)**	**(8)**	**147**	**(47)**	**39**	**36**	**(107)**	**98**	**114**
At 31 Dec 2019		**983**	**1,414**	**421**	**(1,621)**	**650**	**1,002**	**(1,613)**	**21**	**1,257**
Assets	2	**983**	**1,414**	**979**	**—**	**650**	**1,002**	**—**	**422**	**5,450**
Liabilities	2	**—**	**—**	**(558)**	**(1,621)**	**—**	**—**	**(1,613)**	**(401)**	**(4,193)**
Assets		713	1,373	1,282	—	643	1,201	352	760	6,324
Liabilities		—	—	(93)	(1,182)	—	—	(1,387)	(968)	(3,630)
At 1 Jan 2018		713	1,373	1,189	(1,182)	643	1,201	(1,035)	(208)	2,694
IFRS 9 transitional adjustment		358	—	(411)	—	—	—	—	459	406
Income statement		(72)	(203)	51	(104)	19	(68)	35	(328)	(670)
Other comprehensive income		—	—	(722)	—	—	—	25	165	(532)
Equity		—	—	—	—	—	—	(15)	(8)	(23)
Foreign exchange and other adjustments		(17)	(14)	9	15	(33)	18	(397)	375	(44)
At 31 Dec 2018		982	1,156	116	(1,271)	629	1,151	(1,387)	455	1,831
Assets	2	982	1,156	492	—	629	1,151	—	738	5,148
Liabilities	2	—	—	(376)	(1,271)	—	—	(1,387)	(283)	(3,317)

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 $4,632m (2018: $4,450m) and deferred tax liabilities $3,375m (2018: $2,619m).*

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.

The net deferred tax asset of $1.3bn (2018: $1.8bn) includes $2.8bn (2018: $3.0bn) of deferred tax assets relating to the US, of which $1.1bn relates to US tax losses that expire in 14 to 18 years. Management expects the US deferred tax asset to be substantially recovered in six to seven years, with the majority recovered in the first five years. The most recent financial forecasts approved by management cover a five-year period and the forecasts have been extrapolated beyond five years by assuming that performance remains constant after the fifth year.

Unrecognised deferred tax

The amount of gross temporary differences, unused tax losses and tax credits for which no deferred tax asset is recognised in the balance sheet was $8.3bn (2018: $7.2bn). This amount includes unused UK corporation tax losses of $6.2bn (2018: $4.6bn) which are not recognised due to uncertainty regarding the availability of sufficient future taxable profits against which to recover them. Of the total amounts unrecognised, $6.4bn (2018: $4.7bn) had no expiry date, $1.3bn (2018: $1.3bn) was scheduled to expire within 10 years and the remaining balance 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 $13.4bn (2018: $13.2bn) and the corresponding unrecognised deferred tax liability is $1.0bn (2018: $0.9bn).

8 Dividends

Dividends to shareholders of the parent company

	2019			2018			2017		
	Per share	**Total**	**Settled in scrip**	Per share	Total	Settled in scrip	Per share	Total	Settled in scrip
	$	**$m**	**$m**	$	$m	$m	$	$m	$m
Dividends paid on ordinary shares									
In respect of previous year:									
– fourth interim dividend	**0.21**	**4,206**	**1,160**	0.21	4,197	393	0.21	4,169	1,945
In respect of current year:									
– first interim dividend	**0.10**	**2,013**	**375**	0.10	2,008	213	0.10	2,005	826
– second interim dividend	**0.10**	**2,021**	**795**	0.10	1,990	181	0.10	2,014	193
– third interim dividend	**0.10**	**2,029**	**357**	0.10	1,992	707	0.10	2,005	242
Total	**0.51**	**10,269**	**2,687**	0.51	10,187	1,494	0.51	10,193	3,206
Total dividends on preference shares classified as equity (paid quarterly)	**62.00**	**90**		62.00	90		62.00	90	
Total coupons on capital securities classified as equity		**1,324**			1,270			1,268	
Dividends to shareholders		**11,683**			11,547			11,551	

Total coupons on capital securities classified as equity

	Footnotes	First call date	2019 Per security	2019 Total $m	2018 Total $m	2017 Total $m
Perpetual subordinated capital securities	1, 3					
$2,200m issued at 8.125%		Apr 2013	**$0.000**	**—**	89	179
$3,800m issued at 8.000%		Dec 2015	**$0.000**	**—**	76	304
Perpetual subordinated contingent convertible securities	2, 3					
$1,500m issued at 5.625%	4	Nov 2019	**$56.250**	**84**	84	84
$2,000m issued at 6.875%		Jun 2021	**$68.750**	**138**	138	138
$2,250m issued at 6.375%		Sep 2024	**$63.750**	**143**	143	143
$2,450m issued at 6.375%		Mar 2025	**$63.750**	**156**	156	156
$3,000m issued at 6.000%		May 2027	**$60.000**	**180**	180	90
$2,350m issued at 6.250%		Mar 2023	**$62.500**	**147**	73	—
$1,800m issued at 6.500%		Mar 2028	**$65.000**	**117**	59	—
€1,500m issued at 5.250%		Sep 2022	**€52.500**	**88**	95	89
€1,000m issued at 6.000%		Sep 2023	**€60.000**	**66**	72	68
€1,250m issued at 4.750%		July 2029	**€47.500**	**68**	70	—
SGD1,000m issued at 4.700%		Jun 2022	**SGD47.000**	**34**	35	17
£1,000m issued at 5.875%		Sep 2026	**£58.750**	**75**	—	—
SGD750m issued at 5%		Sep 2023	**SGD50.000**	**28**	—	—
Total				**1,324**	1,270	1,268

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 each security's issuance currency 1,000 per security.*
3 *Further details of these securities can be found in Note 31.*
4 *This security was called by HSBC Holdings on 22 November 2019 and was redeemed and cancelled on 17 January 2020. Between the date of exercise of the call option and the redemption, this security was considered to be a subordinated liability. Refer to Note 31 for further details on additional tier 1 securities.*

After the end of the year, the Directors declared a fourth interim dividend in respect of the financial year ended 31 December 2019 of $0.21 per ordinary share, a distribution of approximately $4,266m. The fourth interim dividend will be payable on 14 April 2020 to holders on the Principal Register in the UK, the Hong Kong Overseas Branch Register or the Bermuda Overseas Branch Register on 28 February 2020. No liability was recorded in the financial statements in respect of the fourth interim dividend for 2019.

On 6 January 2020, HSBC paid a coupon on its €1,250m subordinated capital securities, representing a total distribution of €30m ($33m). No liability was recorded in the balance sheet at 31 December 2019 in respect of this coupon payment.

9 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

	2019 $m	2018 $m	2017 $m
Profit attributable to shareholders of the parent company	**7,383**	13,727	10,798
Dividend payable on preference shares classified as equity	**(90)**	(90)	(90)
Coupon payable on capital securities classified as equity	**(1,324)**	(1,029)	(1,025)
Year ended 31 Dec	**5,969**	12,608	9,683

Basic and diluted earnings per share

	Footnotes	2019 Profit $m	2019 Number of shares (millions)	2019 Per share $	2018 Profit $m	2018 Number of shares (millions)	2018 Per share $	2017 Profit $m	2017 Number of shares (millions)	2017 Per share $
Basic	1	**5,969**	**20,158**	**0.30**	12,608	19,896	0.63	9,683	19,972	0.48
Effect of dilutive potential ordinary shares			**75**			87			100	
Diluted	1	**5,969**	**20,233**	**0.30**	12,608	19,983	0.63	9,683	20,072	0.48

1 *Weighted average number of ordinary shares outstanding (basic) or assuming dilution (diluted).*

The number of anti-dilutive employee share options excluded from the weighted average number of dilutive potential ordinary shares is 1.1m (2018: nil; 2017: nil).

10 Segmental analysis

The Group Chief Executive, supported by the rest of the GMB, is considered the Chief Operating Decision Maker ('CODM') for the purposes of identifying the Group's reportable segments. Global business results are assessed by the CODM on the basis of adjusted performance that removes the effects of significant items and currency translation from reported results. We therefore present these results on an adjusted basis as required by IFRSs. The 2018 and 2017 adjusted performance information is presented on a constant currency basis. The 2018 and 2017 income statements are converted at the average rates of exchange for 2019, and the balance sheets at 31 December 2018 and 31 December 2017 at the prevailing rates of exchange on 31 December 2019.

Our operations are closely integrated and, accordingly, the presentation of data includes internal allocations of certain items of income and expense. These allocations include the costs of certain support services and global functions to the extent that they can be meaningfully attributed to global businesses. While such allocations have been made on a systematic and consistent basis, they necessarily involve a degree of subjectivity. Costs that are not allocated to global businesses are included in Corporate Centre.

Where relevant, income and expense amounts presented include the results of inter-segment funding along with inter-company and inter-business line transactions. All such transactions are undertaken on arm's length terms. The intra-Group elimination items for the global businesses are presented in Corporate Centre.

Our global businesses

HSBC provides a comprehensive range of banking and related financial services to its customers in its four global businesses. The products and services offered to customers are organised by these global businesses.

- 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, such as current and savings accounts, mortgages and personal loans, credit cards, debit cards and local and international payment services, as well as wealth management services, including insurance and investment products, global asset management services and financial planning services.
- 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, such as 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.
- GPB provides a range of services to high net worth individuals and families with complex and international needs within the Group's major markets.

HSBC adjusted profit before tax and balance sheet data

		2019					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Net operating income/(expense) before change in expected credit losses and other credit impairment charges	1	23,400	15,292	14,916	1,848	(47)	55,409
– external		17,026	14,805	18,517	1,445	3,616	55,409
– inter-segment		6,374	487	(3,601)	403	(3,663)	–
of which: net interest income/(expense)		*16,525*	*11,226*	*5,601*	*879*	*(3,612)*	*30,619*
Change in expected credit losses and other credit impairment charges		(1,390)	(1,184)	(153)	(22)	(7)	(2,756)
Net operating income/(expense)		22,010	14,108	14,763	1,826	(54)	52,653
Total operating expenses		(14,017)	(6,801)	(9,417)	(1,424)	(1,136)	(32,795)
Operating profit/(loss)		7,993	7,307	5,346	402	(1,190)	19,858
Share of profit in associates and joint ventures		55	–	–	–	2,299	2,354
Adjusted profit before tax		8,048	7,307	5,346	402	1,109	22,212
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		36.2	32.9	24.1	1.8	5.0	100.0
Adjusted cost efficiency ratio		59.9	44.5	63.1	77.1	(2,417.0)	59.2
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		395,393	346,060	246,266	47,593	1,431	1,036,743
Interests in associates and joint ventures		449	–	–	–	24,025	24,474
Total external assets		526,621	367,509	1,066,584	52,224	702,214	2,715,152
Customer accounts		689,283	386,522	292,284	62,943	8,083	1,439,115

HSBC adjusted profit before tax and balance sheet data (continued)

		2018					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Net operating income/(expense) before change in expected credit losses and other credit impairment charges	1	21,374	14,465	15,025	1,757	(290)	52,331
– external		16,794	14,226	17,554	1,474	2,283	52,331
– inter-segment		4,580	239	(2,529)	283	(2,573)	—
of which: net interest income/(expense)		*15,432*	*10,380*	*5,122*	*873*	*(2,189)*	*29,618*
Change in expected credit losses and other credit impairment (charges)/recoveries		(1,134)	(712)	31	7	119	(1,689)
Net operating income/(expense)		20,240	13,753	15,056	1,764	(171)	50,642
Total operating expenses		(13,255)	(6,275)	(9,170)	(1,425)	(1,781)	(31,906)
Operating profit/(loss)		6,985	7,478	5,886	339	(1,952)	18,736
Share of profit in associates and joint ventures		33	—	—	—	2,413	2,446
Adjusted profit before tax		7,018	7,478	5,886	339	461	21,182
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		33.1	35.3	27.8	1.6	2.2	100.0
Adjusted cost efficiency ratio		62.0	43.4	61.0	81.1	(614.1)	61.0
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		367,917	337,099	247,125	39,602	2,533	994,276
Interests in associates and joint ventures		398	—	—	—	21,903	22,301
Total external assets		482,967	364,638	1,025,737	45,520	670,333	2,589,195
Customer accounts		649,172	362,274	294,584	65,053	8,655	1,379,738

		2017					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Net operating income before loan impairment charges and other credit risk provisions	1	19,708	12,883	14,823	1,698	1,061	50,173
– external		16,582	13,009	16,086	1,433	3,063	50,173
– inter-segment		3,126	(126)	(1,263)	265	(2,002)	—
of which: net interest income/(expense)		*13,573*	*8,822*	*4,746*	*812*	*(499)*	*27,454*
Loan impairment charges and other credit risk provisions/(recoveries)		(941)	(468)	(439)	(17)	179	(1,686)
Net operating income		18,767	12,415	14,384	1,681	1,240	48,487
Total operating expenses		(12,386)	(5,770)	(8,709)	(1,384)	(2,010)	(30,259)
Operating profit/(loss)		6,381	6,645	5,675	297	(770)	18,228
Share of profit in associates and joint ventures		12	—	—	—	2,316	2,328
Adjusted profit before tax		6,393	6,645	5,675	297	1,546	20,556
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		31.1	32.3	27.6	1.4	7.6	100.0
Adjusted cost efficiency ratio		62.8	44.8	58.8	81.5	189.4	60.3
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		337,768	308,870	246,890	40,013	7,382	940,923
Interests in associates and joint ventures		364	—	—	—	21,558	21,922
Total external assets		457,126	340,211	960,732	46,706	667,822	2,472,597
Customer accounts		629,442	356,488	276,634	65,491	11,017	1,339,072

1 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

Reported external net operating income is attributed to countries and territories on the basis of the location of the branch responsible for reporting the results or advancing the funds:

		2019	2018	2017
	Footnotes	**$m**	$m	$m
Reported external net operating income by country/territory	1	**56,098**	53,780	51,445
– UK		**9,011**	10,340	11,057
– Hong Kong		**18,449**	17,162	14,992
– US		**4,471**	4,379	4,573
– France		**1,942**	1,898	2,203
– other countries		**22,225**	20,001	18,620

1 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

Adjusted results reconciliation

		2019			2018				2017			
		Adjusted	**Significant items**	**Reported**	Adjusted	Currency translation	Significant items	Reported	Adjusted	Currency translation	Significant items	Reported
	Footnotes	**$m**	**$m**	**$m**	$m	$m	$m	$m	$m	$m	$m	$m
Revenue	1	**55,409**	**689**	**56,098**	52,331	1,617	(168)	53,780	50,173	1,344	(72)	51,445
ECL		**(2,756)**	**—**	**(2,756)**	(1,689)	(78)	—	(1,767)	N/A	N/A	N/A	N/A
LICs		**N/A**	**N/A**	**N/A**	N/A	N/A	N/A	N/A	(1,686)	(83)	—	(1,769)
Operating expenses		**(32,795)**	**(9,554)**	**(42,349)**	(31,906)	(1,109)	(1,644)	(34,659)	(30,259)	(915)	(3,710)	(34,884)
Share of profit in associates and joint ventures		**2,354**	**—**	**2,354**	2,446	90	—	2,536	2,328	47	—	2,375
Profit/(loss) before tax		**22,212**	**(8,865)**	**13,347**	21,182	520	(1,812)	19,890	20,556	393	(3,782)	17,167

1 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

Adjusted balance sheet reconciliation

	2019	2018			2017		
	Reported and adjusted	Adjusted	Currency translation	Reported	Adjusted	Currency translation	Reported
	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)	**1,036,743**	994,276	(12,580)	981,696	940,923	22,041	962,964
Interests in associates and joint ventures	**24,474**	22,301	106	22,407	21,922	822	22,744
Total external assets	**2,715,152**	2,589,195	(31,071)	2,558,124	2,472,597	49,174	2,521,771
Customer accounts	**1,439,115**	1,379,738	(17,095)	1,362,643	1,339,072	25,390	1,364,462

Adjusted profit reconciliation

		2019	2018	2017
	Footnotes	**$m**	$m	$m
Year ended 31 Dec				
Adjusted profit before tax		**22,212**	21,182	20,556
Significant items		**(8,865)**	(1,812)	(3,782)
– customer redress programmes (revenue)		**(163)**	53	(108)
– disposals, acquisitions and investment in new businesses (revenue)		**768**	(113)	274
– fair value movements on financial instruments	1	**84**	(100)	(245)
– costs of structural reform	2	**(158)**	(361)	(420)
– costs to achieve		**—**	—	(3,002)
– customer redress programmes (operating expenses)		**(1,281)**	(146)	(655)
– disposals, acquisitions and investment in new businesses (operating expenses)		**—**	(52)	(53)
– gain on partial settlement of pension obligation		**—**	—	188
– goodwill impairment		**(7,349)**	—	—
– past service costs of guaranteed minimum pension benefits equalisation		**—**	(228)	—
– restructuring and other related costs		**(827)**	(66)	—
– settlements and provisions in connection with legal and other regulatory matters		**61**	(816)	198
– currency translation on significant items			17	41
Currency translation			520	393
Reported profit before tax		**13,347**	19,890	17,167

1 Fair value movements on financial instruments include non-qualifying hedges and debt value adjustments on derivatives.
2 Comprises costs associated with preparations for the UK's exit from the European Union, costs to establish the UK ring-fenced bank (including the UK ServCo group) and costs associated with establishing an intermediate holding company in Hong Kong.

11 Trading assets

		2019	2018
	Footnotes	**$m**	$m
Treasury and other eligible bills		**21,789**	22,674
Debt securities		**126,043**	130,539
Equity securities		**78,827**	60,896
Trading securities		**226,659**	214,109
Loans and advances to banks	1	**8,402**	10,425
Loans and advances to customers	1	**19,210**	13,596
Year ended 31 Dec		**254,271**	238,130

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

Trading securities[1]

	Footnotes	2019	2018
		$m	$m
US Treasury and US Government agencies	2	25,722	34,664
UK Government		10,040	9,710
Hong Kong Government		9,783	10,772
Other governments		72,456	66,530
Asset-backed securities	3	4,691	3,351
Corporate debt and other securities		25,140	28,186
Equity securities		78,827	60,896
At 31 Dec		**226,659**	214,109

1 *Included within these figures are debt securities issued by banks and other financial institutions of $17,846m (2018: $18,918m), of which $2,637m (2018: $2,367m) 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.*

12 Fair values of financial instruments carried at fair value

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.

Where fair values are determined by reference to externally quoted prices or observable pricing inputs to models, independent price determination or validation is used. For inactive markets, HSBC sources alternative market information, with greater weight given to information that is considered to be more relevant and reliable. Examples of the factors considered are price observability, instrument comparability, consistency of data sources, underlying data accuracy and timing of prices.

For fair values determined using valuation models, the control framework includes development or validation by independent support functions of the model logic, inputs, model outputs and adjustments. Valuation models are subject to a process of due diligence 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 and are disaggregated into high-level categories including portfolio changes, market movements and other fair value adjustments.

The majority of financial instruments measured at fair value are in GB&M. GB&M's fair value governance structure comprises its Finance function, Valuation Committees and a Valuation Committee Review Group. Finance is responsible for establishing procedures governing valuation and ensuring fair values are in compliance with accounting standards. The fair values are reviewed by the Valuation Committees, which consist of independent support functions. These committees are overseen by the Valuation Committee Review Group, which considers all material subjective valuations.

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. When quoted market prices are unavailable, the own debt in issue is valued using valuation techniques, the inputs for which are either based on 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 that 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 instruments 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, recorded in other comprehensive income, 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. These are 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. These are 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. These are financial instruments valued using valuation techniques where one or more significant inputs are unobservable.

Financial instruments carried at fair value and bases of valuation

	2019				2018			
	Level 1	**Level 2**	**Level 3**	**Total**	Level 1	Level 2	Level 3	Total
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Recurring fair value measurements at 31 Dec								
Assets								
Trading assets	**186,653**	**62,639**	**4,979**	**254,271**	178,100	53,271	6,759	238,130
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**26,505**	**9,373**	**7,749**	**43,627**	23,125	12,494	5,492	41,111
Derivatives	**1,728**	**239,131**	**2,136**	**242,995**	1,868	203,534	2,423	207,825
Financial investments	**271,467**	**84,087**	**2,023**	**357,577**	263,885	78,882	2,000	344,767
Liabilities								
Trading liabilities	**66,925**	**16,192**	**53**	**83,170**	66,300	18,073	58	84,431
Financial liabilities designated at fair value	**9,549**	**149,901**	**5,016**	**164,466**	6,815	136,362	5,328	148,505
Derivatives	**1,331**	**235,864**	**2,302**	**239,497**	2,845	201,234	1,756	205,835

Transfers between Level 1 and Level 2 fair values

	Assets				Liabilities		
	Financial investments	**Trading assets**	**Designated and otherwise mandatorily measured at fair value**	**Derivatives**	**Trading liabilities**	**Designated at fair value**	**Derivatives**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
At 31 Dec 2019							
Transfers from Level 1 to Level 2	**5,257**	**3,304**	**1,332**	**24**	**278**	**—**	**—**
Transfers from Level 2 to Level 1	**3,486**	**2,726**	**673**	**111**	**220**	**—**	**117**
At 31 Dec 2018							
Transfers from Level 1 to Level 2	367	435	2	1	79	—	—
Transfers from Level 2 to Level 1	17,861	4,959	85	128	1,821	—	138

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each quarterly reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Fair value adjustments

Fair value adjustments are adopted when HSBC determines there are additional factors considered by market participants that are not incorporated within the valuation model. Movements in the level of fair value adjustments do not necessarily result in the recognition of profits or losses within the income statement, such as when models are enhanced and therefore fair value adjustments may no longer be required.

Global Banking and Markets and Corporate Centre fair value adjustments

	2019		2018	
	GB&M	**Corporate Centre**	GB&M	Corporate Centre
	$m	**$m**	$m	$m
Type of adjustment				
Risk-related	**1,040**	**125**	1,042	138
– bid-offer	**428**	**79**	430	76
– uncertainty	**115**	**1**	99	6
– credit valuation adjustment	**355**	**38**	442	52
– debt valuation adjustment	**(126)**	**—**	(198)	—
– funding fair value adjustment	**241**	**7**	256	4
– other	**27**	**—**	13	—
Model-related	**71**	**3**	79	3
– model limitation	**68**	**3**	79	3
– other	**3**	**—**	—	—
Inception profit (Day 1 P&L reserves)	**72**	**—**	85	—
At 31 Dec	**1,183**	**128**	1,206	141

Bid-offer

IFRS 13 'Fair value measurement' requires the 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, an adjustment may be necessary to reflect the likelihood that market participants would adopt more conservative values for uncertain parameters and/or model assumptions than those used in HSBC's valuation model.

Credit and debt valuation adjustments

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

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

HSBC calculates a separate CVA and DVA for each legal entity, and for each counterparty to which the entity has exposure. With the exception of central clearing parties, all third-party counterparties are included in the CVA and DVA calculations, and these adjustments are not netted across Group entities.

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, which incorporates a range of potential exposures over the life of the portfolio, to calculate the expected positive exposure to a counterparty. The simulation methodology includes credit mitigants, such as counterparty netting agreements and collateral agreements with the counterparty.

The methodologies do not, in general, account for 'wrong-way risk'. Wrong-way risk is an adverse correlation between the counterparty's probability of default and the mark-to-market value of the underlying transaction. The risk can either be general, perhaps related to the currency of the issuer country, or specific to the transaction concerned. When there is significant wrong-way risk, a trade-specific approach is applied to reflect this risk in the valuation.

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. The expected future funding exposure is calculated by a simulation methodology, where available, and 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 limitation

Models used for portfolio valuation purposes may be based upon a simplified set of assumptions that do not capture all current and future material market characteristics. In these circumstances, model limitation adjustments are adopted.

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 in Note 1.

Fair value valuation bases

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

	Assets					Liabilities			
	Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Total	Trading liabilities	Designated at fair value	Derivatives	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Private equity including strategic investments	**716**	**4**	**7,289**	**—**	**8,009**	**4**	**—**	**—**	**4**
Asset-backed securities	**874**	**934**	**28**	**—**	**1,836**	**—**	**—**	**—**	**—**
Loans held for securitisation	**—**	**1**	**39**	**—**	**40**	**—**	**—**	**—**	**—**
Structured notes	**—**	**3**	**—**	**—**	**3**	**47**	**5,016**	**—**	**5,063**
Derivatives with monolines	**—**	**—**	**—**	**66**	**66**	**—**	**—**	**—**	**—**
Other derivatives	**—**	**—**	**—**	**2,070**	**2,070**	**—**	**—**	**2,302**	**2,302**
Other portfolios	**433**	**4,037**	**393**	**—**	**4,863**	**2**	**—**	**—**	**2**
At 31 Dec 2019	**2,023**	**4,979**	**7,749**	**2,136**	**16,887**	**53**	**5,016**	**2,302**	**7,371**
Private equity including strategic investments	427	20	5,106	—	5,553	12	—	—	12
Asset-backed securities	1,030	1,140	32	—	2,202	—	—	—	—
Loans held for securitisation	—	—	49	—	49	—	—	—	—
Structured notes	—	3	—	—	3	46	5,328	—	5,374
Derivatives with monolines	—	—	—	65	65	—	—	—	—
Other derivatives	—	—	—	2,358	2,358	—	—	1,755	1,755
Other portfolios	543	5,596	305	—	6,444	—	—	1	1
At 31 Dec 2018	2,000	6,759	5,492	2,423	16,674	58	5,328	1,756	7,142

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

The fair value of a private equity investment (including strategic investments) is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects and other factors; by reference to market valuations for similar entities quoted in an active market; or the price at which similar companies have changed ownership.

Asset-backed securities

While quoted market prices are generally used to determine the fair value of the asset-backed securities ('ABSs'), 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 certain ABSs, such as residential mortgage-backed securities, the valuation uses an industry standard model with 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.

Structured notes

The fair value of Level 3 structured notes 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. These structured notes comprise principally equity-linked notes issued by HSBC, which provide the counterparty with a return linked to the performance of equity securities and other portfolios.

Examples of the unobservable parameters include long-dated equity volatilities and correlations between equity prices, and interest and foreign exchange rates.

Derivatives

OTC derivative valuation models calculate the present value of expected future cash flows, based upon 'no arbitrage' principles. For many vanilla derivative products, 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.

Reconciliation of fair value measurements in Level 3 of the fair value hierarchy

Movement in Level 3 financial instruments

		Assets				Liabilities		
	Footnotes	Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Designated at fair value	Derivatives
		$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019		2,000	6,759	5,492	2,423	58	5,328	1,756
Total gains/(losses) recognised in profit or loss		6	(112)	598	278	(4)	195	930
– net income from financial instruments held for trading or managed on a fair value basis		–	(112)	–	278	(4)	–	930
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	598	–	–	195	–
– gains less losses from financial investments at fair value through other comprehensive income		10	–	–	–	–	–	–
– expected credit loss charges and other credit risk charges		(4)	–	–	–	–	–	–
Total gains/(losses) recognised in other comprehensive income ('OCI')	1	269	76	(1)	49	1	18	52
– financial investments: fair value gains/(losses)		261	–	–	–	–	–	–
– exchange differences		8	76	(1)	49	1	18	52
Purchases		271	2,206	2,353	–	8	157	–
New issuances		–	154	–	–	6	1,601	–
Sales		(10)	(895)	(276)	–	(9)	(193)	–
Settlements		(329)	(2,107)	(434)	(100)	(7)	(1,048)	(162)
Transfers out		(471)	(1,558)	(23)	(710)	(9)	(1,079)	(473)
Transfers in		287	456	40	196	9	37	199
At 31 Dec 2019		2,023	4,979	7,749	2,136	53	5,016	2,302
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2019		(4)	(22)	477	279	–	57	(407)
– net income from financial instruments held for trading or managed on a fair value basis		–	(22)	–	279	–	–	(407)
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	477	–	–	57	–
– loan impairment recoveries and other credit risk provisions		(4)	–	–	–	–	–	–

Financial statements

Movement in Level 3 financial instruments (continued)

	Footnotes	Assets				Liabilities		
		Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Designated at fair value	Derivatives
		$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018		1,767	5,080	3,958	2,444	93	4,107	1,949
Total gains/(losses) recognised in profit or loss		251	284	608	597	(4)	(637)	255
– net income from financial instruments held for trading or managed on a fair value basis		—	284	—	597	(4)	—	255
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		—	—	608	—	—	(637)	—
– gains less losses from financial investments at fair value through other comprehensive income		251	—	—	—	—	—	—
Total gains/(losses) recognised in other comprehensive income ('OCI')	1	17	(274)	(107)	(113)	(3)	(144)	(82)
– financial investments: fair value gains/(losses)		15	—	—	—	—	—	—
– cash flow hedges: fair value gains/(losses)		—	—	6	6	—	—	2
– exchange differences		2	(274)	(113)	(119)	(3)	(144)	(84)
Purchases		275	4,377	2,172	—	3	76	—
New issuances		—	975	—	—	6	2,442	—
Sales		(51)	(1,589)	(395)	—	(11)	—	—
Settlements		(141)	(2,021)	(541)	(191)	(2)	(32)	(18)
Transfers out		(685)	(1,402)	(285)	(337)	(24)	(1,112)	(464)
Transfers in		567	1,329	82	23	—	628	116
At 31 Dec 2018		2,000	6,759	5,492	2,423	58	5,328	1,756
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2018		—	(5)	199	342	(5)	274	(351)
– net income from financial instruments held for trading or managed on a fair value basis		—	(5)	—	342	(5)	—	(351)
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		—	—	199	—	—	274	—
– loan impairment recoveries and other credit risk provisions		—	—	—	—	—	—	—

1 *Included in 'financial investments: fair value gains/(losses)' in the current year and 'exchange differences' in the consolidated statement of comprehensive income.*

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each quarterly reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Effect of changes in significant unobservable assumptions to reasonably possible alternatives

Sensitivity of Level 3 fair values to reasonably possible alternative assumptions

	Footnotes	**2019**				2018			
		Reflected in profit or loss		**Reflected in OCI**		Reflected in profit or loss		Reflected in OCI	
		Favourable changes	**Unfavourable changes**	**Favourable changes**	**Unfavourable changes**	Favourable changes	Unfavourable changes	Favourable changes	Unfavourable changes
		$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Derivatives, trading assets and trading liabilities	1	**255**	**(230)**	**—**	**—**	269	(257)	—	—
Designated and otherwise mandatorily measured at fair value through profit or loss		**532**	**(417)**	**—**	**—**	394	(310)	—	—
Financial investments		**48**	**(53)**	**22**	**(22)**	34	(36)	23	(22)
At 31 Dec		**835**	**(700)**	**22**	**(22)**	697	(603)	23	(22)

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

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 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 following table lists key unobservable inputs to Level 3 financial instruments and provides the range of those inputs at 31 December 2019. The core range of inputs is the estimated range within which 90% of the inputs fall.

Quantitative information about significant unobservable inputs in Level 3 valuations

	Footnotes	Fair value		Valuation techniques	Key unobservable inputs	2019				2018			
		Assets	Liabilities			Full range of inputs		Core range of inputs[1]		Full range of inputs		Core range of inputs[1]	
		$m	$m			Lower	Higher	Lower	Higher	Lower	Higher	Lower	Higher
Private equity including strategic investments		8,009	4	See below	See below	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Asset-backed securities	2	1,836	–										
– CLO/CDO		373	–	Market proxy	Prepayment rate	0%	9%	0%	9%	0%	10%	0%	10%
				Market proxy	Bid quotes	0	100	0	100	0	100	50	100
– other ABSs		1,463	–	Market proxy	Bid quotes	0	101	61	98	0	271	71	99
Loans held for securitisation		40	–										
Structured notes		3	5,063										
– equity-linked notes		–	3,768	Model – Option model	Equity volatility	5%	90%	6%	56%	8%	79%	13%	53%
				Model – Option model	Equity correlation	9%	93%	9%	93%	17%	93%	40%	77%
– FX-linked notes		–	1,046	Model – Option model	FX volatility	1%	23%	3%	22%	1%	27%	3%	25%
– other		3	249										
Derivatives with monolines		66	–	Model – Discounted cash flow	Credit spread	0.4%	2%	0.4%	2%	0.2%	1%	0.2%	1%
Other derivatives		2,070	2,302										
– Interest rate derivatives:													
securitisation swaps		314	640	Model – Discounted cash flow	Prepayment rate	6%	7%	6%	7%	6%	7%	6%	7%
long-dated swaptions		838	51	Model – Option model	IR volatility	8%	22%	8%	21%	13%	39%	14%	36%
other		255	155										
– FX derivatives:													
FX options		93	218	Model – Option model	FX volatility	1%	25%	5%	11%	1%	27%	7%	12%
other		119	104										
– Equity derivatives:													
long-dated single stock options		230	293	Model – Option model	Equity volatility	0%	89%	7%	74%	5%	83%	5%	81%
other		78	712										
– Credit derivatives:													
other		143	129										
Other portfolios		4,863	2										
– structured certificates		1,515	–	Model – Discounted cash flow	Credit volatility	4%	4%	4%	4%	2%	4%	2%	4%
– repurchase agreements		1,604	–										
– other	3	1,744	2										
At 31 Dec 2019		**16,887**	**7,371**										

1 *The core range of inputs is the estimated range within which 90% of the inputs fall.*
2 *Collateralised loan obligation/collateralised debt obligation.*
3 *'Other' includes a range of smaller asset holdings.*

Private equity including strategic investments

Given the bespoke nature of the analysis in respect of each private equity 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 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 when specific market pricing is not available but there is evidence from instruments with common characteristics. 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.

Volatility

Volatility is a measure of the anticipated future variability of a market price. It varies by underlying reference market price, and by strike and maturity of the option.

Certain volatilities, typically those of a longer-dated nature, are unobservable and are estimated from observable data. The range of unobservable volatilities 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.

Correlation

Correlation is a measure of the inter-relationship between two market prices and is expressed as a number between minus one and one. It 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 and cross-asset correlations is used. In general, the range of same-asset correlations will be narrower than the range of cross-asset correlations.

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.

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 and may not be observable in more illiquid markets.

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 on the HSBC portfolio will depend on HSBC's net risk position in respect of each variable.

HSBC Holdings

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

	Footnotes	2019 $m	2018 $m
Valuation technique using observable inputs: Level 2			
Assets at 31 Dec			
– derivatives		**2,002**	707
– financial investments		**—**	—
– designated and otherwise mandatorily measured at fair value through profit or loss	1	**61,964**	23,513
Liabilities at 31 Dec			
– designated at fair value		**30,303**	25,049
– derivatives		**2,021**	2,159

1 *In 2019, due to the restructuring of the Group's Asia and UK operations to meet resolution and recovery requirements, changes in the terms of financial assets have resulted in the derecognition of principal amounts of $33.3bn, relating to financial assets measured at amortised cost. Under the revised terms, financial assets with principal amounts of $33.3bn (2018: nil) measured on fair value basis have been recognised.*

13 Fair values of financial instruments not carried at fair value

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

		Fair value			
	Carrying amount	Quoted market price Level 1	Observable inputs Level 2	Significant unobservable inputs Level 3	Total
	$m	$m	$m	$m	$m
At 31 Dec 2019					
Assets					
Loans and advances to banks	**69,203**	**–**	**68,508**	**739**	**69,247**
Loans and advances to customers	**1,036,743**	**–**	**10,365**	**1,027,178**	**1,037,543**
Reverse repurchase agreements – non-trading	**240,862**	**16**	**240,199**	**691**	**240,906**
Financial investments – at amortised cost	**85,735**	**26,202**	**62,572**	**287**	**89,061**
Liabilities					
Deposits by banks	**59,022**	**–**	**58,951**	**–**	**58,951**
Customer accounts	**1,439,115**	**–**	**1,439,362**	**150**	**1,439,512**
Repurchase agreements – non-trading	**140,344**	**–**	**140,344**	**–**	**140,344**
Debt securities in issue	**104,555**	**–**	**104,936**	**–**	**104,936**
Subordinated liabilities	**24,600**	**–**	**28,861**	**385**	**29,246**
At 31 Dec 2018					
Assets					
Loans and advances to banks	72,167	–	68,378	3,791	72,169
Loans and advances to customers	981,696	–	10,518	974,559	985,077
Reverse repurchase agreements – non-trading	242,804	81	241,407	1,369	242,857
Financial investments – at amortised cost	62,666	1,790	60,073	216	62,079
Liabilities					
Deposits by banks	56,331	–	56,308	–	56,308
Customer accounts	1,362,643	–	1,362,794	151	1,362,945
Repurchase agreements – non-trading	165,884	–	165,884	–	165,884
Debt securities in issue	85,342	–	85,430	–	85,430
Subordinated liabilities	22,437	–	24,968	373	25,341

Other financial instruments not carried at fair value are typically short term in nature and reprice to current market rates frequently. Accordingly, their carrying amount is a reasonable approximation of fair value. They include 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.

Valuation

Fair value is an 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 an instrument's cash flow over its expected future life. Our valuation methodologies and assumptions in determining fair values for which no observable market prices are available may differ from those of other companies.

Loans and advances to banks and customers

To determine the fair value of loans and advances to banks and customers, loans are segregated, as far as possible, into portfolios of similar characteristics. Fair values are based on observable market transactions, when available. When they are unavailable, fair values are estimated using valuation models incorporating a range of input assumptions. These assumptions may include: value estimates from third-party brokers reflecting over-the-counter trading activity; forward-looking discounted cash flow models, taking account of expected customer prepayment rates, using assumptions that HSBC believes are consistent with those that would be used by market participants in valuing such loans; new business rates estimates for similar loans; and trading inputs from other market participants including observed primary and secondary trades. From time to time, we may engage a third-party valuation specialist to measure the fair value of a pool of loans.

The fair value of loans reflects expected credit losses 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 repricing between origination and the balance sheet date. For credit-impaired loans, fair value is estimated by discounting the future cash flows over the time period they are expected to be recovered.

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 incorporate the prices and future earnings streams of equivalent quoted securities.

Deposits by banks and customer accounts

The fair values of on-demand deposits are approximated by their carrying value. For deposits with longer-term maturities, fair values are estimated using discounted cash flows, applying current rates offered for deposits of similar remaining maturities.

Debt securities in issue and subordinated liabilities

Fair values in debt securities in issue and subordinated liabilities 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 of repurchase and reverse repurchase agreements that are held on a non-trading basis provide approximate carrying amounts. This is due to the fact that balances are generally short dated.

HSBC Holdings

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

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

		2019		2018	
		Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	Footnotes	$m	$m	$m	$m
Assets at 31 Dec					
Loans and advances to HSBC undertakings		10,218	10,504	56,144	56,801
Financial investments – at amortised cost	2	16,106	16,121		
Liabilities at 31 Dec					
Amounts owed to HSBC undertakings		464	464	949	949
Debt securities in issue		56,844	59,140	50,800	51,552
Subordinated liabilities		18,361	22,536	17,715	20,224

1 *Fair values (other than Level 1 financial investments) were determined using valuation techniques with observable inputs (Level 2).*
2 *The 2019 period includes $16.1bn (2018: nil) of investments in highly liquid securities.*

14 Financial assets designated and otherwise mandatorily measured at fair value through profit or loss

	2019			2018		
	Designated at fair value	Mandatorily measured at fair value	Total	Designated at fair value	Mandatorily measured at fair value	Total
	$m	$m	$m	$m	$m	$m
Securities	2,344	35,808	38,152	2,349	30,217	32,566
– treasury and other eligible bills	630	31	661	641	29	670
– debt securities	1,714	4,838	6,552	1,708	4,839	6,547
– equity securities	–	30,939	30,939	–	25,349	25,349
Loans and advances to banks and customers	1	4,555	4,556	–	7,717	7,717
Other	–	919	919	–	828	828
At 31 Dec	2,345	41,282	43,627	2,349	38,762	41,111

Securities[1]

		2019			2018		
		Designated at fair value	Mandatorily measured at fair value	Total	Designated at fair value	Mandatorily measured at fair value	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Hong Kong Government		4	–	4	4	–	4
Other governments		666	754	1,420	673	713	1,386
Asset-backed securities	2	–	363	363	–	399	399
Corporate debt and other securities		1,674	3,752	5,426	1,672	3,756	5,428
Equities		–	30,939	30,939	–	25,349	25,349
At 31 Dec		2,344	35,808	38,152	2,349	30,217	32,566

1 *Included within these figures are debt securities issued by banks and other financial institutions of $366m (2018 re-presented: $676m), of which nil (2018: nil) are guaranteed by various governments.*
2 *Excludes asset-backed securities included under US Treasury and US Government agencies.*

15 Derivatives

Notional contract amounts and fair values of derivatives by product contract type held by HSBC

	Notional contract amount		Fair value – Assets			Fair value – Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**8,207,629**	**31,899**	**84,083**	**455**	**84,538**	**84,498**	**740**	**85,238**
Interest rate	**17,895,349**	**177,006**	**183,668**	**1,208**	**184,876**	**175,095**	**2,031**	**177,126**
Equities	**1,077,347**	**—**	**9,053**	**—**	**9,053**	**11,237**	**—**	**11,237**
Credit	**345,644**	**—**	**4,744**	**—**	**4,744**	**5,597**	**—**	**5,597**
Commodity and other	**93,245**	**—**	**1,523**	**—**	**1,523**	**2,038**	**—**	**2,038**
Gross total fair values	**27,619,214**	**208,905**	**283,071**	**1,663**	**284,734**	**278,465**	**2,771**	**281,236**
Offset (Note 30)					**(41,739)**			**(41,739)**
At 31 Dec 2019	**27,619,214**	**208,905**	**283,071**	**1,663**	**242,995**	**278,465**	**2,771**	**239,497**
Foreign exchange	7,552,462	29,969	85,959	458	86,417	82,494	653	83,147
Interest rate	24,589,916	163,271	155,293	1,080	156,373	154,257	2,261	156,518
Equities	1,256,550	—	10,198	—	10,198	10,750	—	10,750
Credit	346,596	—	3,414	—	3,414	3,776	—	3,776
Commodity and other	74,159	—	1,134	—	1,134	1,355	—	1,355
Gross total fair values	33,819,683	193,240	255,998	1,538	257,536	252,632	2,914	255,546
Offset (Note 30)					(49,711)			(49,711)
At 31 Dec 2018	33,819,683	193,240	255,998	1,538	207,825	252,632	2,914	205,835

The notional contract amounts of derivatives held for trading purposes and derivatives designated in hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date. They do not represent amounts at risk.

Derivative assets and liabilities increased during 2019, driven by yield curve movements and changes in foreign exchange rates.

Notional contract amounts and fair values of derivatives by product contract type held by HSBC Holdings with subsidiaries

	Notional contract amount		Assets			Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**24,980**	**—**	**161**	**—**	**161**	**766**	**—**	**766**
Interest rate	**48,937**	**36,769**	**435**	**1,406**	**1,841**	**1,072**	**183**	**1,255**
At 31 Dec 2019	**73,917**	**36,769**	**596**	**1,406**	**2,002**	**1,838**	**183**	**2,021**
Foreign exchange	16,623	1,120	207	—	207	628	155	783
Interest rate	44,059	38,418	283	217	500	538	838	1,376
At 31 Dec 2018	60,682	39,538	490	217	707	1,166	993	2,159

Use of derivatives

For details regarding the use of derivatives, see page 139 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 revenue 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.

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 shown in the following table:

Unamortised balance of derivatives valued using models with significant unobservable inputs

	Footnotes	2019	2018
		$m	$m
Unamortised balance at 1 Jan		86	106
Deferral on new transactions		145	161
Recognised in the income statement during the year:		(154)	(158)
– amortisation		(80)	(96)
– subsequent to unobservable inputs becoming observable		(3)	(2)
– maturity, termination or offsetting derivative		(71)	(60)
Exchange differences		1	(4)
Other		(5)	(19)
Unamortised balance at 31 Dec	1	73	86

1 *This amount is yet to be recognised in the consolidated income statement.*

Hedge accounting derivatives

HSBC applies hedge accounting to manage the following risks: interest rate, foreign exchange and net investment in foreign operations. Further details on how these risks arise and how they are managed by the Group can be found in the 'Report of the Directors'.

Fair value hedges

HSBC enters into fixed-for-floating-interest-rate swaps to manage the exposure to changes in fair value caused by movements in market interest rates on certain fixed-rate financial instruments that are not measured at fair value through profit or loss, including debt securities held and issued.

HSBC hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
	Notional amount[1]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]
Hedged risk	$m	$m	$m		$m
Interest rate[3]	122,753	1,056	2,208	Derivatives	(1,531)
At 31 Dec 2019	122,753	1,056	2,208		(1,531)
Interest rate[3]	123,551	915	2,123	Derivatives	283
At 31 Dec 2018	123,551	915	2,123		283

1 *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.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC hedged item by hedged risk

	Hedged item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]			Change in fair value[1]	Recognised in profit and loss	Profit and loss presentation
	Assets	Liabilities	Assets	Liabilities				
Hedged risk	$m	$m	$m	$m	Balance sheet presentation	$m	$m	
Interest rate[3]	90,617		1,859		Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income	2,304	(7)	Net income from financial instruments held for trading or managed on a fair value basis
	153		4		Loans and advances to banks	5		
	1,897		12		Loans and advances to customers	24		
		15,206		797	Debt securities in issue	(1,011)		
		3,009		39	Deposits by banks	202		
At 31 Dec 2019	92,667	18,215	1,875	836		1,524	(7)	

HSBC hedged item by hedged risk (continued)

	Hedged item					Ineffectiveness		
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]			Change in fair value[1]	Recognised in profit and loss	Profit and loss presentation
	Assets	Liabilities	Assets	Liabilities				
Hedged risk	$m	$m	$m	$m	Balance sheet presentation	$m	$m	
Interest rate[3]	93,469		231		Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income	(425)	(37)	Net income from financial instruments held for trading or managed on a fair value basis
	1,455		(6)		Loans and advances to customers	(4)		
		14,171		(155)	Debt securities in issue	124		
		4,780		45	Deposits by banks	(15)		
At 31 Dec 2018	94,924	18,951	225	(110)		(320)	(37)	

1 Used in effectiveness testing; comprising amount attributable to the designated hedged risk that can be a risk component.
2 The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were assets of $482m for FVOCI and assets of $2m for debt issued.
3 The hedged risk 'interest rate' includes inflation risk.

HSBC Holdings hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
	Notional amount[1,4]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]
Hedged risk	$m	$m	$m		$m
Interest rate[3]	**36,769**	**1,406**	**183**	**Derivatives**	**1,704**
At 31 Dec 2019	**36,769**	**1,406**	**183**		**1,704**

1 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.
2 Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.
3 The hedged risk 'interest rate' includes foreign exchange risk.
4 The notional amount of non-dynamic fair value hedges is equal to $36,769m, of which the weighted-average maturity date is March 2027 and the weighted-average swap rate is 1.53%. The majority of these hedges are internal to HSBC Group.

HSBC Holdings hedged item by hedged risk

	Hedged item					Ineffectiveness		
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]			Change in fair value[1]	Recognised in profit and loss	
	Assets	Liabilities	Assets	Liabilities	Balance sheet presentation			
Hedged risk	$m	$m	$m	$m		$m	$m	Profit and loss presentation
Interest rate[3]		**38,126**		**1,088**	**Debt securities in issue**	**(1,697)**	**7**	**Net income from financial instruments held for trading or managed on a fair value basis**
At 31 Dec 2019	**—**	**38,126**	**—**	**1,088**		**(1,697)**	**7**	

1 Used in effectiveness testing; comprising amount attributable to the designated hedged risk that can be a risk component.
2 The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were liabilities of $71m for debt issued.
3 The hedged risk 'interest rate' includes foreign exchange risk.

Sources of hedge ineffectiveness may arise from basis risk, including but not limited to the discount rates used for calculating the fair value of derivatives, hedges using instruments with a non-zero fair value, and notional and timing differences between the hedged items and hedging instruments.

For some debt securities held, HSBC manages interest rate risk in a dynamic risk management strategy. The assets in scope of this strategy are high-quality fixed-rate debt securities, which may be sold to meet liquidity and funding requirements.

The interest rate risk of the HSBC fixed-rate debt securities issued is managed in a non-dynamic risk management strategy.

Cash flow hedges

HSBC's cash flow hedging instruments consist principally of interest rate swaps and cross-currency swaps that are used to manage the variability in future interest cash flows of non-trading financial assets and liabilities, arising due to changes in market interest rates and foreign-currency basis.

HSBC applies macro cash flow hedging for interest rate risk exposures on portfolios of replenishing current and forecasted issuances of non-trading assets and liabilities that bear interest at variable rates, including rolling such instruments. 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 cash flows representing both principal balances and interest cash flows across all portfolios are used to determine the effectiveness and ineffectiveness. Macro cash flow hedges are considered to be dynamic hedges.

HSBC also hedges the variability in future cash flows on foreign-denominated financial assets and liabilities arising due to changes in foreign exchange market rates with cross-currency swaps, which are considered dynamic hedges.

Hedging instrument by hedged risk

	Hedging instrument					Hedged item	Ineffectiveness	
		Carrying amount						
	Notional amount[1]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]	Change in fair value[3]	Recognised in profit and loss	Profit and loss presentation
Hedged risk	$m	$m	$m		$m	$m	$m	
Foreign currency	**21,385**	**455**	**254**	**Derivatives**	**341**	**341**	**–**	**Net income from financial instruments held for trading or managed on a fair value basis**
Interest rate	**54,253**	**152**	**46**	**Derivatives**	**195**	**193**	**2**	
At 31 Dec 2019	**75,638**	**607**	**300**		**536**	**534**	**2**	
Foreign currency	24,954	295	653	Derivatives	(198)	(200)	2	Net income from financial instruments held for trading or managed on a fair value basis
Interest rate	39,720	165	138	Derivatives	(77)	(67)	(10)	
At 31 Dec 2018	64,674	460	791		(275)	(267)	(8)	

1 *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.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*

Sources of hedge ineffectiveness may arise from basis risk, including but not limited to timing differences between the hedged items and hedging instruments and hedges using instruments with a non-zero fair value.

Reconciliation of equity and analysis of other comprehensive income by risk type

	Interest rate	Foreign currency
	$m	$m
Cash flow hedging reserve at 1 Jan 2019	**(26)**	**(182)**
Fair value gains/(losses)	**193**	**341**
Fair value (gains)/losses reclassified from the cash flow hedge reserve to the income statement in respect of:		
Hedged items that have affected profit or loss	**99**	**(371)**
Income taxes	**(53)**	**4**
Others	**(9)**	**3**
Cash flow hedging reserve at 31 Dec 2019	**204**	**(205)**
Cash flow hedging reserve at 1 Jan 2018	(40)	(187)
Fair value gains/(losses)	(67)	(200)
Fair value (gains)/losses reclassified from the cash flow hedge reserve to the income statement in respect of:		
Hedged items that has affected profit or loss	90	227
Income taxes	(11)	(13)
Others	2	(9)
Cash flow hedging reserve at 31 Dec 2018	(26)	(182)

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 2019, the fair values of outstanding financial instruments designated as hedges of net investments in foreign operations were assets of nil (2018: $163m), liabilities of $485m (2018: nil) and notional contract values of $10,500m (2018: $5,000m). Ineffectiveness recognised in 'Net income from financial instruments held for trading or managed on a fair value basis' in the year ended 31 December 2019 was nil (2018: nil).

Interest rate benchmark reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments'

Following the request received by the Financial Stability Board from the G20, a fundamental review and reform of the major interest rate benchmarks is underway across the world's largest financial markets. This reform was not contemplated when IAS 39 was published, and consequently the IASB has published a set of temporary exceptions from applying specific hedge accounting requirements to provide clarification on how the standard should be applied in these circumstances.

Amendments to IFRS 9 and IAS 39 were endorsed in January 2020 and modify specific hedge accounting requirements. Under these temporary exceptions, interbank offered rates ('Ibors') are assumed to continue unaltered for the purposes of hedge accounting until such time as the uncertainty is resolved.

The application of this set of temporary exceptions is mandatory for accounting periods starting on or after 1 January 2020, but early adoption is permitted. HSBC elected to apply these exceptions for the year ended 31 December 2019. Significant judgement will be required in determining when uncertainty is expected to be resolved and therefore when the temporary exceptions will cease to apply. However, at 31 December 2019, the uncertainty continued to exist and so the temporary exceptions apply to all of the Group's hedge accounting relationships that reference benchmarks subject to reform or replacement.

The Group has cash flow and fair value hedge accounting relationships that are exposed to different Ibors, predominantly US dollar Libor, sterling Libor, and Euribor as well as overnight rates subject to the market-wide benchmarks reform, such as the European overnight Index Average rate ('Eonia'). Many of the existing derivatives, loans, bonds and other financial instruments designated in relationships referencing these benchmarks will transition to new risk-free rates ('RFRs') in different ways and at different times. External progress on the transition to RFRs is being monitored, with the objective of ensuring a smooth transition for the Group's hedge accounting relationships. The specific issues arising will vary with the details of each hedging relationship, but may arise due to the transition of existing products included in the designation, a change in expected volumes of products to be issued, a change in contractual terms of new products issued, or a combination of these factors. Some hedges may need to be de-designated and new relationships entered into, while others may survive the market-wide benchmarks reform.

The hedge accounting relationships that are affected by the adoption of the temporary exceptions hedge items presented in the balance sheet as 'Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income', 'Loans and advances to customers', 'Debt securities in issue' and 'Deposits by banks'.

The notional amounts of interest rate derivatives designated in hedge accounting relationships represent the extent of the risk exposure managed by the Group that is directly affected by market-wide benchmarks reform and impacted by the temporary exceptions. The cross-currency swaps designated in hedge accounting relationships and affected by Ibor reform are not significant and have not been presented below:

Hedging instrument impacted by Ibor reform

	Hedging instrument						
	Impacted by Ibor reform					Not impacted by Ibor reform	Notional amount[1]
	€	£	$	Other	Total		
	$m	$m	$m	$m	$m	$m	$m
Fair value hedges	20,378	4,533	41,274	13,435	79,620	43,133	122,753
Cash flow hedges	5,724	6,594	15,750	15,979	44,047	10,206	54,253
At 31 Dec 2019	**26,102**	**11,127**	**57,024**	**29,414**	**123,667**	**53,339**	**177,006**

1 *The notional contract amounts of interest rate 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.*

The calculation of Eonia changed on 2 October 2019 so that going forward it is calculated as the euro short-term rate ('€STR') plus a fixed spread of 8.5 basis points. This change has triggered a structural change in the sale and repurchase agreement ('repo') market in France, whereby the overnight floating rate repo market referencing Eonia has significantly shifted into an overnight fixed rate repo market referencing repo rates. In this context, regarding the accounting standard setters' activities, management consider that continuing to apply hedge accounting to the existing hedge relationships using forecast issuances of overnight repos, provides the most relevant accounting.

For further information on Ibor transition, see our Areas of Special interest on page 81.

Hedging instrument impacted by Ibor reform held by HSBC Holdings

	Hedging instrument						
	Impacted by Ibor reform					Not impacted by Ibor reform	Notional amount
	€	£	$	Other	Total		
	$m	$m	$m	$m	$m	$m	$m
Fair value hedges	3,928	5,222	24,500	3,119	36,769	—	36,769
Cash flow hedges	—	—	—	—	—	—	—
At 31 Dec 2019	**3,928**	**5,222**	**24,500**	**3,119**	**36,769**	**—**	**36,769**

16 Financial investments

Carrying amount of financial investments

		2019	2018
	Footnotes	$m	$m
Financial investments measured at fair value through other comprehensive income		**357,577**	344,767
– treasury and other eligible bills		**95,043**	96,642
– debt securities		**260,536**	246,371
– equity securities		**1,913**	1,657
– other instruments	1	**85**	97
Debt instruments measured at amortised cost	2	**85,735**	62,666
– treasury and other eligible bills		**10,476**	679
– debt securities		**75,259**	61,987
At 31 Dec		**443,312**	407,433

1 *'Other instruments' comprises of loans and advances.*
2 *Fair value $89.1bn (2018: $62.1bn).*

Equity instruments measured at fair value through other comprehensive income

Type of equity instruments	Fair value $m	Dividends recognised $m
Investments required by central institutions	**738**	**22**
Business facilitation	**1,124**	**19**
Others	**51**	**9**
At 31 Dec 2019	**1,913**	**50**
Investments required by central institutions	848	34
Business facilitation	758	21
Others	51	9
At 31 Dec 2018	1,657	64

Financial investments at amortised cost and fair value

		2019		2018	
		Amortised cost	**Fair value[1]**	Amortised cost	Fair value[1]
	Footnotes	**$m**	**$m**	$m	$m
US Treasury		**79,633**	**80,589**	54,941	54,763
US Government agencies	*2*	**26,356**	**26,387**	21,058	20,580
US Government-sponsored entities	*2*	**8,070**	**8,259**	12,867	12,701
UK Government		**28,621**	**28,973**	20,576	21,083
Hong Kong Government		**47,824**	**47,820**	49,956	49,955
Other governments		**140,510**	**142,511**	142,495	144,099
Asset-backed securities	*3*	**2,954**	**2,889**	3,579	3,390
Corporate debt and other securities		**101,750**	**107,364**	97,286	98,419
Equities		**1,241**	**1,913**	1,353	1,657
At 31 Dec		**436,959**	**446,705**	404,111	406,647

1 *Included within 'fair value' figures are debt securities issued by banks and other financial institutions of $61bn (2018: $56bn), of which $11bn (2018: $8bn) 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 Government agencies and sponsored entities.*

Maturities of investments in debt securities at their carrying amount

	Up to 1 year $m	1 to 5 years $m	5 to 10 years $m	Over 10 years $m	Total $m
Debt securities measured at fair value through other comprehensive income	**61,833**	**123,740**	**42,831**	**32,132**	**260,536**
Debt securities measured at amortised cost	**5,472**	**14,395**	**21,431**	**33,961**	**75,259**
At 31 Dec 2019	**67,305**	**138,135**	**64,262**	**66,093**	**335,795**
Debt securities measured at fair value through other comprehensive income	61,598	124,075	36,194	24,504	246,371
Debt securities measured at amortised cost	2,519	10,086	16,065	33,317	61,987
At 31 Dec 2018	64,117	134,161	52,259	57,821	308,358

Contractual maturities and weighted average yields of investment debt securities

	Up to 1 year		1 to 5 years		5 to 10 years		Over 10 years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
	$m	%	$m	%	$m	%	$m	%
Debt securities measured at fair value through other comprehensive income								
US Treasury	6,322	2.1	26,834	2.0	18,208	2.0	3,268	2.9
US Government agencies	—	—	79	2.2	1	4.7	15,581	2.6
US Government-sponsored agencies	725	2.8	167	3.1	1,940	2.8	2,191	3.0
UK Government	4,681	1.3	4,393	1.1	4,443	0.2	2,811	2.8
Hong Kong Government	559	1.3	145	1.8	152	3.2	—	—
Other governments	39,144	2.3	54,689	2.8	11,478	1.7	1,862	3.6
Asset-backed securities	18	2.7	1	0.5	325	3.1	2,610	2.2
Corporate debt and other securities	9,735	2.0	34,921	1.8	4,879	2.2	2,795	3.4
Total amortised cost at 31 Dec 2019	61,184		121,229		41,426		31,118	
Total carrying value	61,833		123,740		42,831		32,132	
Debt securities measured at amortised cost								
US Treasury	3,010	1.9	4,879	1.8	2,931	1.9	141	4.2
US Government agencies	—	—	13	3.8	19	3.5	10,286	2.6
US Government-sponsored agencies	—	—	482	2.7	551	2.3	2,015	3.2
Hong Kong Government	10	1.6	20	1.6	9	1.4	—	—
Other governments	128	4.4	552	3.4	487	3.1	832	4.2
Asset-backed securities	—	—	—	—	—	—	2	7.5
Corporate debt and other securities	2,324	3.5	8,449	3.4	17,434	3.3	20,685	3.8
Total amortised cost at 31 Dec 2019	5,472		14,395		21,431		33,961	
Total carrying value	5,472		14,395		21,431		33,961	

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 2019 by the book amount of debt securities at that date. The yields do not include the effect of related derivatives.

HSBC Holdings

HSBC Holdings carrying amount of financial investments

		2019	2018
	Footnotes	$m	$m
Debt instruments measured at amortised cost	*1*		
– treasury and other eligible bills		10,081	—
– debt securities		6,025	—
At 31 Dec		16,106	—

1 The 2019 period includes $16.1bn (2018: nil) of investments in highly liquid securities.

Financial investments at amortised cost and fair value

	2019		2018	
	Amortised cost	Fair value	Amortised cost	Fair value
	$m	$m	$m	$m
US Treasury	16,106	16,121	—	—
US Government agencies	—	—	—	—
US Government-sponsored entities	—	—	—	—
At 31 Dec	16,106	16,121	—	—

Maturities of investments in debt securities at their carrying amount

	Up to 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total
	$m	$m	$m	$m	$m
Debt securities measured at amortised cost	3,010	3,015	—	—	6,025
At 31 Dec 2019	3,010	3,015	—	—	6,025
Debt securities measured at amortised cost	—	—	—	—	—
At 31 Dec 2018	—	—	—	—	—

Contractual maturities and weighted average yields of investment debt securities

	Up to 1 year		1 to 5 years		5 to 10 years		Over 10 years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
	$m	%	$m	%	$m	%	$m	%
Debt securities measured at amortised cost								
US Treasury	3,010	1.9	3,015	1.7	–	–	–	–
US Government agencies	–	–	–	–	–	–	–	–
US Government-sponsored agencies	–	–	–	–	–	–	–	–
Total amortised cost at 31 Dec 2019	3,010		3,015		–		–	
Total carrying value	3,010		3,015		–		–	

The weighted average yield for each range of maturities is calculated by dividing the annualised interest income for the year ended 31 December 2019 by the book amount of debt securities at that date. The yields do not include the effect of related derivatives.

17 Assets pledged, collateral received and assets transferred

Assets pledged

Financial assets pledged as collateral

	2019	2018
	$m	$m
Treasury bills and other eligible securities	14,034	11,470
Loans and advances to banks	1,975	151
Loans and advances to customers	26,017	51,659
Debt securities	60,995	95,210
Equity securities	24,626	22,510
Other	50,231	34,028
Assets pledged at 31 Dec	177,878	215,028

Assets pledged as collateral include all assets categorised as encumbered in the disclosure on page 73 of the Pillar 3 Disclosures at 31 December 2019.

The amount of assets pledged to secure liabilities may be greater than the book value of assets utilised as collateral. For example, in the case of securitisations and covered bonds, the amount of liabilities issued plus mandatory over-collateralisation is less than the book value of the pool of assets available for use as collateral. This is also the case where assets are placed with a custodian or a settlement agent that has a floating charge over all the 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 and borrowing, repurchase agreements and derivative margining. HSBC places both cash and non-cash collateral in relation to derivative transactions.

Hong Kong currency notes in circulation are secured by the deposit of funds in respect of which the Hong Kong Government certificates of indebtedness are held.

Financial assets pledged as collateral which the counterparty has the right to sell or repledge

	2019	2018
	$m	$m
Trading assets	63,163	76,121
Financial investments	10,782	15,741
At 31 Dec	73,945	91,862

Collateral received

The fair value of assets accepted as collateral relating primarily to standard securities lending, reverse repurchase agreements, swaps of securities and derivative margining that HSBC is permitted to sell or repledge in the absence of default was $468,798m (2018: $482,818m). The fair value of any such collateral sold or repledged was $304,261m (2018: $350,848m).

HSBC is obliged to return equivalent securities. These transactions are conducted under terms that are usual and customary to standard securities lending, reverse repurchase agreements and derivative margining.

Assets transferred

The assets pledged include transfers to third parties that do not qualify for derecognition, notably secured borrowings such as debt securities held by counterparties as collateral under repurchase agreements and equity securities lent under securities lending agreements, as well as swaps of equity and debt securities. For secured borrowings, the transferred asset collateral continues to be recognised in full while a related liability, reflecting the Group's obligation to repurchase the assets for a fixed price at a future date, is also recognised on the balance sheet. Where securities are swapped, the transferred asset continues to be recognised in full. There is no associated liability as the non-cash collateral received is not recognised on the balance sheet. The Group is unable to use, sell or pledge the transferred assets for the duration of the transaction, and remains exposed to interest rate risk and credit risk on these pledged assets. With the exception of 'Other sales' in the following table, 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:		Fair value of:		
	Transferred assets	Associated liabilities	Transferred assets	Associated liabilities	Net position
	$m	$m	$m	$m	$m
At 31 Dec 2019					
Repurchase agreements	**45,831**	**45,671**			
Securities lending agreements	**35,122**	**3,225**			
Other sales (recourse to transferred assets only)	**2,971**	**2,885**	**2,974**	**2,897**	**77**
At 31 Dec 2018					
Repurchase agreements	62,216	60,361			
Securities lending agreements	32,486	2,426			
Other sales (recourse to transferred assets only)	2,647	2,647	2,625	2,630	(5)

18 Interests in associates and joint ventures

Carrying amount of HSBC's interests in associates and joint ventures

	2019	2018
	$m	$m
Interests in associates	**24,384**	22,244
Interests in joint ventures[1]	**90**	163
Interests in associates and joint ventures	**24,474**	22,407

1 *During 2019, HSBC increased its shareholding in HSBC Saudi Arabia, which is now recognised as a subsidiary.*

Principal associates of HSBC

	2019		2018	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Bank of Communications Co., Limited	**18,982**	**10,054**	17,754	10,991
The Saudi British Bank	**4,370**	**5,550**	3,557	5,222

1 *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 Dec 2019		
	Footnotes	Country of incorporation and principal place of business	Principal activity	HSBC's interest %
Bank of Communications Co., Limited		**People's Republic of China**	**Banking services**	**19.03**
The Saudi British Bank	1	**Saudi Arabia**	**Banking services**	**29.20**

1 *In June 2019, the merger between The Saudi British Bank ('SABB') and Alawwal bank ('Alawwal') became effective. The merger involved SABB issuing a fixed number of new shares to Alawwal's shareholders in exchange for the transfer of Alawwal's net assets and cancellation of its shares. HSBC's 40.0% interest in SABB reduced to 29.2% of the combined entity, resulting in a dilution gain of $828m recognised in HSBC's consolidated income statement. The dilution gain represents the difference between the carrying amount of HSBC's interest in SABB that was derecognised proportionate to the percentage reduction, and HSBC's share of the increase in the combined entity's net assets. The combined entity continues to be an associate of HSBC.*

A list of all associates and joint ventures is set out in Note 37.

Bank of Communications Co., Limited

The Group's investment in Bank of Communications Co., Limited ('BoCom') is classified as an associate. Significant influence in BoCom was established via representation on BoCom's Board of Directors and participation in a technical cooperation and exchange programme ('TCEP'). Under the TCEP, a number of HSBC staff have been seconded to assist in the maintenance of BoCom's financial and operating policies. Investments in associates are recognised using the equity method of accounting in accordance with IAS 28, whereby the investment is initially recognised at cost and adjusted thereafter for the post-acquisition change in the Group's share of BoCom's net assets. An impairment test is required if there is any indication of impairment.

Impairment testing

At 31 December 2019, the fair value of the Group's investment in BoCom had been below the carrying amount for approximately eight years. As a result, the Group performed an impairment test on the carrying amount, which confirmed that there was no impairment at 31 December 2019 as the recoverable amount as determined by a value-in-use ('VIU') calculation was higher than the carrying value.

	At 31 Dec 2019			At 31 Dec 2018		
	VIU	Carrying value	Fair value	VIU	Carrying value	Fair value
	$bn	$bn	$bn	$bn	$bn	$bn
BoCom	**21.5**	**19.0**	**10.1**	18.0	17.8	11.0

In future periods, the VIU may increase or decrease depending on the effect of changes to model inputs. The main model inputs are described below and are based on factors observed at period-end. The factors that could result in a change in the VIU and an impairment include a short-term underperformance by BoCom, a change in regulatory capital requirements or an increase in uncertainty regarding the future performance of BoCom resulting in a downgrade of the future asset growth or profitability. An increase in the discount rate as a result of an increase in the risk premium or risk-free rates could also result in a reduction of VIU and an impairment. At the point where the carrying value exceeds the VIU, impairment would be recognised.

If the Group did not have significant influence in BoCom, the investment would be carried at fair value rather than the current carrying value.

Basis of recoverable amount

The impairment test was performed by comparing the recoverable amount of BoCom, determined by a VIU calculation, with its carrying amount. The VIU calculation uses discounted cash flow projections based on management's best estimates of future earnings available to ordinary shareholders prepared in accordance with IAS 36. Significant management judgement is required in arriving at the best estimate. There are two main components to the VIU calculation. The first component is management's best estimate of BoCom's earnings, which is based on explicit forecasts over the short to medium term. This results in forecast earnings growth that is lower than recent historical actual growth and also reflects the uncertainty arising from the current economic outlook. Earnings beyond the short to medium term are then extrapolated in perpetuity using a long-term growth rate to derive a terminal value, which comprises the majority of the VIU. The second component is the capital maintenance charge ('CMC'), which is management's forecast of the earnings that need to be withheld in order for BoCom to meet regulatory capital requirements over the forecast period, meaning that CMC is deducted when arriving at management's estimate of future earnings available to ordinary shareholders. The principal inputs to the CMC calculation include estimates of asset growth, the ratio of risk-weighted assets to total assets and the expected minimum regulatory capital requirements. An increase in the CMC as a result of a change to these principal inputs would reduce VIU. Additionally, management considers other factors, including qualitative factors, to ensure that the inputs to the VIU calculation remain appropriate.

Key assumptions in value-in-use calculation

We used a number of assumptions in our VIU calculation, in accordance with the requirements of IAS 36:

- Long-term profit growth rate: 3% (2018: 3%) for periods after 2023, which does not exceed forecast GDP growth in mainland China and is consistent with forecasts by external analysts.
- Long-term asset growth rate: 3% (2018: 3%) for periods after 2023, which is the rate that assets are expected to grow to achieve long-term profit growth of 3%.
- Discount rate: 11.24% (2018: 11.82%). This is based on a capital asset pricing model ('CAPM') calculation for BoCom, using market data. Management also compares the rate derived from the CAPM with discount rates from external sources. The discount rate used is within the range of 10.0% to 15.0% (2018: 10.4% to 15.0%) indicated by external sources.
- Expected credit losses as a percentage of customer advances: 0.95% (2018: ranges from 0.73% to 0.79%) in the short to medium term and reflect increases due to the US-China trade tensions and BoCom's actual results. For periods after 2023, the ratio is 0.76% (2018: 0.70%). This ratio was increased to provide greater weighting to the most recent data points and analyst forecasts.
- Risk-weighted assets as a percentage of total assets: 61% (2018: 62%) for all forecast periods. This is consistent with BoCom's actual results and slightly higher than the forecasts disclosed by external analysts.
- Cost-income ratio: ranges from 37.1% to 38.8% (2018: 38.7% to 39.0%) in the short to medium term. This is slightly above BoCom's actual results in recent years and within the range of forecasts disclosed by external analysts.
- Effective tax rate: ranges from 12.0% to 17.0% (2018: 13.8% to 22.3%) in the short to medium term reflecting BoCom's actual results and an expected increase towards the long-term assumption. For periods after 2023, the rate is 22.5% (2018: 22.5%), which is slightly higher than the historical average.
- Capital requirements: Capital adequacy ratio of 11.5% (2018:11.5%) and tier 1 capital adequacy ratio of 9.5% (2018: 9.5%), based on the minimum regulatory requirements.

The following table shows the change to each key assumption in the VIU calculation that on its own would reduce the headroom to nil:

Key assumption	Changes to key assumption to reduce headroom to nil
• Long-term profit growth rate	• Decrease by 99 basis points
• Long-term asset growth rate	• Increase by 80 basis points
• Discount rate	• Increase by 122 basis points
• Expected credit losses as a percentage of customer advances	• Increase by 16 basis points
• Risk-weighted assets as a percentage of total assets	• Increase by 624 basis points
• Cost-income ratio	• Increase by 373 basis points
• Long-term effective tax rate	• Increase by 900 basis points
• Capital requirements – capital adequacy ratio	• Increase by 118 basis points
• Capital requirements – tier 1 capital adequacy ratio	• Increase by 190 basis points

The following table further illustrates the impact on VIU of reasonably possible changes to key assumptions. This reflects the sensitivity of the VIU to each key assumption on its own and it is possible that more than one favourable and/or unfavourable change may occur at the same time. The selected rates of reasonably possible changes to key assumptions are largely based on external analysts' forecasts, which can change period to period.

Sensitivity of VIU to reasonably possible changes in key assumptions

	Favourable change			Unfavourable change		
		Increase in VIU	VIU		Decrease in VIU	VIU
	bps	$bn	$bn	bps	$bn	$bn
At 31 Dec 2019						
Long-term profit growth rate	**—**	**—**	**21.5**	**(50)**	**(1.3)**	**20.2**
Long-term asset growth rate	**(50)**	**1.4**	**22.9**	**—**	**—**	**21.5**
Discount rate	**(54)**	**1.4**	**22.9**	**56**	**(1.2)**	**20.3**
Expected credit losses as a percentage of customer advances	**2019 to 2023: 90 2024 onwards: 70**	**1.0**	**22.5**	**2019 to 2023: 108 2024 onwards: 81**	**(1.2)**	**20.3**
Risk-weighted assets as a percentage of total assets	**(96)**	**0.4**	**21.9**	**12**	**—**	**21.5**
Cost-income ratio	**(175)**	**1.0**	**22.5**	**95**	**(1.2)**	**20.3**
Long-term effective tax rate	**(352)**	**1.0**	**22.5**	**250**	**(0.7)**	**20.8**
Earnings in short to medium term – compound annual growth rate[1]	**107**	**0.5**	**22.0**	**(346)**	**(2.4)**	**19.1**
Capital requirements – capital adequacy ratio	**—**	**—**	**21.5**	**337**	**(8.2)**	**13.3**
Capital requirements – tier 1 capital adequacy ratio	**—**	**—**	**21.5**	**322**	**(6.0)**	**15.5**
At 31 Dec 2018						
Long-term profit growth rate	100	2.6	20.6	(10)	(0.2)	17.8
Long-term asset growth rate	(10)	0.3	18.3	100	(2.8)	15.3
Discount rate	(142)	3.2	21.3	28	(0.5)	17.5
Expected credit losses as a percentage of customer advances	2018 to 2022: 70 2023 onwards: 65	0.9	18.9	2018 to 2022: 83 2023 onwards: 77	(1.0)	17.0
Risk-weighted assets as a percentage of total assets	(140)	0.5	18.6	80	(0.3)	17.8
Cost-income ratio	(160)	1.1	19.2	200	(1.4)	16.7
Long-term effective tax rate	(280)	0.7	18.7	250	(0.6)	17.5
Earnings in short to medium term – compound annual growth rate[1,2]	204	1.1	19.1	(366)	(1.8)	16.2
Capital requirements – capital adequacy ratio	—	—	18.0	258	(5.0)	13.0
Capital requirements – tier 1 capital adequacy ratio	—	—	18.0	243	(3.2)	14.8

1 *Based on management's explicit forecasts over the short to medium term.*
2 *Amounts at 31 December 2018 have been updated to align with the 2019 approach to describe the impact of the change in isolation.*

Considering the interrelationship of the changes set out in the table above, management estimates that the reasonably possible range of VIU is $18.5bn to $22.8bn (2018: $15.5bn to $19.6bn). The range is based on the favourable/unfavourable change in the earnings in the short- to medium-term and long-term expected credit losses as a percentage of customer advances as set out in the table above. All other long-term assumptions, the discount rate and the basis of the CMC have been kept unchanged when determining the reasonably possible range of the VIU.

Selected financial information of BoCom

The statutory accounting reference date of BoCom is 31 December. For the year ended 31 December 2019, HSBC included the associate's results on the basis of the financial statements for the 12 months ended 30 September 2019, taking into account changes in the subsequent period from 1 October 2019 to 31 December 2019 that would have materially affected the results.

Selected balance sheet information of BoCom

	At 30 Sep	
	2019	2018
	$m	$m
Cash and balances at central banks	**112,239**	125,414
Loans and advances to banks and other financial institutions	**108,026**	102,980
Loans and advances to customers	**730,510**	686,951
Other financial assets	**435,740**	408,136
Other assets	**40,101**	42,106
Total assets	**1,426,616**	1,365,587
Deposits by banks and other financial institutions	**290,492**	304,395
Customer accounts	**868,627**	829,539
Other financial liabilities	**131,772**	94,900
Other liabilities	**23,074**	36,332
Total liabilities	**1,313,965**	1,265,166
Total equity	**112,651**	100,421

Reconciliation of BoCom's total shareholders' equity to the carrying amount in HSBC's consolidated financial statements

	At 30 Sep	
	2019	2018
	$m	$m
HSBC's share of total shareholders' equity	**18,509**	17,275
Goodwill and other intangible assets	**473**	479
Carrying amount	**18,982**	17,754

Selected income statement information of BoCom

	For the 12 months ended 30 Sep	
	2019	2018
	$m	$m
Net interest income	20,558	19,295
Net fee and commission income	6,411	6,245
Change in expected credit losses and other credit impairment charges	(7,479)	(5,602)
Depreciation and amortisation	(1,934)	(767)
Tax expense	(1,636)	(1,554)
Profit for the year	**11,175**	11,116
Other comprehensive income	315	190
Total comprehensive income	**11,490**	11,306
Dividends received from BoCom	613	611

Associates and joint ventures

For the year ended 31 December 2019, HSBC's share of associates' and joint ventures' tax on profit was $314m (2018: $306m). This is included within 'Share of profit in associates and joint ventures' in the consolidated income statement.

19 Investments in subsidiaries

Main subsidiaries of HSBC Holdings

	At 31 Dec 2019		
	Place of incorporation or registration	HSBC's interest %	Share class
Europe			
HSBC Bank plc	England and Wales	100	£1 Ordinary, $0.01 Non-cumulative third Dollar Preference
HSBC UK Bank plc	England and Wales	100	£1 Ordinary
HSBC France	France	99.99	€5 Actions
HSBC Trinkaus & Burkhardt AG	Germany	80.67	Stückaktien no par value
Asia			
Hang Seng Bank Limited	Hong Kong	62.14	HK$5 Ordinary
HSBC Bank (China) Company Limited	People's Republic of China	100	CNY1 Ordinary
HSBC Bank Malaysia Berhad	Malaysia	100	RM0.50 Ordinary
HSBC Life (International) Limited	Bermuda	100	HK$1 Ordinary
The Hongkong and Shanghai Banking Corporation Limited	Hong Kong	100	Ordinary no par value
Middle East and North Africa			
HSBC Bank Middle East Limited	United Arab Emirates	100	$1 Ordinary and $1 Cumulative Redeemable Preference shares (CRP)
North America			
HSBC Bank Canada	Canada	100	Common no par value and Preference no par value
HSBC Bank USA, N.A.	US	100	$100 Common and $0.01 Preference
Latin America			
HSBC Mexico, S.A., Institución de Banca Múltiple, Grupo Financiero HSBC	Mexico	99.99	MXN2 Ordinary

Details of the debt, subordinated debt and preference shares issued by the main subsidiaries to parties external to the Group are included in Note 25 'Debt securities in issue' and Note 28 'Subordinated liabilities', respectively.

A list of all related undertakings is set out in Note 37. The principal countries of operation are the same as the countries and territories of incorporation except for 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 is incorporated in the annual operating 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. The increase in HSBC Holdings' investments in subsidiaries during the year is primarily driven by new capital injections of $3,721m (2018: net increase of $65,222m), partially offset by $2,562m impairment charges (2018: net reversal of $2,064m), which includes $2,475m impairment of HSBC Overseas Holdings (UK) Limited.

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. During 2019, consistent with the Group's capital plan, the Group's subsidiaries did not experience any significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged with regard to planned dividends or payments. However, 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.

The amount of guarantees by HSBC Holdings in favour of other Group entities is set out in Note 32.

Information on structured entities consolidated by HSBC where HSBC owns less than 50% of the voting rights is included in Note 20 'Structured entities'. In each of these 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

	2019	2018
Hang Seng Bank Limited		
Proportion of ownership interests and voting rights held by non-controlling interests	**37.86%**	37.86%
Place of business	**Hong Kong**	Hong Kong
	$m	$m
Profit attributable to non-controlling interests	**1,229**	1,194
Accumulated non-controlling interests of the subsidiary	**7,262**	6,637
Dividends paid to non-controlling interests	**720**	647
Summarised financial information:		
– total assets	**212,485**	197,867
– total liabilities	**191,819**	179,450
– net operating income before changes in expected credit losses and other credit impairment charges	**5,558**	5,294
– profit for the year	**3,251**	3,159
– total comprehensive income for the year	**3,461**	2,950

20 Structured entities

HSBC is mainly involved with both consolidated and unconsolidated structured entities through the securitisation of financial assets, conduits and investment funds, established either by HSBC or a third party.

Consolidated structured entities

Total assets of HSBC's consolidated structured entities, split by entity type

	Conduits	Securitisations	HSBC managed funds	Other	Total
	$bn	$bn	$bn	$bn	$bn
At 31 Dec 2019	**8.6**	**9.6**	**6.8**	**6.7**	**31.7**
At 31 Dec 2018	9.2	5.7	6.5	4.4	25.8

Conduits

HSBC has established and manages two types of conduits: securities investment conduits ('SICs') and multi-seller conduits.

Securities investment conduits

The SICs purchase highly rated ABSs to facilitate tailored investment opportunities.

- At 31 December 2019, Solitaire, HSBC's principal SIC, held $2.1bn of ABSs (2018: $2.3bn). It 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 2019, HSBC held $3.2bn of CP (2018: $3.4bn).
- As at 31 December 2019, Barion, Malachite and Mazarin are fully redeemed vehicles with no current trading activity.

Multi-seller conduit

HSBC's multi-seller conduit was established to provide access to flexible market-based sources of finance for its clients. Currently, HSBC bears risk equal to the transaction-specific facility offered to the multi-seller conduit, amounting to $12.4bn at 31 December 2019 (2018: $16.1bn). 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 it originates 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 these funds.

Other

HSBC has 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 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.

Nature and risks associated with HSBC interests in unconsolidated structured entities

Total asset values of the entities ($m)	Securitisations	HSBC managed funds	Non-HSBC managed funds	Other	Total
0–500	**91**	**236**	**670**	**70**	**1,067**
500–2,000	**12**	**70**	**642**	**7**	**731**
2,000–5,000	**—**	**28**	**345**	**—**	**373**
5,000–25,000	**—**	**14**	**260**	**—**	**274**
25,000+	**—**	**3**	**39**	**2**	**44**
Number of entities at 31 Dec 2019	**103**	**351**	**1,956**	**79**	**2,489**
	$bn	**$bn**	**$bn**	**$bn**	**$bn**
Total assets in relation to HSBC's interests in the unconsolidated structured entities	**5.3**	**9.1**	**15.1**	**4.2**	**33.7**
– trading assets	**—**	**0.2**	**3.5**	**1.3**	**5**
– financial assets designated and otherwise mandatorily measured at fair value	**—**	**8.4**	**10.7**	**—**	**19.1**
– loans and advances to customers	**5.3**	**—**	**0.4**	**2.3**	**8**
– financial investments	**—**	**0.5**	**0.5**	**—**	**1**
– other assets	**—**	**—**	**—**	**0.6**	**0.6**
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	**—**	**—**	**—**	**0.3**	**0.3**
– other liabilities	**—**	**—**	**—**	**0.3**	**0.3**
Other off-balance sheet commitments	**0.3**	**0.3**	**3.9**	**0.7**	**5.2**
HSBC's maximum exposure at 31 Dec 2019	**5.6**	**9.4**	**19.0**	**4.6**	**38.6**
Total asset values of the entities ($m)					
0–500	76	243	906	79	1,304
500–2,000	10	56	570	5	641
2,000–5,000	1	17	230	—	248
5,000–25,000	—	5	90	1	96
25,000+	—	2	10	—	12
Number of entities at 31 Dec 2018	87	323	1,806	85	2,301
	$bn	$bn	$bn	$bn	$bn
Total assets in relation to HSBC's interests in the unconsolidated structured entities	3.8	8.3	8.9	4.7	25.7
– trading assets	—	0.1	0.3	1.3	1.7
– financial assets designated and otherwise mandatorily measured at fair value	—	7.3	7.9	—	15.2
– loans and advances to customers	3.8	—	0.3	2.7	6.8
– financial investments	—	0.9	0.4	0.3	1.6
– other assets	—	—	—	0.4	0.4
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	—	—	—	0.2	0.2
– other liabilities	—	—	—	0.2	0.2
Other off-balance sheet commitments	0.8	0.1	3.3	1.0	5.2
HSBC's maximum exposure at 31 Dec 2018	4.6	8.4	12.2	5.5	30.7

The maximum exposure to loss from HSBC's interests in unconsolidated structured entities represents the maximum loss it could incur as a result of its involvement with these 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 that HSBC has entered into in order to mitigate the Group'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.

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 60.

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 business and meet customer needs.

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.

In addition to the interests disclosed above, HSBC enters into derivative contracts, reverse repos and stock borrowing transactions with structured entities. These interests arise in the normal course of business for the facilitation of third-party transactions and risk management solutions.

HSBC sponsored structured entities

The amount of assets transferred to and income received from such sponsored structured entities during 2019 and 2018 were not significant.

21 Goodwill and intangible assets

	Footnotes	2019 $m	2018 $m
Goodwill		**5,590**	12,986
Present value of in-force long-term insurance business		**8,945**	7,149
Other intangible assets	1	**5,628**	4,222
At 31 Dec		**20,163**	24,357

1 *Included within other intangible assets is internally generated software with a net carrying value of $4,829m (2018: $3,632m). During the year, capitalisation of internally generated software was $2,086m (2018: $1,781m) and amortisation was $947m (2018: $687m).*

Movement analysis of goodwill

	2019 $m	2018 $m
Gross amount		
At 1 Jan	**22,180**	22,902
Exchange differences	**(154)**	(617)
Other	**58**	(105)
At 31 Dec	**22,084**	22,180
Accumulated impairment losses		
At 1 Jan	**(9,194)**	(9,314)
Impairment losses	**(7,349)**	—
Exchange differences	**49**	120
At 31 Dec	**(16,494)**	(9,194)
Net carrying amount at 31 Dec	**5,590**	12,986

Impairment testing

The Group's impairment test in respect of goodwill allocated to each cash-generating unit ('CGU') is performed at 1 July each year. A review for indicators of impairment is undertaken at each subsequent quarter-end and at 31 December 2019.

31 December 2019 impairment test

Having considered the extent of our 2020 business update, current market conditions and their combined potential impact on HSBC's operations, an interim impairment test was performed at 31 December 2019 for all CGUs. As a result, we recognised $7.3bn of goodwill impairment related to five CGUs: GB&M; Europe – CMB; North America – GPB; Latin America – CMB; and Middle East and North Africa – CMB.

Impairment resulted from a combination of factors, including our macroeconomic outlook, a corresponding judgement to reduce the basis of the long-term growth rate assumption used to estimate value in use ('VIU'), IFRS requirements which limit elements of management-approved forecasts that should be considered when testing goodwill for impairment (see 'Management's judgement in estimating cash flows of a CGU' on page 290) and lower forecast profitability in some businesses. Significant inputs to the VIU calculation are discussed in more detail within 'Basis of the recoverable amount' on page 290. Management considered the sensitivity of certain assumptions and the outcome of reasonably possible alternative scenarios. This resulted in full impairment of goodwill for the five CGUs.

Impairment results and key assumptions in VIU calculation – impaired CGUs

	Carrying amount $bn	of which goodwill $bn	Value in use $bn	Impairment $bn	Discount rate %	Growth rate beyond initial cash flow projections %
Cash-generating unit						
GB&M	**60.7**	**4.0**	**55.8**	**4.0**	**9.5**	**2.0**
Europe – CMB	**20.0**	**2.5**	**17.5**	**2.5**	**9.5**	**1.8**
North America – GPB	**0.9**	**0.4**	**0.5**	**0.4**	**9.5**	**2.1**
Latin America – CMB	**1.3**	**0.3**	**1.0**	**0.3**	**17.0**	**3.6**
Middle East and North Africa – CMB	**2.6**	**0.1**	**1.5**	**0.1**	**13.3**	**2.4**
2019 impairment recognised				**7.3**		

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. The VIU is calculated by discounting management's cash flow projections for the CGU. The key assumptions used in the VIU calculation for each individually significant CGU that is not impaired are discussed below.

Key assumptions in VIU calculation – significant CGUs at 31 December 2019

	Goodwill at 31 Dec 2019	Discount rate	Growth rate beyond initial cash flow	Goodwill at 1 Jul 2019	Discount rate	Nominal growth rate beyond initial cash flow	Goodwill at 1 Jul 2018	Discount rate	Nominal growth rate beyond initial cash flow projections
	$m	%	%	$m	%	%	$m	%	%
Cash-generating unit									
Europe – RBWM	**3,464**	**8.3**	**1.7**	**3,496**	**8.3**	**3.2**	3,565	8.1	3.8

At 31 December 2019, aggregate goodwill of $2,126m (1 July 2019: $2,938m; 1 July 2018: $3,061m) 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 Board. The Board challenges and endorses planning assumptions in light of internal capital allocation decisions necessary to support our strategy, current market conditions and macroeconomic outlook. For the 31 December 2019 interim impairment test, cash flow projections until the end of Q1 2024 were considered. As required by IFRSs, estimates of future cash flows exclude estimated cash inflows or outflows that are expected to arise from restructuring initiatives before an entity has a constructive obligation to carry out the plan, and would therefore have recognised a provision for restructuring costs. Our business update includes plans to reduce operating costs by approximately $4.5bn by 2022, incurring costs to achieve these reductions of $6.0bn. Accordingly, we have excluded these components of the plan approved by the Board as they relate to individual CGUs when calculating VIU.

Discount rate

The rate used to discount the cash flows is based on the cost of capital assigned to each CGU, which is derived using a capital asset pricing model ('CAPM'). CAPM depends on a number of inputs reflecting 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 the cost of capital rates produced by external sources for businesses operating in similar markets.

Long-term growth rate

The long-term growth rate is used to extrapolate the cash flows in perpetuity because of the long-term perspective within the Group of business units making up the CGUs. Prior to the 31 December 2019 impairment test, these growth rates reflected GDP and inflation (nominal GDP) for the countries within which the CGU operates or from which it derives revenue. At 31 December 2019 we considered the extent to which growth rates based on nominal GDP data remained appropriate given the uncertainty in the macroeconomic environment from the impact of social unrest in Hong Kong, trade disagreements between the US and China and the UK's withdrawal from the EU. We anticipate that when global growth does stabilise it will be at a slightly lower level than recent years. As a result, we considered it appropriate to base the long-term growth rate assumption on inflation data, moving away from a higher nominal GDP basis. This judgement had a material impact on the goodwill impairment outcome.

Sensitivities of key assumptions in calculating VIU

At 31 December 2019, Europe – RBWM was sensitive to reasonably possible adverse changes in 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. A reasonable change in a single key assumption may not result in impairment. Though taken together a combination of reasonable changes in key assumptions could result in a recoverable amount that is lower than the CGU's carrying amount.

	Input	Key assumptions	Associated risks	Reasonably possible change
Cash-generating unit				
Europe – RBWM	Cash flow projections	• Level of interest rates and yield curves. • Competitors' position within the market. • Level and change in unemployment rates.	• Uncertain regulatory environment. • Customer remediation and regulatory actions.	• Cash flow projections decrease by 30%. This does not result in an impairment.
	Discount rate	• Discount rate used is a reasonable estimate of a suitable market rate for the profile of the business.	• External evidence suggests that the rate used is not appropriate to the business.	• Discount rate increases by 100 bps. This does not result in an impairment.

Sensitivity of VIU to reasonably possible changes in key assumptions and changes to current assumptions to achieve nil headroom

In $ billions (unless otherwise stated)	Europe – RBWM $bn
At 31 December 2019	
Carrying amount	**10.1**
VIU	**16.7**
Impact on VIU	
100 bps increase in the discount rate – single variable	**(2.3)**
30% decrease in cash flow projections – single variable	**(5.6)**
Cumulative impact of all changes	**(7.1)**
Changes to key assumption to reduce headroom to NIL – single variable	
Discount rate – bps	**397**
Cash flows – %	**(39.4)**

Present value of in-force long-term insurance business

When calculating the present value of in-force long-term ('PVIF') insurance business, 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 uncertainty in the underlying assumptions is reflected by applying margins (as opposed to a cost of capital methodology) including valuing the cost of policyholder options and guarantees using stochastic techniques.

Actuarial Control Committees of each key insurance entity meet on a quarterly basis to review and approve PVIF assumptions. All changes to non-economic assumptions, economic assumptions that are not observable and model methodologies must be approved by the Actuarial Control Committee.

Movements in PVIF

	Footnotes	2019 $m	2018 $m
As at 31 Dec 2017		**7,149**	6,610
Impact on transition to IFRS 9		**NA**	(78)
At 1 Jan		**7,149**	6,532
Change in PVIF of long-term insurance business		**1,749**	673
– value of new business written during the year		**1,225**	1,117
– expected return	1	**(836)**	(719)
– assumption changes and experience variances (see below)		**1,378**	292
– other adjustments		**(18)**	(17)
Exchange differences and other movements		**47**	(56)
At 31 Dec		**8,945**	7,149

1 *'Expected return' represents the unwinding of the discount rate and reversal of expected cash flows for the period.*

Assumption changes and experience variances

Included within this line item are:

- $1,126m (2018: $(56)m), directly offsetting interest rate-driven changes to the valuation of liabilities under insurance contracts.
- $36m (2018: $455m), reflecting the future expected sharing of returns with policyholders on contracts with discretionary participation features ('DPF'), to the extent this sharing is not already included in liabilities under insurance contracts.
- $216m (2018: $(107)m), driven by other assumptions changes and experience variances.

Key assumptions used in the computation of PVIF for main life insurance operations

Economic assumptions are set in a way that is consistent with observable market values. The valuation of PVIF is sensitive to observed market movements and the impact of such changes is included in the sensitivities presented below.

	2019		2018	
	Hong Kong %	France[1] %	Hong Kong %	France[1] %
Weighted average risk-free rate	**1.84**	**0.44**	2.29	1.52
Weighted average risk discount rate	**5.44**	**1.27**	5.90	2.35
Expense inflation	**3.00**	**1.70**	3.00	1.70

1 *For 2019, the calculation of France's PVIF assumes a risk discount rate of 1.27% (2018: 2.35%) plus a risk margin of $130m (2018: $109m).*

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 the insurance operations 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. For further details of these guarantees and the impact of changes in economic assumptions on our insurance manufacturing subsidiaries, see page 150.

Sensitivity to changes in non-economic assumptions

Policyholder liabilities and PVIF are determined by reference to non-economic assumptions, including mortality and/or morbidity, lapse rates and expense rates. For further details on the impact of changes in non-economic assumptions on our insurance manufacturing operations, see page 151.

22 Prepayments, accrued income and other assets

	Footnotes	2019 $m	2018 $m
Prepayments and accrued income		**9,057**	8,715
Settlement accounts		**14,744**	13,957
Cash collateral and margin receivables		**49,148**	33,202
Assets held for sale		**123**	735
Bullion		**14,830**	13,753
Endorsements and acceptances		**10,198**	9,623
Reinsurers' share of liabilities under insurance contracts (Note 4)		**3,592**	2,506
Employee benefit assets (Note 5)		**8,280**	7,934
Right-of-use assets	1	**4,222**	N/A
Owned property, plant and equipment		**10,480**	10,060
Other accounts		**12,006**	10,086
At 31 Dec		**136,680**	110,571

1 *Right-of-use assets have been recognised from 1 January 2019 following the adoption of IFRS 16. Comparatives have not been restated.*

Prepayments, accrued income and other assets include $92,979m (2018: $74,151m) of financial assets, the majority of which are measured at amortised cost.

23 Trading liabilities

	Footnotes	2019 $m	2018 $m
Deposits by banks	1	**4,187**	4,871
Customer accounts	1	**6,999**	8,614
Other debt securities in issue (Note 25)		**1,404**	1,400
Other liabilities – net short positions in securities		**70,580**	69,546
At 31 Dec		**83,170**	84,431

1 *'Deposits by banks' and 'Customer accounts' include repos, stock lending and other amounts.*

24 Financial liabilities designated at fair value

HSBC

	Footnotes	2019 $m	2018 $m
Deposits by banks and customer accounts	1	**17,660**	19,003
Liabilities to customers under investment contracts		**5,893**	5,458
Debt securities in issue (Note 25)		**130,364**	109,351
Subordinated liabilities (Note 28)		**10,130**	14,282
Preferred securities (Note 28)		**419**	411
At 31 Dec		**164,466**	148,505

1 *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.*

The carrying amount of financial liabilities designated at fair value was $6,120m more than the contractual amount at maturity (2018: $11,496m less). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $2,877m (2018: loss of $209m).

HSBC Holdings

	2019 $m	2018 $m
Debt securities in issue (Note 25)	**24,687**	17,767
Subordinated liabilities (Note 28)	**5,616**	7,282
At 31 Dec	**30,303**	25,049

The carrying amount of financial liabilities designated at fair value was $2,227m more than the contractual amount at maturity (2018: $920m more). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $1,386m (2018: loss of $812m).

25 Debt securities in issue

HSBC

	2019	2018
	$m	$m
Bonds and medium-term notes	**180,969**	162,277
Other debt securities in issue	**55,354**	33,816
Total debt securities in issue	**236,323**	196,093
Included within:		
– trading liabilities (Note 23)	**(1,404)**	(1,400)
– financial liabilities designated at fair value (Note 24)	**(130,364)**	(109,351)
At 31 Dec	**104,555**	85,342

HSBC Holdings

	2019	2018
	$m	$m
Debt securities	**81,531**	68,567
Included within:		
– financial liabilities designated at fair value (Note 24)	**(24,687)**	(17,767)
At 31 Dec	**56,844**	50,800

26 Accruals, deferred income and other liabilities

	2019	2018
	$m	$m
Accruals and deferred income	**11,808**	11,296
Settlement accounts	**14,356**	13,022
Cash collateral and margin payables	**56,646**	41,044
Endorsements and acceptances	**10,127**	9,633
Employee benefit liabilities (Note 5)	**1,771**	2,167
Lease liabilities[1]	**4,604**	N/A
Other liabilities	**18,844**	20,218
At 31 Dec	**118,156**	97,380

1 *Lease liabilities have been recognised from 1 January 2019 following the adoption of IFRS 16. Comparatives have not been restated.*

Accruals, deferred income and other liabilities include $111,395m (2018: $87,390m) of financial liabilities, the majority of which are measured at amortised cost.

27 Provisions

	Restructuring costs	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m
Provisions (excluding contractual commitments)					
At 1 Jan 2019	**130**	**1,128**	**788**	**357**	**2,403**
Additions	**402**	**282**	**1,674**	**223**	**2,581**
Amounts utilised	**(203)**	**(660)**	**(837)**	**(81)**	**(1,781)**
Unused amounts reversed	**(34)**	**(158)**	**(49)**	**(108)**	**(349)**
Exchange and other movements	**61**	**13**	**70**	**(111)**	**33**
At 31 Dec 2019	**356**	**605**	**1,646**	**280**	**2,887**
Contractual commitments[1]					
At 1 Jan 2019					**517**
Net change in expected credit loss provision and other movements					**(6)**
At 31 Dec 2019					**511**
Total provisions					
At 31 Dec 2018					**2,920**
At 31 Dec 2019					**3,398**

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	Restructuring costs	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m
Provisions (excluding contractual commitments)					
At 31 Dec 2017	334	1,501	1,454	469	3,758
Additions	73	1,132	288	232	1,725
Amounts utilised	(158)	(1,255)	(838)	(143)	(2,394)
Unused amounts reversed	(107)	(279)	(90)	(131)	(607)
Exchange and other movements	(12)	29	(26)	(70)	(79)
At 31 Dec 2018	130	1,128	788	357	2,403
Contractual commitments[1]					
At 1 Jan 2018					537
Net change in expected credit loss provision and other movements					(20)
At 31 Dec 2018					517
Total provisions					
At 31 Dec 2017					4,011
At 31 Dec 2018					2,920

1 *Contractual commitments include the provision for contingent liabilities measured under IFRS 9 'Financial Instruments' in respect of financial guarantees and the expected credit loss provision on off-balance sheet guarantees and commitments.*

Further details of 'Legal proceedings and regulatory matters' are set out in Note 34. 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.

Customer remediation refers to HSBC's activities 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. Further details of customer remediation are set out in this note.

Refer to Note 32 for further information on the impact of IFRS 9 on undrawn loan commitments and financial guarantees, presented in 'Contractual commitments'. This provision results from the adoption of IFRS 9 and has no comparatives. Further analysis of the movement in the expected credit loss provision is disclosed within the 'Reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees' table on page 99.

Payment protection insurance

At 31 December 2019, $1.1bn (2018: $555m) of the customer remediation provision relates to the estimated liability for redress in respect of the possible mis-selling of payment protection insurance ('PPI') policies in previous years.

Payments totalling $750m were made during 2019. An increase in provisions of $1.2bn was recognised during the year, primarily reflecting the deadline of 29 August 2019 for bringing complaints announced by the FCA, and leading to:

- a higher than expected increase in the number of inbound complaints received prior to 29 August 2019;
- the effect on the total number of inbound complaints as a result of treating customer information requests relating to PPI policies received between 29 June 2019 and 29 August 2019 as complaints;
- the additional operational expenses related to the increases in populations of potential claims;
- an industry-wide exercise by the Official Receiver to pursue redress amounts in respect of bankrupt and insolvent customers; and
- an increased volume of actual or forecast legal claims for PPI mis-selling, which is not affected by the deadline of 29 August 2019.

The estimated liability for redress for both single and regular premium policies is calculated on the basis of a refund of the total premiums paid by the customer plus simple interest of 8% per annum (or the rate inherent in the related loan product where higher).

Future estimated redress levels are based on historical redress paid to customers per policy.

At 31 December 2019, contact was made with customers who collectively held 3.0 million policies, representing 56% of total policies sold. A total of 5.4 million PPI policies have been sold since 2000, generating estimated revenue of $3.4bn at 2019. The gross written premiums on these policies were approximately $4.5bn. Although the deadline for bringing complaints has passed, customers can still commence litigation for PPI mis-selling. Provision has been made for the best estimate of any obligation to meet those claims. Given the limited period following the complaints time bar, the volume and quality of future claims through legal channels remains uncertain. During the second half of 2019, we received an increasing number of legal claims and Letters Before Action. Our provision estimates that approximately 45,000 claims will be settled in the future.

The following table summarises the cumulative number of information requests received between 29 June and 29 August 2019, and the number of claims expected to be assessed in the future, excluding legal claims:

Cumulative PPI complaints received to 31 December 2019

	Footnotes	Cumulative actual to 31 Dec 2019
Information requests received during autoconversion period (000s)	1	**1,889**
Information requests awaiting evaluation (000s)		**234**
Remaining autoconverted claims anticipated to be worked (000s)	1	**167**
Remaining reactive claims anticipated to be worked (000s)	1	**44**
Total remaining claims anticipated to be worked (000s)	1	**211**
Average uphold rate per claim	2	**86**
Average redress per claim ($)	3	**3,226**

1 *Excludes invalid claims for which no PPI policy exists.*
2 *Including inbound and autoconverted claims, but excludes FOS complaints.*
3 *Including inbound and autoconverted claims, but excludes claims from the Official Receiver.*

The PPI provision is based upon assumptions and estimates taken from historical experience. The profile of cases yet to be assessed could therefore vary leading to different uphold rates or average redress levels being used to arrive at the provision.

We continued to monitor available information up until the date of the approval of the financial statements to ensure the provision estimate was appropriate.

Sensitivity to key assumptions

- A 10% increase/decrease in the uphold rate for complaints yet to be worked would increase/decrease the redress provision by approximately $40m.
- A 10% increase/decrease in the average redress for complaints yet to be worked would increase/decrease the redress provision by approximately $56m.
- An increase/decrease in settled legal claim volumes of 10,000 would increase/decrease the redress provision by approximately $29m.

28 Subordinated liabilities

HSBC's subordinated liabilities

	2019 $m	2018 $m
At amortised cost	**24,600**	22,437
– subordinated liabilities	**22,775**	20,651
– preferred securities	**1,825**	1,786
Designated at fair value (Note 24)	**10,549**	14,693
– subordinated liabilities	**10,130**	14,282
– preferred securities	**419**	411
At 31 Dec	**35,149**	37,130
Issued by HSBC subsidiaries	**12,363**	13,168
Issued by HSBC Holdings	**22,786**	23,962

Subordinated liabilities rank behind senior obligations and generally count towards the capital base of HSBC. 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. On subordinated liabilities other than floating rate notes, interest is payable at fixed rates of up to 10.176%.

The balance sheet amounts disclosed in the following table are presented on an IFRS basis and do not reflect the amount that the instruments contribute to regulatory capital, principally due to regulatory amortisation and regulatory eligibility limits.

HSBC's subsidiaries subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2019 $m	2018 $m
Additional tier 1 capital securities guaranteed by HSBC Holdings		1				
$900m	10.176% non-cumulative step-up perpetual preferred securities, series 2		Jun 2030		**900**	892
					900	892
Additional tier 1 capital securities guaranteed by HSBC Bank plc		1				
£300m	5.862% non-cumulative step-up perpetual preferred securities		Apr 2020		**420**	411
£700m	5.844% non-cumulative step-up perpetual preferred securities		Nov 2031		**925**	894
					1,345	1,305
Tier 2 securities issued by HSBC Bank plc						
$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
$300m	7.65% subordinated notes		—	May 2025	**300**	300
					1,850	1,850
£300m	6.50% subordinated notes		—	Jul 2023	**396**	382
£350m	5.375% callable subordinated step-up notes	2	Nov 2025	Nov 2030	**549**	513
£500m	5.375% subordinated notes		—	Aug 2033	**875**	757
£225m	6.25% subordinated notes		—	Jan 2041	**296**	286
£600m	4.75% subordinated notes		—	Mar 2046	**785**	758
					4,751	4,546
Tier 2 securities issued by The Hongkong and Shanghai Banking Corporation Ltd						
$400m	Primary capital undated floating rate notes (third series)		Jul 1991		**400**	400
					400	400
Tier 2 securities issued by HSBC Bank Malaysia Berhad						
MYR500m	5.05% subordinated bonds		Nov 2022	Nov 2027	**122**	121
					122	121
Tier 2 securities issued by HSBC USA Inc.						
$750m	5.00% subordinated notes	6	—	Sep 2020	**748**	747
$250m	7.20% subordinated debentures	6	—	Jul 2097	**221**	221
	Other subordinated liabilities each less than $150m	3			**202**	269
					1,171	1,237
Tier 2 securities issued by HSBC Bank USA, N.A.						
$1,250m	4.875% subordinated notes		—	Aug 2020	**1,246**	1,226
$1,000m	5.875% subordinated notes	4	—	Nov 2034	**463**	1,106
$750m	5.625% subordinated notes	4	—	Aug 2035	**496**	829
$700m	7.00% subordinated notes		—	Jan 2039	**700**	697
					2,905	3,858
Tier 2 securities issued by HSBC Finance Corporation						
$2,939m	6.676% senior subordinated notes	5, 6	—	Jan 2021	**507**	507
Tier 2 securities issued by HSBC Bank Canada						
	Other subordinated liabilities each less than $150m		Oct 1996	Nov 2083	**26**	29
					26	29
Securities issued by other HSBC subsidiaries						
Other subordinated liabilities each less than $200m		3			**236**	273
Subordinated liabilities issued by HSBC subsidiaries at 31 Dec		7			**12,363**	13,168

1 *See paragraph below, 'Guaranteed by HSBC Holdings or HSBC Bank plc'.*
2 *The interest rate payable after November 2025 is the sum of the three-month sterling Libor plus 1.5 percentage points.*
3 *Some securities included here are ineligible for inclusion in the capital base of HSBC.*
4 *HSBC tendered for these securities in November 2019. The principal balance is $358m and $383m respectively. The original notional of these securities are $1,000m and $750m respectively.*
5 *HSBC tendered for these securities in 2017. In January 2018, a further tender was conducted. The principal balance is $507m. The original notional of these securities is $2,939m.*
6 *These securities are ineligible for inclusion in the capital base of HSBC.*
7 *Approximately $60m of these securities were held by HSBC Holdings.*

HSBC Holdings' subordinated liabilities

	2019 $m	2018 $m
At amortised cost	**18,361**	17,715
Designated at fair value (Note 24)	**5,616**	7,282
At 31 Dec	**23,977**	24,997

HSBC Holdings' subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2019 $m	2018 $m
Tier 2 securities issued by HSBC Holdings						
Amounts owed to third parties						
$2,000m	4.25% subordinated notes	2,3	–	Mar 2024	**2,076**	2,001
$1,500m	4.25% subordinated notes	2	–	Aug 2025	**1,611**	1,494
$1,500m	4.375% subordinated notes	2	–	Nov 2026	**1,626**	1,470
$488m	7.625% subordinated notes	1	–	May 2032	**545**	549
$222m	7.35% subordinated notes	1	–	Nov 2032	**245**	246
$2,000m	6.5% subordinated notes	1	–	May 2036	**2,036**	2,040
$2,500m	6.5% subordinated notes	1	–	Sep 2037	**2,738**	2,419
$1,500m	6.8% subordinated notes	1	–	Jun 2038	**1,490**	1,489
$1,500m	5.25% subordinated notes	2,3	–	Mar 2044	**1,886**	1,661
£650m	5.75% subordinated notes	2	–	Dec 2027	**1,059**	960
£650m	6.75% subordinated notes	2	–	Sep 2028	**855**	826
£750m	7.0% subordinated notes	2	–	Apr 2038	**1,064**	992
£900m	6.0% subordinated notes	2	–	Mar 2040	**1,294**	1,156
€1,750m	6.0% subordinated notes	2	–	Jun 2019	**–**	2,125
€1,500m	3.375% subordinated notes	2,3	Jan 2019	Jan 2024	**–**	1,719
€1,500m	3.0% subordinated notes	2	–	Jun 2025	**1,736**	1,725
€1,000m	3.125% subordinated notes	2	–	Jun 2028	**1,321**	1,233
					21,582	24,105
Amounts owed to HSBC undertakings						
$900m	10.176% subordinated step-up cumulative notes		Jun 2030	Jun 2040	**892**	892
					892	892
Other securities issued by HSBC Holdings						
Amounts owed to third parties						
$1,500m	5.625% contingent convertible securities	4	Nov 2019	Jan 2020	**1,503**	–
					1,503	–
At 31 Dec					**23,977**	24,997

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 CRR II. Prior period figures are included on a CRD IV basis.*
2 *These securities are included in the capital base of HSBC as fully CRR II-compliant tier 2 securities on an end point basis.*
3 *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.*
4 *This security was called by HSBC Holdings on 22 November 2019 and was redeemed and cancelled on 17 January 2020. Between the date of exercise of the call option and the redemption, this security was considered to be a subordinated liability. Refer to Note 31 for further details on additional Tier 1 securities.*

Guaranteed by HSBC Holdings or HSBC Bank plc

Capital securities guaranteed by HSBC Holdings or HSBC Bank plc were issued by the Jersey limited partnerships. The proceeds of these were lent to the respective guarantors by the limited partnerships in the form of subordinated notes. They qualify as additional tier 1 capital for HSBC under CRR II by virtue of the application of grandfathering provisions. The two capital securities guaranteed by HSBC Bank plc also qualify as additional tier 1 capital for HSBC Bank plc (on a solo and a consolidated basis) under CRR II by virtue of the same grandfathering process.

These preferred securities, together with the guarantee, are intended to provide investors with rights to income and capital distributions and distributions upon liquidation of the relevant issuer that are 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 plc has insufficient distributable reserves (as defined).

HSBC Holdings and HSBC Bank plc 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 repurchase or redeem their ordinary shares, until the distribution on the preferred securities has been paid in full.

If the consolidated total capital ratio of HSBC Holdings falls below the regulatory minimum required or if the Directors expect it to do so in the near term, provided that proceedings have not been commenced for the liquidation, dissolution or winding up of HSBC Holdings, the holders' interests in the preferred securities guaranteed by HSBC Holdings will be exchanged for interests in preference shares issued by HSBC Holdings that have economic terms which are in all material respects equivalent to the preferred securities and their guarantee.

If any of the two issues guaranteed by HSBC Bank plc are outstanding in April 2049 or November 2048 respectively, or if the total capital ratio of HSBC Bank plc (on a solo or consolidated basis) falls below the regulatory minimum required, or if the Directors expect it to do so in the near term, provided that proceedings have not been commenced for the liquidation, dissolution or winding up of HSBC Bank plc, the holders' interests in the preferred securities guaranteed by HSBC Bank plc will be exchanged for interests in preference shares issued by HSBC Bank plc that have economic terms which are in all material respects equivalent to the preferred securities and their guarantee.

Tier 2 securities

Tier 2 capital securities are either perpetual or dated subordinated securities on which there is an obligation to pay coupons. These capital securities are included within HSBC's regulatory capital base as tier 2 capital under CRR II, either as fully eligible capital or by virtue of the application of grandfathering provisions. In accordance with CRR II, the capital contribution of all tier 2 securities is amortised for regulatory purposes in their final five years before maturity.

29 Maturity analysis of assets, liabilities and off-balance sheet commitments

The table on page 299 provides an analysis of consolidated total assets, liabilities and off-balance sheet commitments by residual contractual maturity at the balance sheet date. These balances are included in the maturity analysis as follows:

- Trading assets and liabilities (including trading derivatives but excluding reverse repos, repos and debt securities in issue) are included in the 'Due not more than 1 month' time bucket, 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 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.
- 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 included in the 'Due over 5 years' time bucket, although such contracts are subject to surrender and transfer options by the policyholders.
- Loan and other credit-related commitments are classified on the basis of the earliest date they can be drawn down.

Maturity analysis of assets, liabilities and off-balance sheet commitments

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash and balances at central banks	154,099	–	–	–	–	–	–	–	154,099
Items in the course of collection from other banks	4,956	–	–	–	–	–	–	–	4,956
Hong Kong Government certificates of indebtedness	38,380	–	–	–	–	–	–	–	38,380
Trading assets	252,009	644	412	62	452	152	540	–	254,271
Financial assets designated or otherwise mandatorily measured at fair value	4,846	74	381	200	422	780	2,356	34,568	43,627
Derivatives	241,941	150	24	27	22	112	294	425	242,995
Loans and advances to banks	41,554	7,826	4,877	2,592	2,859	6,848	2,005	642	69,203
Loans and advances to customers	190,675	82,379	61,254	36,005	36,755	106,203	227,811	295,661	1,036,743
– personal	51,893	14,547	8,562	7,245	6,931	22,923	66,761	252,275	431,137
– corporate and commercial	118,585	61,629	45,924	25,006	25,069	71,751	147,139	39,958	535,061
– financial	20,197	6,203	6,768	3,754	4,755	11,529	13,911	3,428	70,545
Reverse repurchase agreements – non-trading	164,741	38,997	17,933	8,226	6,305	2,298	2,362	–	240,862
Financial investments	36,128	64,472	35,795	17,485	18,202	48,427	90,193	132,610	443,312
Accrued income and other financial assets	80,661	5,544	2,532	915	495	432	363	2,037	92,979
Financial assets at 31 Dec 2019	1,209,990	200,086	123,208	65,512	65,512	165,252	325,924	465,943	2,621,427
Non-financial assets	–	–	–	–	–	–	–	93,725	93,725
Total assets at 31 Dec 2019	1,209,990	200,086	123,208	65,512	65,512	165,252	325,924	559,668	2,715,152
Off-balance sheet commitments received									
Loan and other credit-related commitments	63,199	–	–	–	–	–	–	–	63,199
Financial liabilities									
Hong Kong currency notes in circulation	38,380	–	–	–	–	–	–	–	38,380
Deposits by banks	46,397	4,167	2,773	454	844	2,455	876	1,056	59,022
Customer accounts[1]	1,287,358	81,038	38,343	11,530	11,342	5,275	4,075	154	1,439,115
– personal	646,843	49,405	29,320	8,484	6,852	3,631	2,646	71	747,252
– corporate and commercial	479,763	24,214	7,162	2,621	3,009	1,119	1,388	41	519,317
– financial	160,752	7,419	1,861	425	1,481	525	41	42	172,546
Repurchase agreements – non-trading	132,042	3,402	1,579	1,882	59	354	2	1,024	140,344
Items in the course of transmission to other banks	4,817	–	–	–	–	–	–	–	4,817
Trading liabilities	82,130	209	265	148	102	287	29	–	83,170
Financial liabilities designated at fair value	12,844	4,667	4,236	4,552	5,196	26,081	43,534	63,356	164,466
– debt securities in issue: covered	–	–	–	–	1,139	–	2,663	1,159	4,961
– debt securities in issue: unsecured	8,884	2,046	2,946	3,757	3,030	22,950	34,753	47,036	125,402
– subordinated liabilities and preferred securities	23	–	–	–	–	–	2,131	8,396	10,550
– other	3,937	2,621	1,290	795	1,027	3,131	3,987	6,765	23,553
Derivatives	237,901	105	73	10	18	68	540	782	239,497
Debt securities in issue	8,183	17,374	12,799	13,152	11,382	14,572	20,048	7,045	104,555
– covered bonds	–	–	–	–	–	749	998	–	1,747
– otherwise secured	2,015	2	248	161	–	219	958	1,663	5,266
– unsecured	6,168	17,372	12,551	12,991	11,382	13,604	18,092	5,382	97,542
Accruals and other financial liabilities	87,796	9,078	3,914	1,244	2,058	1,592	2,823	2,890	111,395
Subordinated liabilities	1,502	–	22	1,993	100	755	424	19,804	24,600
Total financial liabilities at 31 Dec 2019	1,939,350	120,040	64,004	34,965	31,101	51,439	72,351	96,111	2,409,361
Non-financial liabilities	–	–	–	–	–	–	–	113,123	113,123
Total liabilities at 31 Dec 2019	1,939,350	120,040	64,004	34,965	31,101	51,439	72,351	209,234	2,522,484
Off-balance sheet commitments given									
Loan and other credit-related commitments	794,336	600	590	313	551	442	458	318	797,608
– personal	221,952	40	39	56	167	208	392	299	223,153
– corporate and commercial	460,569	117	96	52	381	218	66	19	461,518
– financial	111,815	443	455	205	3	16	–	–	112,937

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash and balances at central banks	162,843	—	—	—	—	—	—	—	162,843
Items in the course of collection from other banks	5,787	—	—	—	—	—	—	—	5,787
Hong Kong Government certificates	35,859	—	—	—	—	—	—	—	35,859
Trading assets	235,443	264	707	744	104	197	671	—	238,130
Financial assets designated at fair value	7,743	49	371	145	334	918	2,415	29,136	41,111
Derivatives	206,925	15	57	79	18	69	328	334	207,825
Loans and advances to banks	40,114	10,421	3,486	2,004	3,282	7,158	4,508	1,194	72,167
Loans and advances to customers	178,613	72,072	58,680	38,394	37,333	101,267	219,841	275,496	981,696
– personal	41,967	8,736	8,237	7,581	7,240	24,942	63,061	229,626	391,390
– corporate and commercial	118,294	58,623	45,918	27,001	25,597	67,093	143,959	42,540	529,025
– financial	18,352	4,713	4,525	3,812	4,496	9,232	12,821	3,330	61,281
Reverse repurchase agreements	172,795	41,084	13,308	5,763	3,574	5,253	1,027	—	242,804
Financial investments	40,421	58,731	30,464	15,707	15,357	41,866	92,846	112,041	407,433
Accrued income and other financial assets	62,067	6,893	2,403	561	307	349	731	2,237	75,548
Financial assets at 31 Dec 2018	1,148,610	189,529	109,476	63,397	60,309	157,077	322,367	420,438	2,471,203
Non-financial assets	—	—	—	—	—	—	—	86,921	86,921
Total assets at 31 Dec 2018	1,148,610	189,529	109,476	63,397	60,309	157,077	322,367	507,359	2,558,124
Off-balance sheet commitments received									
Loan and other credit-related commitments	73,464	—	—	—	1	3	98	656	74,222
Financial liabilities									
Hong Kong currency notes in circulation	35,859	—	—	—	—	—	—	—	35,859
Deposits by banks	42,406	3,457	1,043	784	542	5,558	1,655	886	56,331
Customer accounts[1]	1,225,919	66,990	31,315	17,218	13,760	4,122	3,194	125	1,362,643
– personal	612,325	38,132	21,218	11,483	8,282	2,853	2,623	53	696,969
– corporate and commercial	457,661	22,922	8,029	4,599	4,317	1,092	509	29	499,158
– financial	155,933	5,936	2,068	1,136	1,161	177	62	43	166,516
Repurchase agreements – non-trading	154,383	8,140	1,750	629	73	408	501	—	165,884
Items in the course of transmission to other banks	5,641	—	—	—	—	—	—	—	5,641
Trading liabilities	82,867	251	326	633	81	235	36	2	84,431
Financial liabilities designated at fair value	3,813	4,476	6,878	3,076	3,481	12,545	53,615	60,621	148,505
– debt securities in issue: covered bonds	—	—	205	—	—	1,190	2,721	1,137	5,253
– debt securities in issue: unsecured	981	1,562	2,659	2,290	2,353	9,143	47,443	37,633	104,064
– subordinated liabilities and preferred securities	—	—	2,125	—	—	—	—	12,568	14,693
– other	2,832	2,914	1,889	786	1,128	2,212	3,451	9,283	24,495
Derivatives	203,962	62	135	191	144	560	159	622	205,835
Debt securities in issue	6,777	11,194	12,556	8,075	3,330	10,670	19,713	13,027	85,342
– covered bonds	—	—	—	—	—	—	748	—	748
– otherwise secured	2,166	1,100	30	—	—	394	944	1,412	6,046
– unsecured	4,611	10,094	12,526	8,075	3,330	10,276	18,021	11,615	78,548
Accruals and other financial liabilities	69,958	8,986	3,296	659	1,269	885	1,027	1,300	87,380
Subordinated liabilities	6	89	3	—	—	1,996	1,384	18,959	22,437
Total financial liabilities at 31 Dec 2018	1,831,591	103,645	57,302	31,265	22,680	36,979	81,284	95,542	2,260,288
Non-financial liabilities	—	—	—	—	—	—	—	103,587	103,587
Total liabilities at 31 Dec 2018	1,831,591	103,645	57,302	31,265	22,680	36,979	81,284	199,129	2,363,875
Off-balance sheet commitments given									
Loan and other credit-related commitments	769,311	5,281	941	1,972	1,257	361	731	412	780,266
– personal	203,622	974	59	32	201	280	556	331	206,055
– corporate and commercial	441,199	2,694	799	1,895	974	34	150	73	447,818
– financial	124,490	1,613	83	45	82	47	25	8	126,393

1 *'Customer accounts' includes $408,090m (2018: $364,729m) insured by guarantee schemes.*

HSBC Holdings

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	2,382	–	–	–	–	–	–	–	2,382
Derivatives	596	–	–	–	–	–	230	1,176	2,002
Loans and advances to HSBC undertakings	102	672	120	25	–	600	1,909	6,790	10,218
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	–	–	–	–	–	458	24,845	36,661	61,964
Financial investments	2,754	3,493	1,873	2,251	2,721	3,014	–	–	16,106
Accrued income and other financial assets	93	277	97	48	16	12	–	–	543
Total financial assets at 31 Dec 2019	5,927	4,442	2,090	2,324	2,737	4,084	26,984	44,627	93,215
Non-financial assets	–	–	–	–	–	–	–	162,025	162,025
Total assets at 31 Dec 2019	5,927	4,442	2,090	2,324	2,737	4,084	26,984	206,652	255,240
Financial liabilities									
Amounts owed to HSBC undertakings	–	464	–	–	–	–	–	–	464
Financial liabilities designated at fair value	–	–	–	–	–	5,651	6,710	17,942	30,303
– debt securities in issue	–	–	–	–	–	5,651	6,710	12,326	24,687
– subordinated liabilities and preferred securities	–	–	–	–	–	–	–	5,616	5,616
Derivatives	1,838	–	–	–	–	20	85	78	2,021
Debt securities in issue	–	–	–	–	–	10,134	23,786	22,924	56,844
Accruals and other financial liabilities	900	574	303	55	10	–	–	35	1,877
Subordinated liabilities	1,503	–	–	–	–	–	2,076	14,782	18,361
31 Dec 2019	4,241	1,038	303	55	10	15,805	32,657	55,761	109,870
Non-financial liabilities	–	–	–	–	–	–	–	326	326
Total liabilities at 31 Dec 2019	4,241	1,038	303	55	10	15,805	32,657	56,087	110,196
Off-balance sheet commitments									
Undrawn formal standby facilities, credit lines and other commitments to lend	–	–	–	–	–	–	–	–	–

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	3,509	—	—	—	—	—	—	—	3,509
Derivatives	540	—	—	—	—	—	—	167	707
Loans and advances to HSBC undertakings	3,052	11,563	158	968	1	—	14,062	26,340	56,144
Loans and advances to HSBC undertakings designated at fair value	—	—	—	—	—	—	8,116	15,397	23,513
Financial investments in HSBC undertakings	—	—	—	—	—	—	—	—	—
Accrued income and other financial assets	33	27	—	—	—	—		—	60
Total financial assets at 31 Dec 2018	7,134	11,590	158	968	1	—	22,178	41,904	83,933
Non-financial assets	—	—	—	—	—	—	—	161,248	161,248
Total assets at 31 Dec 2018	7,134	11,590	158	968	1	—	22,178	203,152	245,181
Financial liabilities									
Amounts owed to HSBC undertakings	—	949	—	—	—	—	—	—	949
Financial liabilities designated at fair value	—	—	2,125	—	—	—	12,306	10,618	25,049
– debt securities in issue	—	—	—	—	—	—	12,306	5,461	17,767
– subordinated liabilities and preferred securities	—	—	2,125	—	—	—	—	5,157	7,282
Derivatives	1,321	—	—	—	—	—	339	499	2,159
Debt securities in issue	—	—	—	—	—	—	23,770	27,030	50,800
Accruals and other financial liabilities	319	353	188	36	5	—	—	41	942
Subordinated liabilities	—	—	—	—	—	—	—	17,715	17,715
Total financial liabilities at 31 Dec 2018	1,640	1,302	2,313	36	5	—	36,415	55,903	97,614
Non-financial liabilities	—	—	—	—	—	—	—	214	214
Total liabilities at 31 Dec 2018	1,640	1,302	2,313	36	5	—	36,415	56,117	97,828
Off-balance sheet commitments given									
Undrawn formal standby facilities, credit lines and other commitments to lend	—	—	—	—	—	—	—	—	—

Contractual maturity of financial liabilities

The following table shows, 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). For this reason, balances in the following table do not agree directly with those in our consolidated balance sheet. 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 'Due not more than 1 month' time bucket and not by contractual maturity.

In addition, loans and other credit-related commitments and financial guarantees are generally not recognised on our balance sheet. The undiscounted cash flows potentially payable under loan and other credit-related commitments and financial guarantees 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

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 1 year	Due over 1 year but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m
Deposits by banks	**46,471**	**4,167**	**4,227**	**3,371**	**1,084**	**59,320**
Customer accounts	**1,288,577**	**81,037**	**62,105**	**9,900**	**191**	**1,441,810**
Repurchase agreements – non-trading	**132,156**	**3,403**	**3,565**	**368**	**1,036**	**140,528**
Trading liabilities	**83,170**	**—**	**—**	**—**	**—**	**83,170**
Financial liabilities designated at fair value	**13,447**	**4,666**	**14,747**	**76,155**	**68,045**	**177,060**
Derivatives	**237,897**	**105**	**522**	**1,076**	**1,691**	**241,291**
Debt securities in issue	**8,757**	**17,374**	**38,423**	**36,584**	**8,177**	**109,315**
Subordinated liabilities	**1,847**	**—**	**2,908**	**5,197**	**27,892**	**37,844**
Other financial liabilities	**127,898**	**9,079**	**6,792**	**5,637**	**2,992**	**152,398**
	1,940,220	**119,831**	**133,289**	**138,288**	**111,108**	**2,442,736**
Loan and other credit-related commitments	**795,243**	**601**	**561**	**886**	**317**	**797,608**
Financial guarantees[1]	**20,007**	**37**	**102**	**68**	**—**	**20,214**
At 31 Dec 2019	**2,755,470**	**120,469**	**133,952**	**139,242**	**111,425**	**3,260,558**
Proportion of cash flows payable in period	**85%**	**4%**	**4%**	**4%**	**3%**	
Deposits by banks	42,569	3,457	2,419	7,507	556	56,508
Customer accounts	1,226,828	66,990	62,963	7,617	130	1,364,528
Repurchase agreements – non-trading	154,541	8,140	2,487	950	—	166,118
Trading liabilities	84,431	—	—	—	—	84,431
Financial liabilities designated at fair value	4,478	4,476	15,591	75,578	89,261	189,384
Derivatives	204,360	62	927	2,065	1,323	208,737
Debt securities in issue	7,295	11,194	24,902	36,599	13,656	93,646
Subordinated liabilities	349	89	793	7,600	27,670	36,501
Other financial liabilities	110,337	8,987	4,694	2,367	1,260	127,645
	1,835,188	103,395	114,776	140,283	133,856	2,327,498
Loan and other credit-related commitments	772,557	5,279	1,109	944	377	780,266
Financial guarantees[1]	22,942	113	289	160	14	23,518
At 31 Dec 2018	2,630,687	108,787	116,174	141,387	134,247	3,131,282
Proportion of cash flows payable in period	84%	3%	4%	5%	4%	

1 *Excludes performance guarantee contracts to which the impairment requirements in IFRS 9 are not applied.*

HSBC Holdings

HSBC Holdings' primary sources of liquidity are dividends received from subsidiaries, interest on and repayment of intra-Group loans and securities, and interest earned on its own liquid funds. HSBC Holdings also raises funds in the debt capital markets to meet the Group's minimum requirement for own funds and eligible liabilities. HSBC Holdings uses this liquidity to meet its obligations, including interest and principal repayments on external debt liabilities, operating expenses and collateral on derivative transactions.

HSBC Holdings is also subject to contingent liquidity risk by virtue of credit-related commitments and guarantees and similar contracts issued relating to its subsidiaries. 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. During 2019, consistent with the Group's capital plan, the Group's subsidiaries did not experience any significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged with regard to planned dividends or payments. However, 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.

HSBC Holdings currently has sufficient liquidity to meet its present requirements.

Liquidity risk in HSBC Holdings is overseen by Holdings ALCO. This risk arises because of HSBC Holdings' obligation to make payments to debt holders as they fall due and to pay its operating expenses. 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 Holdings ALCO.

The balances in the following table are not directly comparable 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

	Footnotes	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 1 year	Due over 1 year but not more than 5 years	Due over 5 years	Total
		$m	$m	$m	$m	$m	$m
Amounts owed to HSBC undertakings		**—**	**464**	**—**	**—**	**—**	**464**
Financial liabilities designated at fair value		**88**	**168**	**784**	**14,776**	**18,184**	**34,000**
Derivatives		**1,838**	**—**	**—**	**105**	**78**	**2,021**
Debt securities in issue		**128**	**244**	**1,137**	**38,690**	**25,310**	**65,509**
Subordinated liabilities		**1,588**	**154**	**718**	**5,743**	**21,533**	**29,736**
Other financial liabilities		**956**	**519**	**365**	**—**	**—**	**1,840**
		4,598	**1,549**	**3,004**	**59,314**	**65,105**	**133,570**
Loan commitments		**—**	**—**	**—**	**—**	**—**	**—**
Financial guarantees	1	**11,061**	**—**	**—**	**—**	**—**	**11,061**
At 31 Dec 2019		**15,659**	**1,549**	**3,004**	**59,314**	**65,105**	**144,631**
Amounts owed to HSBC undertakings		—	949	—	—	—	949
Financial liabilities designated at fair value		—	237	2,656	14,384	11,653	28,930
Derivatives		1,321	—	—	339	499	2,159
Debt securities in issue		—	379	1,159	29,178	30,801	61,517
Subordinated liabilities		—	248	757	4,019	25,311	30,335
Other financial liabilities		—	675	228	—	—	903
		1,321	2,488	4,800	47,920	68,264	124,793
Loan commitments		—	—	—	—	—	—
Financial guarantees	1	8,627	—	—	—	—	8,627
At 31 Dec 2018		9,948	2,488	4,800	47,920	68,264	133,420

1 *Excludes performance guarantee contracts to which the impairment requirements in IFRS 9 are not applied.*

30 Offsetting of financial assets and financial liabilities

In the following table, the 'Amounts not set off in the balance sheet' include transactions where:

- the counterparty has an offsetting exposure with HSBC and a master netting or similar arrangement is in place with a right to set off only in the event of default, insolvency or bankruptcy, or the offset criteria are otherwise not satisfied; and
- in the case of derivatives and reverse repurchase/repurchase, stock borrowing/lending and similar agreements, cash and non-cash collateral has been received/pledged.

For risk management purposes, the net amounts of loans and advances to customers are subject to limits, which are monitored and the relevant customer agreements are subject to review and updated, as necessary, to ensure the legal right to set off remains appropriate.

Offsetting of financial assets and financial liabilities

	Footnotes	Amounts subject to enforceable netting arrangements								
					Amounts not set off in the balance sheet					
		Gross amounts	Amounts offset	Net amounts in the balance sheet	Financial instruments	Non-cash collateral	Cash collateral	Net amount	Amounts not subject to enforceable netting arrangements[5]	Total
		$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets										
Derivatives (Note 15)	1	**277,261**	**(41,739)**	**235,522**	**(171,371)**	**(13,095)**	**(47,404)**	**3,652**	**7,473**	**242,995**
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		**21,465**	**(280)**	**21,185**	**(1,553)**	**(19,630)**	**—**	**2**	**165**	**21,350**
– non-trading assets		**348,561**	**(134,772)**	**213,789**	**(28,826)**	**(184,495)**	**(189)**	**279**	**27,549**	**241,338**
Loans and advances to customers	3	**33,039**	**(10,128)**	**22,911**	**(18,893)**	**—**	**—**	**4,018**	**735**	**23,646**
At 31 Dec 2019		**680,326**	**(186,919)**	**493,407**	**(220,643)**	**(217,220)**	**(47,593)**	**7,951**	**35,922**	**529,329**
Derivatives (Note 15)	1	250,275	(49,711)	200,564	(145,785)	(9,986)	(38,031)	6,762	7,261	207,825
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		18,217	(790)	17,427	(1,244)	(16,179)	—	4	853	18,280
– non-trading assets		372,358	(167,313)	205,045	(21,788)	(182,995)	(100)	162	37,759	242,804
Loans and advances to customers	3	40,534	(12,468)	28,066	(21,245)	—	—	6,821	536	28,602
At 31 Dec 2018		681,384	(230,282)	451,102	(190,062)	(209,160)	(38,131)	13,749	46,409	497,511
Financial liabilities										
Derivatives (Note 15)	1	**275,286**	**(41,739)**	**233,547**	**(171,371)**	**(20,137)**	**(37,844)**	**4,195**	**5,950**	**239,497**
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		**10,494**	**(280)**	**10,214**	**(1,553)**	**(8,656)**	**—**	**5**	**46**	**10,260**
– non-trading liabilities		**232,675**	**(134,772)**	**97,903**	**(28,826)**	**(68,638)**	**(357)**	**82**	**42,441**	**140,344**
Customer accounts	4	**36,750**	**(10,128)**	**26,622**	**(18,893)**	**—**	**—**	**7,729**	**31**	**26,653**
At 31 Dec 2019		**555,205**	**(186,919)**	**368,286**	**(220,643)**	**(97,431)**	**(38,201)**	**12,011**	**48,468**	**416,754**
Derivatives (Note 15)	1	248,123	(49,711)	198,412	(145,785)	(14,895)	(29,998)	7,734	7,423	205,835
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		13,169	(790)	12,379	(1,244)	(11,133)	—	2	114	12,493
– non-trading liabilities		274,367	(167,313)	107,054	(21,788)	(85,087)	(164)	15	58,830	165,884
Customer accounts	4	40,286	(12,468)	27,818	(21,245)	—	—	6,573	11	27,829
At 31 Dec 2018		575,945	(230,282)	345,663	(190,062)	(111,115)	(30,162)	14,324	66,378	412,041

1 *At 31 December 2019, the amount of cash margin received that had been offset against the gross derivatives assets was $2,350m (2018: $3,935m). The amount of cash margin paid that had been offset against the gross derivatives liabilities was $8,303m (2018: $5,888m).*
2 *For the amount of repos, reverse repos, stock lending, stock borrowing and similar agreements recognised on the balance sheet within 'Trading assets' $21,350m (2018: $18,280m) and 'Trading liabilities' $10,260m (2018: $12,493m), see the 'Funding sources and uses' table on page 133.*
3 *At 31 December 2019, the total amount of 'Loans and advances to customers' was $1,036,743m (2018: $981,696m), of which $22,911m (2018: $28,066m) was subject to offsetting.*
4 *At 31 December 2019, the total amount of 'Customer accounts' was $1,439,115m (2018: $1,362,643m), of which $26,622m (2018: $27,818m) was subject to offsetting.*
5 *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.*

31 Called up share capital and other equity instruments

Called up share capital and share premium

HSBC Holdings ordinary shares of $0.50 each, issued and fully paid

	Footnotes	2019		2018	
		Number	$m	Number	$m
At 1 Jan		**20,360,841,496**	**10,180**	20,320,716,258	10,160
Shares issued under HSBC employee share plans		**71,588,032**	**36**	83,740,460	42
Shares issued in lieu of dividends		**341,872,011**	**171**	166,850,869	83
Less: Shares repurchased and cancelled		**(135,776,994)**	**(68)**	(210,466,091)	(105)
At 31 Dec	1	**20,638,524,545**	**10,319**	20,360,841,496	10,180

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HSBC Holdings 6.20% non-cumulative US dollar preference shares, Series A

	Footnotes	2019 Number	2019 $m	2018 Number	2018 $m
At 1 Jan and 31 Dec	2	**1,450,000**	**—**	1,450,000	—

HSBC Holdings share premium

	2019 $m	2018 $m
At 31 Dec	**13,959**	13,609

Total called up share capital and share premium

	2019 $m	2018 $m
At 31 Dec	**24,278**	23,789

1 *All HSBC Holdings ordinary shares in issue, excluding 325,273,407 shares held in treasury, 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 CRR II rules, by virtue of the application of grandfathering provisions.*

HSBC Holdings 6.20% non-cumulative US dollar preference shares, Series A of $0.01

HSBC Holdings pays dividends on 6.20% non-cumulative US dollar preference shares, Series A of $0.01 each ('dollar preference shares') quarterly, at the discretion of the Board. The Board will not declare a dividend on them if this would stop the Group from meeting the PRA's capital adequacy requirements, or if profit available for distribution as dividends is insufficient to also pay dividends on other shares that are equally entitled and scheduled on the same date.

HSBC Holdings may not declare or pay dividends on shares ranking lower in the right to dividends than dollar preference shares, or redeem or purchase any of its other shares ranking equal or lower than dollar preference shares, unless it has fully paid, or set aside an amount to fully pay, the dividends on the dollar preference shares for the then current dividend period.

The dollar preference shares carry no rights to conversion into ordinary shares. Holders of dollar preference shares are only entitled to attend and vote at shareholder meetings if dividends on these shares have not been paid in full on four consecutive dividend payment dates. In such circumstances, holders of these shares are entitled to vote at shareholder meetings until HSBC Holdings has paid a full dividend on them. These securities can be redeemed by HSBC at any time, subject to prior approval by the PRA.

HSBC Holdings non-cumulative preference share of £0.01

The one non-cumulative sterling preference share of £0.01 ('sterling preference share') has been in issue since 29 December 2010 and is held by a subsidiary of HSBC Holdings. Dividends 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 right to attend or vote at shareholder meetings of HSBC Holdings. These securities can be redeemed by HSBC at any time, subject to prior approval by the PRA.

Other equity instruments

HSBC Holdings includes three types of additional tier 1 capital securities in its tier 1 capital. Two are presented in this Note and they are the HSBC Holdings non-cumulative preference shares outlined above and the contingent convertible securities described below. These 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 28 for additional tier 1 securities accounted for as liabilities.

Additional tier 1 capital – contingent convertible securities

HSBC Holdings continues to issue contingent convertible securities that are included in its capital base as fully CRR II-compliant additional tier 1 capital securities on an end point basis. These securities are marketed principally and subsequently allotted to corporate investors and fund managers. The net proceeds of the issuances are used for HSBC Holdings' general corporate purposes and to further strengthen its capital base to meet requirements under CRR II. These securities bear a fixed rate of interest until their initial call dates. After the initial call dates, if they are not redeemed, the securities will bear interest at rates fixed periodically in advance for five-year periods based on credit spreads, fixed at issuance, above prevailing market rates. Interest on the contingent convertible securities will be due and payable only at the sole discretion of HSBC Holdings, and HSBC Holdings has sole and absolute discretion at all times to cancel for any reason (in whole or part) any interest payment that would otherwise be payable on any payment date. Distributions will not be paid if they are prohibited under UK banking regulations or if the Group has insufficient reserves or fails to meet the solvency conditions defined in the securities' terms.

The contingent convertible securities are undated and are repayable at the option of HSBC Holdings in whole at the initial call date or on any fifth anniversary after this 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 Holdings' dollar and sterling preference shares and therefore rank ahead of ordinary shares. The contingent convertible securities will be converted into fully paid ordinary shares of HSBC Holdings at a predetermined 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 relevant securities, equivalent to £2.70 at the prevailing rate of exchange on the issuance date, subject to anti-dilution adjustments.

HSBC's additional tier 1 capital – contingent convertible securities in issue which are accounted for in equity

		Footnotes	First call date	2019 $m	2018 $m
$1,500m	5.625% perpetual subordinated contingent convertible securities	1	Nov 2019	**—**	1,494
$2,000m	6.875% perpetual subordinated contingent convertible securities		Jun 2021	**1,995**	1,998
$2,250m	6.375% perpetual subordinated contingent convertible securities		Sep 2024	**2,240**	2,244
$2,450m	6.375% perpetual subordinated contingent convertible securities		Mar 2025	**2,453**	2,460
$3,000m	6.000% perpetual subordinated contingent convertible securities		May 2027	**2,993**	2,997
$2,350m	6.250% perpetual subordinated contingent convertible securities		Mar 2023	**2,346**	2,347
$1,800m	6.500% perpetual subordinated contingent convertible securities		Mar 2028	**1,797**	1,798
€1,500m	5.250% perpetual subordinated contingent convertible securities		Sep 2022	**1,940**	1,943
€1,000m	6.000% perpetual subordinated contingent convertible securities		Sep 2023	**1,119**	1,120
€1,250m	4.750% perpetual subordinated contingent convertible securities		Jul 2029	**1,418**	1,420
£1,000m	5.875% perpetual subordinated contingent convertible securities		Sep 2026	**1,299**	1,299
SGD1,000m	4.700% perpetual subordinated contingent convertible securities		Jun 2022	**722**	723
SGD750m	5.000% perpetual subordinated contingent convertible securities		Sep 2023	**549**	549
At 31 Dec				**20,871**	22,392

1 *This security was called by HSBC Holdings on 22 November 2019 and was redeemed and cancelled on 17 January 2020. Between the date of exercise of the call option and the redemption, this security was considered to be a subordinated liability. Please refer to Note 28.*

Shares under option

For details of the options outstanding to subscribe for HSBC Holdings ordinary shares under the HSBC Holdings savings-related share option plan, see Note 5.

Aggregate options outstanding under these plans

31 Dec 2019			31 Dec 2018		
Number of HSBC Holdings ordinary shares	**Period of exercise**	**Exercise price**	Number of HSBC Holdings ordinary shares	Period of exercise	Exercise price
65,060,681	**2019 to 2025**	**£4.0472–£5.9640**	57,065,513	2018 to 2024	£4.0472–£5.9640

Maximum obligation to deliver HSBC Holdings ordinary shares

At 31 December 2019, 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, long-term incentive awards and deferred share awards granted under the HSBC Share Plan 2011, was 163,567,253 (2018: 152,667,912). The total number of shares at 31 December 2019 held by employee benefit trusts that may be used to satisfy such obligations to deliver HSBC Holdings ordinary shares was 5,397,395 (2018: 5,928,890).

32 Contingent liabilities, contractual commitments and guarantees

		HSBC		HSBC Holdings[1]	
	Footnotes	**2019 $m**	2018 $m	**2019 $m**	2018 $m
Guarantees and other contingent liabilities:					
– financial guarantees		**20,214**	23,518	**11,061**	8,627
– performance and other guarantees		**75,933**	71,484	–	–
– other contingent liabilities		**1,576**	1,408	**289**	215
At 31 Dec		**97,723**	96,410	**11,350**	8,842
Commitments:	2				
– documentary credits and short-term trade-related transactions		**6,316**	7,083	**—**	—
– forward asset purchases and forward deposits placed		**56,326**	67,265	**—**	—
– standby facilities, credit lines and other commitments to lend		**734,966**	705,918	**—**	—
At 31 Dec		**797,608**	780,266	**—**	—

1 *Guarantees by HSBC Holdings are all in favour of other Group entities.*
2 *Includes $600,029m of commitments at 31 December 2019 (31 December 2018: $592,008m), to which the impairment requirements in IFRS 9 are applied where HSBC has become party to an irrevocable commitment.*

The preceding table discloses the nominal principal amounts of off-balance sheet liabilities and commitments for the Group, which represent the maximum amounts at risk should the contracts be fully drawn upon and the clients default. As a significant portion of guarantees and commitments are expected to expire without being drawn upon, the total of the nominal principal amounts is not indicative of future liquidity requirements. The expected credit loss provision relating to guarantees and commitments under IFRS 9 is disclosed in Note 27.

The majority of the guarantees have a term of less than one year, while guarantees with terms of more than one year are subject to HSBC's annual credit review process.

Contingent liabilities arising from legal proceedings, regulatory and other matters against Group companies are disclosed in Notes 27 and 34.

Financial Services Compensation Scheme

The Financial Services Compensation Scheme ('FSCS') has provided compensation to customers of financial services firms that have failed. Following the financial crisis, the compensation paid out to customers was initially funded through loans from HM Treasury, which were fully repaid in 2018 by the FSCS. The Group could be liable to pay a proportion of any future amounts that the FSCS borrows from HM Treasury to the extent the industry levies imposed to date are not sufficient to cover the compensation due to customers in any future possible collapse. The ultimate FSCS levy to the industry as a result of a collapse cannot currently be estimated reliably. It is dependent on various uncertain factors including the potential recoveries of assets by the FSCS, changes in the level of protected products (including deposits and investments) and the population of FSCS members at the time.

Associates

HSBC's share of associates' contingent liabilities, contractual commitments and guarantees amounted to $46.7bn at 31 December 2019 (2018: $48.5bn). No matters arose where HSBC was severally liable.

33 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.

	2019			2018		
	Total future minimum payments	Unearned finance income	Present value	Total future minimum payments[1]	Unearned finance income[1]	Present value[1]
	$m	$m	$m	$m	$m	$m
Lease receivables:						
No later than one year	**1,674**	**(157)**	**1,517**	2,229	(196)	2,033
One to two years	**1,634**	**(155)**	**1,479**	N/A	N/A	N/A
Two to three years	**1,889**	**(151)**	**1,738**	N/A	N/A	N/A
Three to four years	**1,704**	**(136)**	**1,568**	N/A	N/A	N/A
Four to five years	**1,558**	**(132)**	**1,426**	N/A	N/A	N/A
Later than one year and no later than five years	**6,785**	**(574)**	**6,211**	7,420	(628)	6,792
Later than five years	**6,136**	**(614)**	**5,522**	5,032	(619)	4,413
At 31 Dec	**14,595**	**(1,345)**	**13,250**	14,681	(1,443)	13,238

1 The disclosure requirements of IFRS 16 were adopted from 1 January 2019. Comparatives have not been restated.

34 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 1. 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 2019 (see Note 27). Where an individual provision is material, the fact that a provision has been made is stated and quantified, except to the extent that 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.

Bernard L. Madoff Investment Securities LLC

Bernard L. Madoff ('Madoff') was arrested in December 2008 and later pleaded guilty to running a Ponzi scheme. 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, including fictitious profits reported by Madoff.

Based on information available to HSBC, the funds' actual transfers to Madoff Securities minus their actual withdrawals from Madoff Securities during the time HSBC serviced the funds are estimated to have totalled approximately $4bn. Various HSBC companies have been named as defendants in lawsuits arising out of Madoff Securities' fraud.

US litigation: The Trustee has brought lawsuits against various HSBC companies and others in the US Bankruptcy Court for the Southern District of New York (the 'US Bankruptcy Court'), seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. HSBC and other parties to the actions have moved to dismiss the Trustee's claims. The US Bankruptcy Court granted HSBC's motion to dismiss with respect to certain of the Trustee's claims in November 2016. In February 2019, the US Court of Appeals for the Second Circuit (the 'Second Circuit Court of Appeals') reversed that dismissal and remanded the cases to the US Bankruptcy Court. In August 2019, HSBC and other parties filed a petition for writ of certiorari to the US Supreme Court seeking review of the Second Circuit Court of Appeals decision. Further proceedings in the US Bankruptcy Court have been stayed pending the resolution of that petition.

Fairfield Sentry Limited, Fairfield Sigma Limited and Fairfield Lambda Limited (together, 'Fairfield') (in liquidation since July 2009) have brought a lawsuit in the US against fund shareholders, including HSBC companies that acted as nominees for clients, seeking restitution of redemption payments. In December 2018, the US Bankruptcy Court issued an opinion, which ruled in favour of the defendants' motion to dismiss in respect of certain claims by the liquidators for Fairfield and granted a motion by the liquidators to file amended complaints. As a result of that opinion, all claims against one of the HSBC companies have been dismissed, and certain claims against the remaining HSBC defendants have also been dismissed. In May 2019, the liquidators appealed certain issues from the US Bankruptcy Court opinion to the US District Court for the Southern District of New York (the 'New York District Court').

UK litigation: The Trustee has filed a claim against various HSBC companies in the High Court of England and Wales, seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. The deadline for service of the claim has been extended to September 2020 for UK-based defendants and November 2020 for all other defendants.

Bermuda litigation: In January 2009, Kingate Global Fund Limited and Kingate Euro Fund Limited (together, 'Kingate') brought an action against HSBC Bank Bermuda Limited ('HBBM') for recovery of funds held in Kingate's accounts, fees and dividends. In June 2019, the Trustee, Kingate and HBBM entered into a global settlement agreement pursuant to which the Trustee and Kingate released HBBM from any and all claims arising out of or relating to Kingate including all pending litigation in the US, UK and Bermuda. Following court approval of the settlement in the US, Bermuda and British Virgin Islands, the Bermuda action was discontinued in October 2019, and the Trustee dismissed certain of its US claims against HBBM in November 2019.

Cayman Islands litigation: In February 2013, Primeo Fund ('Primeo') (in liquidation since April 2009) brought an action against HSBC Securities Services Luxembourg ('HSSL') and Bank of Bermuda (Cayman) Limited (now known as HSBC Cayman Limited), alleging breach of contract and breach of fiduciary duty and claiming damages and equitable compensation. The trial concluded in February 2017 and, in August 2017, the court dismissed all claims against the defendants. In September 2017, Primeo appealed to the Court of Appeal of the Cayman Islands and, in June 2019, the Court of Appeal of the Cayman Islands dismissed Primeo's claims against HSSL and HSBC Cayman Limited. In August 2019, Primeo filed a notice of appeal to the UK Privy Council and, in September 2019, HSSL and HSBC Cayman Limited indicated that they will seek to dismiss the appeal.

Luxembourg litigation: In April 2009, Herald Fund SPC ('Herald') (in liquidation since July 2013) brought an action against HSSL before the Luxembourg District Court, seeking restitution of cash and securities that Herald purportedly lost because of Madoff Securities' fraud, or money damages. The Luxembourg District Court dismissed Herald's securities restitution claim, but reserved Herald's cash restitution claim and its claim for money damages. Herald has appealed this judgment to the Luxembourg Court of Appeal, where the matter is pending. In late 2018, Herald brought additional claims against HSSL and HSBC Bank plc ('HSBC Bank') before the Luxembourg District Court, seeking further restitution and damages.

In October 2009, Alpha Prime Fund Limited ('Alpha Prime') brought an action against HSSL before the Luxembourg District Court, seeking the restitution of securities, or the cash equivalent, or money damages. In December 2018, Alpha Prime brought additional claims before the Luxembourg District Court seeking damages against various HSBC companies. A preliminary hearing is scheduled for June 2020.

In December 2014, Senator Fund SPC ('Senator') brought an action against HSSL before the Luxembourg District Court, seeking restitution of securities, or the cash equivalent, or money damages. In April 2015, Senator commenced a separate action against the Luxembourg branch of HSBC Bank asserting identical claims before the Luxembourg District Court. In December 2018, Senator brought additional claims against HSSL and HSBC Bank Luxembourg branch before the Luxembourg District Court, seeking restitution of Senator's securities or money damages. These matters are currently pending before the Luxembourg District Court.

Ireland litigation: In November 2013, Defender Limited brought an action against HSBC Institutional Trust Services (Ireland) Limited ('HTIE') and others, based on allegations of breach of contract and claiming damages and indemnification for fund losses. The trial commenced in October 2018. In December 2018, the Irish High Court issued a judgment in HTIE's favour on a preliminary issue, holding that Defender Limited had no effective claim against HTIE. This judgment concluded the trial without further issues in dispute being heard. In February 2019, Defender Limited appealed to the Irish Supreme Court, and a hearing is scheduled for March 2020.

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. Based upon the information currently available, management's estimate of the possible aggregate damages that might arise as a result of all claims in the various Madoff-related proceedings is up to or exceeding $500m, excluding costs and interest. Due to uncertainties and limitations of this estimate, the ultimate damages could differ significantly from this amount.

Anti-money laundering and sanctions-related matters

In December 2012, among other agreements, HSBC Holdings plc ('HSBC Holdings') agreed to an undertaking with the UK Financial Services Authority, which was replaced by a Direction issued by the UK Financial Conduct Authority ('FCA') in 2013, and consented to a cease-and-desist order with the US Federal Reserve Board ('FRB'), both of which contained certain forward-looking anti-money laundering ('AML') and sanctions-related obligations. HSBC also agreed to retain an independent compliance monitor (who is, for FCA purposes, a 'Skilled Person' under section 166 of the Financial Services and Markets Act and, for FRB purposes, an 'Independent Consultant') to produce periodic assessments of the Group's AML and sanctions compliance programme (the 'Skilled Person/ Independent Consultant'). In December 2012, HSBC Holdings also entered into an agreement with the Office of Foreign Assets Control ('OFAC') regarding historical transactions involving parties subject to OFAC sanctions. Reflective of HSBC's significant progress in strengthening its financial crime risk management capabilities, HSBC's engagement with the current Skilled Person will be terminated and a new Skilled Person with a narrower mandate will be appointed to assess the remaining areas that require further work in order for HSBC to transition fully to business-as-usual financial crime risk management. The Independent Consultant will continue to carry out an annual OFAC compliance review at the FRB's discretion. The role of the Skilled Person/Independent Consultant is discussed on page 145.

Through the Skilled Person/Independent Consultant's prior reviews, as well as internal reviews conducted by HSBC, certain potential AML and sanctions compliance issues have been identified that HSBC is reviewing further with the FRB, FCA and/or OFAC. The Financial Crimes Enforcement Network of the US Treasury Department, as well as the Civil Division of the US Attorney's Office for the Southern District of New York, are investigating the collection and transmittal of third-party originator information in certain payments instructed over HSBC's proprietary payment systems. The FCA is also conducting an investigation into HSBC Bank's and HSBC UK's compliance with UK money laundering regulations and financial crime systems and controls requirements. HSBC is cooperating with all of these investigations.

In May 2014, a shareholder derivative action was filed by a shareholder of HSBC Holdings purportedly on behalf of HSBC Holdings, HSBC Bank USA N.A. ('HSBC Bank USA'), HSBC North America Holdings Inc. and HSBC USA Inc. (the 'Nominal Corporate Defendants') in New York state court against certain current and former directors and officers of the Nominal Corporate Defendants (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 five-year deferred prosecution agreement with the US Department of Justice ('DoJ'), entered into in December 2012. In November 2015, the New York state court granted the Nominal Corporate Defendants' motion to dismiss. In November 2018, the appellate court reversed the New York state court's decision and reinstated the action; furthermore, in March 2019, the appellate court denied the Nominal Corporate Defendants' motion for reargument or for leave to appeal to the New York Court of Appeals. In February 2019, the Nominal Corporate Defendants and most of the Individual Defendants filed a further motion to dismiss in New York state court, where the matter is pending.

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 indirect subsidiary, HSBC Bank Canada, relating to HSBC's compliance with the Bank Secrecy Act, AML, sanctions and other laws. In September 2017, the Ontario Superior Court of Justice dismissed the statutory claims against HSBC Holdings and the former employee for lack of jurisdiction, and stayed the common law misrepresentation claim against HSBC Holdings on the basis of *forum non conveniens*. In October 2017, the plaintiff appealed to the Court of Appeal for Ontario and, in July 2018, that appeal was dismissed. In October 2018, the plaintiff applied for leave to appeal to the Supreme Court of Canada and, in March 2019, the plaintiff's application for leave to appeal was denied. In October 2019, the Ontario Superior Court of Justice dismissed the remaining common law misrepresentation claim against HSBC Holdings.

Since November 2014, a number of lawsuits have been filed in federal courts in the US against various HSBC companies and others on behalf of plaintiffs who are, or are related to, victims of terrorist attacks in the Middle East or of cartel violence in Mexico. In each case, it is alleged that the defendants aided and abetted the unlawful conduct of various sanctioned parties in violation of the US Anti-Terrorism Act. In one case, in August 2019, the Second Circuit Court of Appeals affirmed the dismissal of the plaintiffs' claims, and this matter is now concluded. Currently, 10 actions remain pending in federal courts in New York or the District of Columbia. Motions to dismiss were filed in three of those cases and the courts granted HSBC's motions in all three cases in March, September and October 2019. The plaintiffs are seeking to amend their complaint in one of the cases and have appealed the decisions in the two other cases. HSBC has filed motions to dismiss in three further cases which remain pending. The four remaining actions are at a very early stage.

In July 2018, a claim was issued against HSBC Holdings in the High Court of England and Wales alleging that HSBC Holdings made untrue and/or misleading statements and/or omissions in public statements between 2007 and 2012 regarding compliance by HSBC with AML, anti-terrorist financing and sanctions laws, regulations and requirements, and the regulatory compliance of HSBC more generally. In August 2019, HSBC Holdings concluded a settlement with the claimants to resolve this claim.

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.

Tax-related investigations

Various tax administration, regulatory and law enforcement authorities around the world have been conducting investigations and reviews of HSBC Private Bank (Suisse) SA ('HSBC Swiss Private Bank') and other HSBC companies in connection with allegations of tax evasion or tax fraud, money laundering and unlawful cross-border banking solicitation.

In October 2019, the Belgian court approved a settlement between HSBC Swiss Private Bank and Belgian authorities in which HSBC Swiss Private Bank agreed to pay €295m to resolve the Belgian authorities' investigation into historical tax-related offences. The Belgian court also dismissed proceedings against HSBC Holdings and HSBC Private Bank Holdings (Suisse) SA.

In December 2019, HSBC Swiss Private Bank entered into a three-year deferred prosecution agreement with the DoJ (the 'Swiss Tax DPA'). This concluded the DoJ's investigation into HSBC Swiss Private Bank's legacy business with US clients. Under the terms of the Swiss Tax DPA, HSBC Swiss Private Bank agreed to pay $192m to the DoJ and the US Internal Revenue Service and has a number of ongoing cooperation obligations.

HSBC continues to cooperate with tax-related investigations by other tax administration, regulatory or law enforcement authorities. Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these ongoing matters, including the timing or any possible impact on HSBC.

London interbank offered rates, European interbank offered rates and other benchmark interest rate investigations and litigation

Euro interest rate derivatives: In December 2016, the European Commission (the 'EC') issued a decision finding that HSBC, among other banks, engaged in anti-competitive practices in connection with the pricing of euro interest rate derivatives in early 2007. The EC imposed a fine on HSBC based on a one-month infringement. HSBC appealed the decision and, in September 2019, the General Court of the European Union (the 'General Court') issued a decision largely upholding the EC's findings on liability but annulling the fine. HSBC and the EC have both appealed the General Court's decision to the European Court of Justice.

US dollar Libor: Beginning in 2011, HSBC and other 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 ('US 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 New York District Court.

In 2017 and 2018, HSBC reached agreements with plaintiffs to resolve putative class actions brought on behalf of the following five groups of plaintiffs: persons who purchased US dollar Libor-indexed bonds; persons who purchased US dollar Libor-indexed exchange-traded instruments; US-based lending institutions that made or purchased US dollar Libor-indexed loans (the 'Lender class'); persons who purchased US dollar Libor-indexed interest rate swaps and other instruments directly from the defendant banks and their affiliates (the 'OTC class'); and persons who purchased US dollar Libor-indexed interest rate swaps and other instruments from certain financial institutions that are not the defendant banks or their affiliates. During 2018, the New York District Court granted final approval of the settlements with the OTC and Lender classes. The remaining settlements are subject to final court approval. Additionally, a number of other US dollar Libor-related actions remain pending against HSBC in the New York District Court and the Second Circuit Court of Appeals.

Intercontinental Exchange ('ICE') Libor: Between January and March 2019, HSBC and other panel banks were named as defendants in three putative class actions filed in the New York District Court on behalf of persons and entities who purchased instruments paying interest indexed to US dollar ICE Libor from a panel bank. The complaints allege, among other things, misconduct related to the suppression of this benchmark rate in violation of US antitrust and state law. In July 2019, the three putative class actions were consolidated, and the plaintiffs filed a consolidated amended complaint. In August 2019, the defendants filed a motion to dismiss the complaint, which remains pending.

Singapore interbank offered rate ('Sibor'), Singapore swap offer rate ('SOR') and Australia bank bill swap rate ('BBSW'): In July and August 2016, HSBC and other panel banks were named as defendants in two putative class actions filed in the New York

District Court on behalf of persons who transacted in products related to the Sibor, SOR and BBSW benchmark rates. The complaints allege, among other things, misconduct related to these benchmark rates in violation of US antitrust, commodities and racketeering laws, and state law.

In the Sibor/SOR litigation, following a decision on the defendants' motion to dismiss in October 2018, the claims against a number of HSBC entities were dismissed, and the Hongkong and Shanghai Banking Corporation Limited ('HBAP') remained as the only HSBC defendant in this action. In October 2018, HBAP filed a motion for reconsideration of the decision based on the issue of personal jurisdiction; this motion was denied in April 2019. Also in October 2018, the plaintiffs filed a third amended complaint naming only the Sibor panel members, including HBAP, as defendants; the court dismissed the third amended complaint in its entirety in July 2019 against all defendants. In August 2019, the plaintiffs filed an appeal to the Second Circuit Court of Appeals, which remains pending.

In the BBSW litigation, in November 2018, the court dismissed all foreign defendants, including all the HSBC entities, on personal jurisdiction grounds. In April 2019, the plaintiffs filed an amended complaint, which the defendants moved to dismiss. In February 2020, the court again dismissed the plaintiffs' amended complaint against all the HSBC entities.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

Foreign exchange-related investigations and litigation

Various regulators and competition authorities around the world, including in the EU, Brazil and South Africa, are conducting investigations and reviews into trading by HSBC and others on the foreign exchange markets. HSBC is cooperating with these investigations and reviews.

In January 2018, HSBC Holdings entered into a three-year deferred prosecution agreement with the Criminal Division of the DoJ (the 'FX DPA'), regarding fraudulent conduct in connection with two particular transactions in 2010 and 2011. This concluded the DoJ's investigation into HSBC's historical foreign exchange activities. Under the terms of the FX DPA, HSBC has a number of ongoing obligations, including implementing enhancements to its internal controls and procedures in its Global Markets business, which will be the subject of annual reports to the DoJ. In addition, HSBC agreed to pay a financial penalty and restitution.

In December 2016, Brazil's Administrative Council of Economic Defense initiated an investigation into the onshore foreign exchange market and identified a number of banks, including HSBC, as subjects of its investigation.

In February 2017, the Competition Commission of South Africa (the 'Competition Commission') referred a complaint for proceedings before the South African Competition Tribunal (the 'Tribunal') against 18 financial institutions, including HSBC Bank, for alleged anti-competitive behaviour in the South African foreign exchange market. In April 2017, HSBC Bank filed an exception to the complaint based on a lack of jurisdiction and statute of limitations. In January 2018, the Tribunal approved the provisional referral of additional financial institutions, including HSBC Bank USA, to the proceedings. In June 2019, the Tribunal issued a decision requiring the Competition Commission to revise its complaint. Several financial institutions named in the complaint, including HSBC Bank USA, have appealed part of the decision to the Competition Appeal Court of South Africa, and the Competition Commission has cross-appealed.

In October 2018, HSBC Holdings and HSBC Bank received an information request from the EC concerning potential coordination in foreign exchange options trading. This matter is at an early stage.

In late 2013 and early 2014, various HSBC companies and other banks were named as defendants in various putative class actions consolidated in the New York District Court. The consolidated complaint alleged, among other things, that the defendants conspired to manipulate the WM/Reuters foreign exchange benchmark rates. In September 2015, HSBC reached an agreement with the plaintiffs to resolve the consolidated action, and the court granted final approval of the settlement in August 2018.

A putative class action complaint making similar allegations on behalf of retail customers of foreign exchange products was filed in the US District Court for the Northern District of California in 2015, and was subsequently transferred to the New York District Court where it remains pending. In 2017, putative class action complaints making similar allegations on behalf of purported indirect purchasers of foreign exchange products were filed in New York and were subsequently consolidated in the New York District Court, where they remain pending.

In September 2018, various HSBC companies and other banks were named as defendants in two motions for certification of class actions filed in Israel alleging foreign exchange-related misconduct. In July 2019, the Tel Aviv Court allowed the plaintiffs to consolidate their claims and, in September 2019, the plaintiffs filed a motion for certification of the consolidated class action. In November and December 2018, complaints alleging foreign exchange-related misconduct were filed in the New York District Court and the High Court of England and Wales against HSBC and other defendants by certain plaintiffs that opted out of the US class action settlement. These matters are at an early stage. It is possible that additional civil actions will be initiated against HSBC in relation to its historical foreign exchange activities.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

Precious metals fix-related litigation

Gold: Beginning in March 2014, numerous putative class actions were filed in the New York District Court and the US District Courts for 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 June 2013, the defendants conspired to manipulate the price of gold and gold derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, naming a new defendant. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

Beginning in December 2015, numerous putative class actions under Canadian law were filed in the Ontario and Quebec Superior Courts of Justice against various HSBC companies and other financial institutions. The plaintiffs allege that, among other things, from January 2004 to March 2014, the defendants conspired to manipulate the price of gold and gold derivatives in violation of the Canadian Competition Act and common law. These actions are at an early stage.

Silver: 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 Limited as defendants. The complaints allege that, from January 2007 to December 2013, the defendants conspired to manipulate the price of silver and silver derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, which names several new defendants. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

In April 2016, two putative class actions under Canadian law were filed in the Ontario and Quebec Superior Courts of Justice against various HSBC companies and other financial institutions. The plaintiffs in both actions allege that, from January 1999 to August 2014, the defendants conspired to manipulate the price of silver and silver derivatives in violation of the Canadian Competition Act and common law. The Ontario action is at an early stage. The Quebec action has been temporarily stayed.

Platinum and palladium: Between late 2014 and early 2015, numerous putative class actions were filed in the New York District Court, naming HSBC and other members of The London Platinum and Palladium Fixing Company Limited as defendants. The complaints allege that, from January 2008 to November 2014, the 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 US CEA. In March 2017, the defendants' motion to dismiss the second amended consolidated complaint was granted in part and denied in part. In June 2017, the plaintiffs filed a third amended complaint. The defendants filed a joint motion to dismiss, which remains pending.

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.

Film finance litigation

In July and November 2015, two actions were brought by individuals against HSBC Private Bank (UK) Limited ('PBGB') in the High Court of England and Wales seeking damages on various alleged grounds, including breach of duty to the claimants, in connection with their participation in certain Ingenious film finance schemes. These actions are ongoing.

In December 2018, a separate action was brought against PBGB in the High Court of England and Wales by multiple claimants seeking damages for alleged unlawful means conspiracy and dishonest assistance in connection with lending provided by PBGB to third parties in respect of certain Ingenious film finance schemes in which the claimants participated. In June 2019, a similar claim was issued against PBGB in the High Court of England and Wales by additional claimants. These actions are ongoing.

In February and October 2019, PBGB received letters before claim by two largely separate groups of investors in Eclipse film finance schemes, each of which asserted various claims against PBGB in connection with its role in facilitating the design, promotion and operation of such schemes. These matters are at an early stage.

It is possible that additional actions or investigations will be initiated against PBGB as a result of its historical involvement in the provision of certain film finance-related services.

Based on the facts currently known, it is not practicable to predict the resolution of these matters, including the timing or possible aggregate impact, which could be significant.

Other regulatory investigations, reviews and litigation

HSBC Holdings and/or certain of its affiliates are subject to a number of other investigations and reviews by various regulators and competition and law enforcement authorities, as well as litigation, in connection with various matters relating to the firm's businesses and operations, including:

- an investigation by the DoJ regarding US Treasury securities trading practices;
- an investigation by the US Commodity Futures Trading Commission regarding interest rate swap transactions related to bond issuances;
- an investigation by the Swiss Competition Commission in connection with the setting of Euribor and Japanese yen Libor;
- an investigation by the FCA in connection with collections and recoveries operations in the UK;
- an information request from the UK Competition and Markets Authority concerning the financial services sector;
- putative class actions brought in the New York District Court relating to the Mexican government bond market, the US government-sponsored enterprise bond market, and the market for US dollar-denominated supranational sovereign and agency bonds;
- two group actions pending in the US courts and a claim issued in the High Court of England and Wales in connection with HSBC Bank's role as a correspondent bank to Stanford International Bank Ltd from 2003 to 2009; and
- litigation brought against various HSBC companies in the US courts relating to residential mortgage-backed securities, based primarily on (a) claims brought against HSBC Bank USA in connection with its role as trustee on behalf of various securitisation trusts; and (b) claims against several HSBC companies seeking that the defendants repurchase various mortgage loans.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

35 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 ('KMP') as defined by IAS 24, close family members of KMP and entities that are controlled or jointly controlled by KMP or their close family members. KMP are defined as those persons having authority and responsibility for planning, directing and controlling the activities of HSBC Holdings plc. These individuals also constitute 'senior management' for the purposes of the Hong Kong Listing Rules. Following a review of the application of IAS 24, it was determined that the roles of Chief Legal Officer, Group Head of Internal Audit, Group Chief Human Resources Officer, Group Chief Compliance Officer, Group Company Secretary and Chief Governance Officer, Head of Wholesale Market and Credit Risk and Group Chief of Staff did not meet the criteria for KMP as provided for in the standard.

Particulars of transactions with related parties 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 outstanding balances during the year.

Key Management Personnel

Details of Directors' remuneration and interest in shares are disclosed in the 'Directors' remuneration report' on pages 184 to 210. IAS 24 'Related party disclosures' requires the following additional information for key management compensation.

Compensation of Key Management Personnel

	2019	2018	2017
	$m	$m	$m
Short-term employee benefits	64	52	43
Other long-term employee benefits	8	6	5
Share-based payments	27	34	35
Year ended 31 Dec	**99**	92	83

Shareholdings, options and other securities of Key Management Personnel

	2019	2018
	(000s)	(000s)
Number of options held over HSBC Holdings ordinary shares under employee share plans	18	24
Number of HSBC Holdings ordinary shares held beneficially and non-beneficially	15,546	17,940
At 31 Dec	**15,564**	17,964

Transactions and balances during the year with Key Management Personnel

		2019		2018	
		Balance at 31 Dec	Highest amounts outstanding during year	Balance at 31 Dec	Highest amounts outstanding during year
	Footnotes	$m	$m	$m	$m
Key Management Personnel	1				
Advances and credits	2	283	328	169	288
Guarantees		34	34	0.6	0.6
Deposits	3	268	659	300	802

1 *Includes Key Management Personnel, close family members of Key Management Personnel and entities that are controlled or jointly controlled by Key Management Personnel or their close family members.*

2 *Advances and credits entered into by subsidiaries of HSBC Holdings plc during 2019 with Directors, disclosed pursuant to section 413 of the Companies Act 2006, totalled $3m (2018: $1m).*

3 *Comparatives have been re-presented to correct foreign currency translation errors impacting 2018 reported balances.*

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.

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 18.

Transactions and balances during the year with associates and joint ventures

	2019		2018	
	Highest balance during the year	Balance at 31 Dec	Highest balance during the year	Balance at 31 Dec
	$m	$m	$m	$m
Unsubordinated amounts due from joint ventures	132	123	130	115
Unsubordinated amounts due from associates	4,554	2,054	3,887	3,000
Amounts due to associates	2,517	516	2,020	273
Amounts due to joint ventures	28	28	22	22
Guarantees and commitments	647	407	790	523

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 2019, $5.4bn (2018: $4.4bn) of HSBC post-employment benefit plan assets were under management by HSBC companies, earning management fees of $8m in 2019 (2018: $8m). At 31 December 2019, HSBC's post-employment benefit plans had placed deposits of $530m (2018: $297m) with its banking subsidiaries, earning interest payable to the schemes of $0.3m (2018: nil). 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.

The combined HSBC Bank (UK) Pension Scheme enters into swap transactions with HSBC to manage inflation and interest rate sensitivity of its liabilities and selected assets. At 31 December 2019, the gross notional value of the swaps was $9.9bn (2018: $10.5bn); these swaps had a positive fair value to the scheme of $1.2bn (2018: $1.0bn); and HSBC had delivered collateral of $1.2bn (2018: $1.0bn) to the scheme in respect of these arrangements. 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 37.

Transactions and balances during the year with subsidiaries

	2019		2018	
	Highest balance during the year	**Balance at 31 Dec**	Highest balance during the year	Balance at 31 Dec
	$m	**$m**	$m	$m
Assets				
Cash and balances with HSBC undertakings	**5,029**	**2,382**	16,473	3,509
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	**61,964**	**61,964**	23,513	23,513
Derivatives	**3,902**	**2,002**	1,235	707
Loans and advances to HSBC undertakings	**43,436**	**10,218**	77,311	56,144
Prepayments, accrued income and other assets	**655**	**480**	—	—
Investments in subsidiaries	**163,258**	**161,473**	160,231	160,231
Total related party assets at 31 Dec	**278,244**	**238,519**	278,763	244,104
Liabilities				
Amounts owed to HSBC undertakings	**1,553**	**464**	2,040	949
Derivatives	**2,183**	**2,021**	3,639	2,159
Subordinated liabilities	**892**	**892**	892	892
Total related party liabilities at 31 Dec	**4,628**	**3,377**	6,571	4,000
Guarantees and commitments	**11,541**	**11,061**	11,629	8,627

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 5.

36 Events after the balance sheet date

A fourth interim dividend for 2019 of $0.21 per ordinary share (a distribution of approximately $4,266m) was declared by the Directors after 31 December 2019. These accounts were approved by the Board of Directors on 18 February 2020 and authorised for issue.

The Directors approved the 2020 business update after 31 December 2019, setting out a plan that aims to reallocate capital to areas that can deliver stronger returns, to reduce costs across the Group, and to simplify the business. One change as part of this plan is a change to the global businesses that form the Group's reportable segments as described in Note 10 of the financial statements on page 263. The existing Retail Banking and Wealth Management and Global Private Banking global businesses will be merged to create one new global business, Wealth and Personal Banking, which will become a reportable segment during 2020.

The ECL at 31 December 2019 was estimated based on a range of forecast economic conditions as at that date. Since early January 2020, the coronavirus outbreak has spread across mainland China and beyond, causing disruption to business and economic activity. The impact on GDP and other key indicators will be considered when determining the severity and likelihood of downside economic scenarios that will be used to estimate ECL under IFRS 9 in 2020.

37 HSBC Holdings' subsidiaries, joint ventures and associates

In accordance with section 409 of the Companies Act 2006 a list of HSBC Holdings plc subsidiaries, joint ventures and associates, the registered office addresses and the effective percentages of equity owned at 31 December 2019 are disclosed below.

Unless otherwise stated, the share capital comprises ordinary or common shares that are held by Group subsidiaries. The ownership percentage is provided for each undertaking. The undertakings below are consolidated by HSBC unless otherwise indicated.

Subsidiaries

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Almacenadora Banpacifico S.A. (In Liquidation)	99.99		15
Assetfinance December (F) Limited	100.00		16
Assetfinance December (H) Limited	100.00		17
Assetfinance December (M) Limited (In Liquidation)	100.00		32
Assetfinance December (P) Limited	100.00		17
Assetfinance December (R) Limited	100.00		17
Assetfinance June (A) Limited	100.00		17
Assetfinance June (D) Limited	100.00		16
Assetfinance Limited	100.00		17
Assetfinance March (B) Limited	100.00		18
Assetfinance March (D) Limited	100.00		16
Assetfinance March (F) Limited	100.00		17
Assetfinance September (F) Limited	100.00		17
Assetfinance September (G) Limited	100.00		16
B&Q Financial Services Limited	100.00		19
Banco Nominees (Guernsey) Limited	100.00		20
Banco Nominees 2 (Guernsey) Limited	100.00		20
Banco Nominees Limited	100.00		21
Beau Soleil Limited Partnership	n/a		0, 22
Beijing Miyun HSBC Rural Bank Company Limited	100.00		12, 23
Billingsgate Nominees Limited	100.00		17
Canada Crescent Nominees (UK) Limited	100.00		17
Canada Square Nominees (UK) Limited	100.00		17
Capco/Cove, Inc.	100.00		24
Card-Flo #1, Inc.	100.00		25
Card-Flo #3, Inc.	100.00		26
CC&H Holdings LLC	n/a		0, 27
CCF & Partners Asset Management Limited	100.00	(99.99)	17
CCF Holding (LIBAN) S.A.L. (In Liquidation)	74.99		28
Charterhouse Administrators (D.T.) Limited	100.00	(99.99)	17
Charterhouse Management Services Limited	100.00	(99.99)	17
Charterhouse Pensions Limited	100.00		17
Chongqing Dazu HSBC Rural Bank Company Limited	100.00		12, 29
Chongqing Fengdu HSBC Rural Bank Company Limited	100.00		12, 30
Chongqing Rongchang HSBC Rural Bank Company Limited	100.00		12, 31
CL Residential Limited (In Liquidation)	100.00		32
COIF Nominees Limited	n/a		0, 17
Cordico Management AG (In Liquidation)	100.00		33
Dalian Pulandian HSBC Rural Bank Company Limited	100.00		12, 34
Decision One Mortgage Company, LLC	n/a		0, 35
Dem 9	100.00	(99.99)	4, 36
Dempar 1	100.00	(99.99)	37
Desarrollo Turistico, S.A. de C.V. (In Liquidation)	100.00	(99.79)	15
Electronic Data Process México, S.A. de C.V.	100.00		15
Elysées Immo Invest	100.00	(99.99)	38
Equator Holdings Limited (In Liquidation)	100.00		32
Eton Corporate Services Limited	100.00		20
Far East Leasing SA (In Dissolution)	100.00		39
Finanpar 7	100.00	(99.99)	38
Flandres Contentieux S.A.	100.00	(99.99)	40
Foncière Elysées	100.00	(99.99)	37
Fujian Yongan HSBC Rural Bank Company Limited	100.00		12, 41
Fulcher Enterprises Company Limited	100.00	(62.14)	42
Fundacion HSBC, A.C.	100.00	(99.99)	11, 15
Giller Ltd.	100.00		24
GPIF Co-Investment, LLC	n/a		0, 26

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Griffin International Limited	100.00		17
Grundstuecksgesellschaft Trinkausstrasse Kommanditgesellschaft	n/a		0, 43
Grupo Financiero HSBC, S. A. de C. V.	99.99		15
Guangdong Enping HSBC Rural Bank Company Limited	100.00		12, 44
Hang Seng (Nominee) Limited	100.00	(62.14)	42
Hang Seng Bank (China) Limited	100.00	(62.14)	45
Hang Seng Bank (Trustee) Limited	100.00	(62.14)	42
Hang Seng Bank Limited	62.14		42
Hang Seng Bullion Company Limited	100.00	(62.14)	42
Hang Seng Credit Limited	100.00	(62.14)	42
Hang Seng Data Services Limited	100.00	(62.14)	42
Hang Seng Finance Limited	100.00	(62.14)	42
Hang Seng Financial Information Limited	100.00	(62.14)	42
Hang Seng Indexes Company Limited	100.00	(62.14)	42
Hang Seng Insurance Company Limited	100.00	(62.14)	42
Hang Seng Investment Management Limited	100.00	(62.14)	42
Hang Seng Investment Services Limited	100.00	(62.14)	42
Hang Seng Life Limited	100.00	(62.14)	42
Hang Seng Real Estate Management Limited	100.00	(62.14)	42
Hang Seng Securities Limited	100.00	(62.14)	42
Hang Seng Security Management Limited	100.00	(62.14)	42
Haseba Investment Company Limited	100.00	(62.14)	42
HFC Bank Limited (In Liquidation)	100.00		32
High Time Investments Limited	100.00	(62.14)	42
Honey Green Enterprises Ltd.	100.00		46
Household International Europe Limited (In Liquidation)	100.00		32
Household Pooling Corporation	100.00		47
HRMG Nominees Limited	100.00		20
HSBC (BGF) Investments Limited	100.00		17
HSBC (General Partner) Limited	100.00		2, 48
HSBC (Guernsey) GP PCC Limited	100.00		20
HSBC (Kuala Lumpur) Nominees Sdn Bhd	100.00		49
HSBC (Malaysia) Trustee Berhad	100.00		50
HSBC (Singapore) Nominees Pte Ltd	100.00		51
HSBC Agency (India) Private Limited	100.00		52
HSBC Alternative Investments Limited	100.00		17
HSBC Amanah Malaysia Berhad	100.00		49
HSBC Americas Corporation (Delaware)	100.00		26
HSBC Argentina Holdings S.A.	100.00		53
HSBC Asia Holdings B.V.	100.00		17
HSBC Asia Holdings Limited	100.00		2, 54
HSBC Asia Pacific Holdings (UK) Limited	100.00		17
HSBC Asset Finance (UK) Limited	100.00		17
HSBC Asset Finance Holdings Limited (In Liquidation)	100.00		32
HSBC Asset Finance M.O.G. Holdings (UK) Limited	100.00		17
HSBC Asset Management (India) Private Limited	100.00		55
HSBC Assurances Vie (France)	100.00	(99.99)	40
HSBC Australia Holdings Pty Limited	100.00		56
HSBC Bank (Chile)	100.00		57
HSBC Bank (China) Company Limited	100.00		12, 58
HSBC Bank (General Partner) Limited	100.00		48
HSBC Bank (Mauritius) Limited	100.00		59
HSBC Bank (RR) (Limited Liability Company)	n/a		0, 13, 60
HSBC Bank (Singapore) Limited	100.00		51
HSBC Bank (Taiwan) Limited	100.00		61
HSBC Bank (Uruguay) S.A.	100.00		62
HSBC Bank (Vietnam) Ltd.	100.00		63
HSBC Bank A.S.	100.00	(99.99)	64

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Bank Argentina S.A.	99.00		53
HSBC Bank Armenia cjsc	70.00		65
HSBC Bank Australia Limited	100.00		56
HSBC Bank Bermuda Limited	100.00		21
HSBC Bank Canada	100.00		66
HSBC Bank Capital Funding (Sterling 1) LP	n/a		0, 48
HSBC Bank Capital Funding (Sterling 2) LP	n/a		0, 48
HSBC Bank Egypt S.A.E	94.54		67
HSBC Bank Malaysia Berhad	100.00		49
HSBC Bank Malta p.l.c.	70.03		68
HSBC Bank Middle East Limited	100.00		5, 69
HSBC Bank Middle East Limited Representative Office Morocco SARL (In Liquidation)	100.00		70
HSBC Bank Oman S.A.O.G.	51.00		71
HSBC Bank Pension Trust (UK) Limited	100.00		17
HSBC Bank plc	100.00		17
HSBC Bank USA, National Association	100.00		72
HSBC Branch Nominee (UK) Limited	100.00		16
HSBC Brasil Holding S.A.	100.00	(99.99)	73
HSBC Brasil S.A. Banco de Investimento	100.00	(99.99)	73
HSBC Broking Forex (Asia) Limited	100.00		54
HSBC Broking Futures (Asia) Limited	100.00		54
HSBC Broking Futures (Hong Kong) Limited	100.00		54
HSBC Broking Securities (Asia) Limited	100.00		54
HSBC Broking Securities (Hong Kong) Limited	100.00		54
HSBC Broking Services (Asia) Limited	100.00		54
HSBC Canadian Covered Bond (Legislative) GP Inc.	100.00		74
HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership	n/a		0, 74
HSBC Capital (USA), Inc.	100.00		26
HSBC Capital Funding (Dollar 1) L.P.	n/a		0, 48
HSBC Capital Limited	100.00		54
HSBC Card Services Inc.	100.00		26
HSBC Casa de Bolsa, S.A. de C.V., Grupo Financiero HSBC	100.00	(99.99)	15
HSBC Cayman Limited	100.00		75
HSBC Cayman Services Limited	100.00		76
HSBC City Funding Holdings	100.00		17
HSBC Client Holdings Nominee (UK) Limited	100.00		17
HSBC Client Nominee (Jersey) Limited	100.00		77
HSBC Client Share Offer Nominee (UK) Limited (In Liquidation)	100.00		32
HSBC Columbia Funding, LLC	n/a		0, 26
HSBC Corporate Advisory (Malaysia) Sdn Bhd	100.00		49
HSBC Corporate Finance (Hong Kong) Limited	100.00		54
HSBC Corporate Trustee Company (UK) Limited	100.00		17
HSBC Custody Nominees (Australia) Limited	100.00		56
HSBC Custody Services (Guernsey) Limited	100.00	(99.99)	20
HSBC Daisy Investments (Mauritius) Limited	100.00		78
HSBC Diversified Loan Fund General Partner Sarl	n/a		0, 79
HSBC Electronic Data Processing (Guangdong) Limited	100.00		12, 80
HSBC Electronic Data Processing (Malaysia) Sdn Bhd	100.00		81
HSBC Electronic Data Processing (Philippines), Inc.	99.00		82
HSBC Electronic Data Processing India Private Limited	100.00	(99.99)	83
HSBC Electronic Data Processing Lanka (Private) Limited	100.00	(99.99)	84
HSBC Electronic Data Service Delivery (Egypt) S.A.E.	100.00	(99.99)	85
HSBC Enterprise Investment Company (UK) Limited (In Liquidation)	100.00		32
HSBC Epargne Entreprise (France)	100.00	(99.99)	40

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Equator (UK) Limited (In Liquidation)	100.00		32
HSBC Equipment Finance (UK) Limited	100.00		16
HSBC Equity (UK) Limited	100.00		17
HSBC Europe B.V.	100.00	(99.99)	17
HSBC Executor & Trustee Company (UK) Limited	100.00		16
HSBC Factoring (France)	100.00	(99.99)	37
HSBC Finance (Netherlands)	100.00		2, 17
HSBC Finance Corporation	100.00		26
HSBC Finance Limited	100.00		17
HSBC Finance Mortgages Inc.	100.00		86
HSBC Finance Transformation (UK) Limited	100.00		17
HSBC Financial Services (Lebanon) s.a.l.	99.60		87
HSBC Financial Services (Middle East) Limited	100.00		88
HSBC Financial Services (Uruguay) S.A. (In Liquidation)	100.00		89
HSBC France	99.00		37
HSBC Fund Services (Korea) Limited	92.96		90
HSBC Germany Holdings GmbH	100.00		43
HSBC Global Asset Management (Bermuda) Limited	100.00		21
HSBC Global Asset Management (Canada) Limited	100.00		66
HSBC Global Asset Management (Deutschland) GmbH	100.00	(80.67)	43
HSBC Global Asset Management (France)	100.00	(99.99)	91
HSBC Global Asset Management (Hong Kong) Limited	100.00		22
HSBC Global Asset Management (International) Limited (In Liquidation)	100.00		92
HSBC Global Asset Management (Japan) K. K.	100.00		93
HSBC Global Asset Management (Malta) Limited	100.00	(70.00)	94
HSBC Global Asset Management (México), S.A. de C.V., Sociedad Operadora de Fondos de Inversión, Grupo Financiero HSBC	100.00	(99.99)	15
HSBC Global Asset Management (Oesterreich) GmbH	100.00	(80.67)	6, 95
HSBC Global Asset Management (Singapore) Limited	100.00		51
HSBC Global Asset Management (Switzerland) AG	100.00	(90.33)	4, 96
HSBC Global Asset Management (Taiwan) Limited	100.00		97
HSBC Global Asset Management (UK) Limited	100.00		17
HSBC Global Asset Management (USA) Inc.	100.00		98
HSBC Global Asset Management Argentina S.A. Sociedad Gerente de Fondos Comunes de Inversión	100.00	(99.99)	99
HSBC Global Asset Management Holdings (Bahamas) Limited	100.00		100
HSBC Global Asset Management Limited	100.00		2, 17
HSBC Global Custody Nominee (UK) Limited	100.00		17
HSBC Global Custody Proprietary Nominee (UK) Limited	100.00		1, 17
HSBC Global Services (Canada) Limited	100.00		101
HSBC Global Services (China) Holdings Limited	100.00		17
HSBC Global Services (Hong Kong) Limited	100.00		54
HSBC Global Services (UK) Limited	100.00		17
HSBC Global Services Limited	100.00		2, 17
HSBC Global Shared Services (India) Private Limited (In Liquidation)	100.00		1, 52
HSBC Group Management Services Limited	100.00		17
HSBC Group Nominees UK Limited	100.00		2, 17
HSBC Holdings B.V.	100.00		17
HSBC IM Pension Trust Limited	100.00		17
HSBC Infrastructure Limited	100.00		17
HSBC INKA Investment-AG TGV	100.00	(80.67)	14, 102
HSBC Inmobiliaria (Mexico), S.A. de C.V.	100.00	(99.99)	15
HSBC Institutional Trust Services (Asia) Limited	100.00		54

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Institutional Trust Services (Bermuda) Limited	100.00		21
HSBC Institutional Trust Services (Mauritius) Limited	100.00		103
HSBC Institutional Trust Services (Singapore) Limited	100.00		51
HSBC Insurance (Asia) Limited	100.00		104
HSBC Insurance (Asia-Pacific) Holdings Limited	100.00		105
HSBC Insurance (Bermuda) Limited	100.00		21
HSBC Insurance (Singapore) Pte. Limited	100.00		51
HSBC Insurance Agency (USA) Inc.	100.00		98
HSBC Insurance Brokers (Philippines) Inc.	100.00		106
HSBC Insurance Holdings Limited	100.00		2, 17
HSBC Insurance SAC 1 (Bermuda) Limited	100.00		21
HSBC Insurance SAC 2 (Bermuda) Limited	100.00		21
HSBC Insurance Services (Lebanon) S.A.L. (In Liquidation)	100.00		107
HSBC Insurance Services Holdings Limited	100.00		17
HSBC International Finance Corporation (Delaware)	100.00		108
HSBC International Holdings (Jersey) Limited (In Liquidation)	100.00	(99.99)	77
HSBC International Trustee (BVI) Limited	100.00		109
HSBC International Trustee (Holdings) Pte. Limited	100.00		51
HSBC International Trustee Limited	100.00		110
HSBC Inversiones S.A.	99.99		57
HSBC InvestDirect (India) Limited	99.54		111
HSBC InvestDirect Financial Services (India) Limited	99.99	(99.54)	111
HSBC InvestDirect Sales & Marketing (India) Limited	98.99	(98.54)	52
HSBC InvestDirect Securities (India) Private Limited	99.99	(99.78)	111
HSBC Investment Bank Holdings B.V.	100.00		17
HSBC Investment Bank Holdings Limited	100.00		17
HSBC Investment Company (Egypt) S.A.E (In Liquidation)	94.54		112
HSBC Investment Company Limited	100.00		2, 17
HSBC Investment Funds (Canada) Inc.	100.00		113
HSBC Investment Funds (Hong Kong) Limited	100.00		22
HSBC Investment Funds (Luxembourg) SA	100.00	(99.99)	114
HSBC Invoice Finance (UK) Limited	100.00		115
HSBC Issuer Services Common Depositary Nominee (UK) Limited	100.00		17
HSBC Issuer Services Depositary Nominee (UK) Limited	100.00		17
HSBC Latin America B.V.	100.00		17
HSBC Latin America Holdings (UK) Limited	100.00		2, 17
HSBC Leasing (Asia) Limited	100.00		54
HSBC Leasing (France)	100.00	(99.99)	36
HSBC Life (International) Limited	100.00		21
HSBC Life (Property) Limited	100.00		104
HSBC Life (UK) Limited	100.00		17
HSBC Life Assurance (Malta) Limited	100.00	(70.03)	94
HSBC Life Insurance Company Limited	50.00		116
HSBC LU Nominees Limited	100.00		17
HSBC Management (Guernsey) Limited	100.00		20
HSBC Markets (USA) Inc.	100.00		26
HSBC Marking Name Nominee (UK) Limited	100.00		17
HSBC Master Trust Trustee Limited	100.00		17
HSBC Mexico, S.A., Institucion de Banca Multiple, Grupo Financiero HSBC	99.99		15
HSBC Middle East Finance Company Limited	80.00		117
HSBC Middle East Holdings B.V.	100.00		2, 69
HSBC Middle East Leasing Partnership	n/a		0, 118
HSBC Middle East Securities L.L.C	n/a		0, 119
HSBC Mortgage Corporation (Canada)	100.00		120

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Mortgage Corporation (USA)	100.00		26
HSBC Nominees (Asing) Sdn Bhd	100.00		49
HSBC Nominees (Hong Kong) Limited	100.00		54
HSBC Nominees (New Zealand) Limited	100.00		121
HSBC Nominees (Tempatan) Sdn Bhd	100.00		49
HSBC North America Holdings Inc.	100.00		3, 26
HSBC Operational Services GmbH	90.10	(72.68)	122
HSBC Overseas Holdings (UK) Limited	100.00		2, 17
HSBC Overseas Investments Corporation (New York)	100.00		123
HSBC Overseas Nominee (UK) Limited	100.00		17
HSBC Participaciones (Argentina) S.A.	100.00	(99.99)	124
HSBC PB Corporate Services 1 Limited	100.00		125
HSBC PB Services (Suisse) SA	100.00		126
HSBC Pension Trust (Ireland) DAC	100.00		127
HSBC Pensiones, S.A.	100.00		15
HSBC PI Holdings (Mauritius) Limited	100.00		103
HSBC Portfoy Yonetimi A.S.	100.00	(99.99)	128
HSBC Preferential LP (UK)	100.00		17
HSBC Private Bank (C.I.) Limited	100.00		20
HSBC Private Bank (Luxembourg) S.A.	100.00		114
HSBC Private Bank (Suisse) SA	100.00		126
HSBC Private Bank (UK) Limited	100.00		17
HSBC Private Bank International	100.00		129
HSBC Private Banking Holdings (Suisse) SA	100.00		126
HSBC Private Banking Nominee 3 (Jersey) Limited	100.00		125
HSBC Private Equity Advisors LLC	n/a		0, 26
HSBC Private Equity Investments (UK) Limited	100.00		17
HSBC Private Trustee (Hong Kong) Limited	100.00		54
HSBC Private Wealth Services (Canada) Inc.	100.00		130
HSBC Professional Services (India) Private Limited	100.00		52
HSBC Property (UK) Limited	100.00		17
HSBC Property Funds (Holding) Limited	100.00		17
HSBC Provident Fund Trustee (Hong Kong) Limited	100.00		54
HSBC Qianhai Securities Limited	100.00	(51.00)	12, 131
HSBC Real Estate Leasing (France)	100.00	(99.99)	40
HSBC Realty Credit Corporation (USA)	100.00		26
HSBC REGIO Fund General Partner S.à r.l.	100.00	(99.99)	114
HSBC REIM (France)	100.00	(99.99)	40
HSBC Representative Office (Nigeria) Limited (In Liquidation)	100.00		132
HSBC Retirement Benefits Trustee (UK) Limited	100.00		1, 2, 17
HSBC Retirement Services Limited	100.00		1, 17
HSBC Saudi Arabia	51.00	(61.60)	133
HSBC Savings Bank (Philippines) Inc.	99.99		134
HSBC Securities (Asia) Limited	100.00		54
HSBC Securities (Canada) Inc.	100.00		101
HSBC Securities (Egypt) S.A.E.	100.00	(94.54)	67
HSBC Securities (Japan) Limited	100.00		17
HSBC Securities (Philippines) Inc.	99.99		9, 135
HSBC Securities (Singapore) Pte Limited	100.00		51
HSBC Securities (South Africa) (Pty) Limited	100.00		136
HSBC Securities (Taiwan) Corporation Limited	100.00		137
HSBC Securities (USA) Inc.	100.00		26
HSBC Securities and Capital Markets (India) Private Limited	99.99		52
HSBC Securities Asia International Nominees Limited (In Liquidation)	100.00		138
HSBC Securities Asia Nominees Limited	100.00		54
HSBC Securities Brokers (Asia) Limited	100.00		54
HSBC Securities Investments (Asia) Limited	100.00		54
HSBC Securities Services (Bermuda) Limited	100.00		21
HSBC Securities Services (Guernsey) Limited	100.00		20
HSBC Securities Services (Ireland) DAC	100.00		127
HSBC Securities Services (Luxembourg) S.A.	100.00		114

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Securities Services Holdings (Ireland) DAC	100.00		127
HSBC Securities Services Nominees Limited	100.00		54
HSBC Seguros de Retiro (Argentina) S.A.	100.00	(99.99)	53
HSBC Seguros de Vida (Argentina) S.A.	100.00	(99.99)	53
HSBC Seguros, S.A de C.V., Grupo Financiero HSBC	99.99		15
HSBC Service Delivery (Polska) Sp. z o.o.	100.00		139
HSBC Services (France)	100.00	(99.99)	37
HSBC Services Japan Limited	100.00		140
HSBC Services USA Inc.	100.00		141
HSBC Servicios Financieros, S.A. de C.V	100.00	(99.99)	15
HSBC Servicios, S.A. DE C.V., Grupo Financiero HSBC	100.00	(99.99)	15
HSBC SFH (France)	100.00	(99.99)	4, 40
HSBC Software Development (Guangdong) Limited	100.00		142
HSBC Software Development (India) Private Limited	100.00		143
HSBC Software Development (Malaysia) Sdn Bhd	100.00		81
HSBC Specialist Investments Limited	100.00		17
HSBC Stockbrokers Nominee (UK) Limited (In Liquidation)	100.00		32
HSBC Technology & Services (China) Limited	100.00		144
HSBC Technology & Services (USA) Inc.	100.00		26
HSBC Transaction Services GmbH	100.00	(80.67)	6, 145
HSBC Trinkaus & Burkhardt (International) S.A.	100.00	(80.67)	114
HSBC Trinkaus & Burkhardt AG	80.67		43
HSBC Trinkaus & Burkhardt Gesellschaft fur Bankbeteiligungen mbH	100.00	(80.67)	43
HSBC Trinkaus Europa Immobilien-Fonds Nr. 5 GmbH	100.00	(80.67)	43
HSBC Trinkaus Family Office GmbH	100.00	(80.67)	6, 43
HSBC Trinkaus Immobilien Beteiligungs KG	100.00	(80.67)	43
HSBC Trinkaus Real Estate GmbH	100.00	(80.67)	6, 43
HSBC Trust Company (Canada)	100.00		120
HSBC Trust Company (Delaware), National Association	100.00		108
HSBC Trust Company (UK) Limited	100.00		17
HSBC Trust Company AG (In Liquidation)	100.00		33
HSBC Trustee (C.I.) Limited	100.00		125
HSBC Trustee (Cayman) Limited	100.00		146
HSBC Trustee (Guernsey) Limited	100.00		20
HSBC Trustee (Hong Kong) Limited	100.00		54
HSBC Trustee (Singapore) Limited	100.00		51
HSBC UK Bank plc	100.00		16
HSBC UK Client Nominee Limited	100.00		16
HSBC UK Holdings Limited	100.00		2, 17
HSBC USA Inc.	100.00		123
HSBC Ventures USA Inc.	100.00		26
HSBC Violet Investments (Mauritius) Limited	100.00		78
HSBC Wealth Client Nominee Limited	100.00		1, 16
HSBC Yatirim Menkul Degerler A.S.	100.00		128
HSI Asset Securitization Corporation	100.00		26
HSI International Limited	100.00	(62.14)	42
HSIL Investments Limited	100.00		17
Hubei Macheng HSBC Rural Bank Company Limited	100.00		147
Hubei Suizhou Cengdu HSBC Rural Bank Company Limited	100.00		12, 148
Hubei Tianmen HSBC Rural Bank Company Limited	100.00		149
Hunan Pingjiang HSBC Rural Bank Company Limited	100.00		12, 150
Imenson Limited	100.00	(62.14)	42
INKA Internationale Kapitalanlagegesellschaft mbH	100.00	(80.67)	145
Inmobiliaria Banci, S.A. de C.V.	100.00	(99.68)	15

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Inmobiliaria Bisa, S.A. de C.V.	99.98		15
Inmobiliaria Grufin, S.A. de C.V.	100.00	(99.99)	15
Inmobiliaria Guatusi, S.A. de C.V.	100.00	(99.99)	15
IRERE Property Investments (French Offices) Sarl (In Liquidation)	100.00		151
James Capel & Co. Limited	100.00		17
James Capel (Nominees) Limited	100.00		17
James Capel (Taiwan) Nominees Limited	100.00		17
John Lewis Financial Services Limited	100.00		17
Keyser Ullmann Limited	100.00	(99.99)	17
Lion Corporate Services Limited	100.00		54
Lion International Corporate Services Limited	100.00		1, 110
Lion International Management Limited	100.00		110
Lion Management (Hong Kong) Limited	100.00		1, 54
Lyndholme Limited	100.00		54
Marks and Spencer Financial Services plc	100.00		152
Marks and Spencer Unit Trust Management Limited	100.00		152
Maxima S.A. AFJP (In Liquidation)	99.98		124
Mexicana de Fomento, S.A. de C.V.	100.00	(99.90)	15
Midcorp Limited	100.00		17
Midland Bank (Branch Nominees) Limited	100.00		16
Midland Nominees Limited	100.00		16
MIL (Cayman) Limited	100.00		153
MW Gestion SA	100.00		53
Promocion en Bienes Raices, S.A. de C.V.	100.00	(99.99)	15
Prudential Client HSBC GIS Nominee (UK) Limited	100.00		17
PT Bank HSBC Indonesia	98.93		154
PT HSBC Sekuritas Indonesia	100.00	(85.00)	155
R/CLIP Corp.	100.00		26
Real Estate Collateral Management Company	100.00		26
Republic Nominees Limited	100.00		20
Republic Overseas Capital Corporation	100.00		98
RLUKREF Nominees (UK) One Limited	100.00		1, 17
RLUKREF Nominees (UK) Two Limited	100.00		1, 17
S.A.P.C. - Ufipro Recouvrement	99.99		36
Saf Baiyun	100.00	(99.99)	4, 38
Saf Guangzhou	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Ba	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Er	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Jiu	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Liu	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Qi	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Wu	100.00	(99.99)	4, 38
SAS Cyatheas Pasteur	94.93		4, 36
SCI HSBC Assurances Immo	100.00	(99.99)	40
Serai Limited	100.00		1, 54
SFM	100.00	(99.99)	37
SFSS Nominees (Pty) Limited	100.00		156
Shandong Rongcheng HSBC Rural Bank Company Limited	100.00		12, 157
Sico Limited	100.00		158
SNC Dorique	99.99		1, 11, 159
SNC Kerouan	99.99		11, 38
SNC Les Mercuriales	100.00	(99.99)	1, 11, 38
SNC Les Oliviers D'Antibes	60.00		40
SNC Makala	100.00	(99.99)	1, 11, 38
SNCB/M6 - 2008 A	100.00	(99.99)	38
SNCB/M6-2007 A	100.00	(99.99)	4, 38
SNCB/M6-2007 B	100.00	(99.99)	4, 38
Société Française et Suisse	100.00	(99.99)	38
Societe Immobiliere Atlas S.A. (In Liquidation)	100.00		126
Somers Dublin DAC	100.00	(99.99)	127
Somers Nominees (Far East) Limited	100.00		21
Sopingest	100.00	(99.99)	38
South Yorkshire Light Rail Limited	100.00		17

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
St Cross Trustees Limited	100.00		16
Sun Hung Kai Development (Lujiazui III) Limited	100.00		12, 160
Swan National Leasing (Commercials) Limited (In Liquidation)	100.00		32
Swan National Limited	100.00		17
HSBC Odeme Sistemleri Bilgisayar Teknolojileri Basin Yayin Ve Musteri Hizmetleri (In Liquidation)	100.00	(99.99)	161
Thasosfin	100.00	(99.99)	40
The Hongkong and Shanghai Banking Corporation Limited	100.00		5, 54
The Venture Catalysts Limited	100.00		17
Tooley Street View Limited	100.00		2, 17
Tower Investment Management	100.00		162
Trinkaus Australien Immobilien Fonds Nr. 1 Brisbane GmbH & Co. KG	100.00	(80.67)	43
Trinkaus Australien Immobilien-Fonds Nr. 1 Treuhand-GmbH	100.00	(80.67)	6, 43
Trinkaus Europa Immobilien-Fonds Nr.3 Objekt Utrecht Verwaltungs-GmbH	100.00	(80.67)	43
Trinkaus Immobilien-Fonds Geschaeftsfuehrungs-GmbH	100.00	(80.67)	6, 43
Trinkaus Immobilien-Fonds Verwaltungs-GmbH	100.00	(80.67)	6, 43
Trinkaus Private Equity Management GmbH	100.00	(80.67)	43
Trinkaus Private Equity Verwaltungs GmbH	100.00	(80.67)	6, 43
Tropical Nominees Limited	100.00		153
Turnsonic (Nominees) Limited	100.00		16
Valeurs Mobilières Elysées	100.00	(99.99)	163
Wardley Limited	100.00		54
Wayfoong Nominees Limited	100.00		54
Wayhong (Bahamas) Limited	100.00		100
Westminster House, LLC	n/a		0, 26
Woodex Limited	100.00		21
Yan Nin Development Company Limited	100.00	(62.14)	42

Joint ventures

The undertakings below are joint ventures and equity accounted.

Joint ventures	% of share class held by immediate parent company (or by the Group where this varies)	Footnotes
Global Payments Technology Mexico S.A. De C.V.	50.00	15
HCM Holdings Limited (In Liquidation)	50.99	32
House Network Sdn Bhd	25.00	164
HSBC Jintrust Fund Management Company	49.00	181
ProServe Bermuda Limited	50.00	165
The London Silver Market Fixing Limited	n/a	0, 1, 166
Vaultex UK Limited	50.00	167

Associates

The undertakings below are associates and equity accounted.

Associates	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Bank of Communications Co., Ltd.	19.03		168
Barrowgate Limited	15.31		169
BGF Group PLC	24.54		170
Bud Financial Limited	8.20		1, 171
Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited	26.00		172
CFAC Payment Scheme Limited	33.33		173
Chemi & Cotex (Rwanda) Limited	33.99		1, 174
Chemi & Cotex Kenya Limited	33.99		1, 175
Chemi and Cotex Industries Limited	33.99		176
EPS Company (Hong Kong) Limited	38.66		54
Euro Secured Notes Issuer	16.66		177
GIE GNIFI	n/a		0, 178
GZHS Research Co Ltd	33.00	(20.50)	179
Hang Seng Qianhai Fund Management Company Limited	70.00	(43.49)	1, 12, 180
Icon Brickell LLC(In Liquidation)	n/a		0, 182
Jeppe Star Limited	100.00	(33.99)	183
MENA Infrastructure Fund (GP) Ltd	33.33		184
Northstar Trade Finance Inc.	20.08		185
Novo Star Limited	33.99		186
Quantexa Ltd	10.51		187
Services Epargne Entreprise	14.34		188
sino AG	24.94	(20.11)	189
The London Gold Market Fixing Limited	n/a		0, 166
The Saudi British Bank	29.20		190
Trinkaus Europa Immobilien-Fonds Nr. 7 Frankfurt Mertonviertel KG	n/a		0, 43
Vizolution Limited	17.95		1, 191
We Trade Innovation Designated Activity Company	8.52		1, 192

Footnotes for Note 37

Description of Shares

0	Where an entity is governed by voting rights, HSBC consolidates 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 to direct relevant activities, and whether power is held as an agent or principal. HSBC's consolidation policy is described in Note 1.2(a).
1	Management has determined that these undertakings are excluded from consolidation in the Group accounts as these entities do not meet the definition of subsidiaries in accordance with IFRS. HSBC's consolidation policy is described in Note 1.2(a).
2	Directly held by HSBC Holdings plc
3	Preference Shares
4	Actions
5	Redeemable Preference Shares
6	GmbH Anteil
7	Limited and Unlimited Liability Shares
8	Liquidating Share Class
9	Nominal Shares
10	Non-Participating Voting Shares
11	Parts
12	Registered Capital Shares
13	Russian Limited Liability Company Shares
14	Stückaktien

Registered offices

15	Paseo de la Reforma 347, Col. Cuauhtemoc , Mexico, 06500
16	1 Centenary Square, Birmingham, United Kingdom, B1 1HQ
17	8 Canada Square , London, United Kingdom, E14 5HQ
18	5 Donegal Square South , Belfast, Northern Ireland, BT1 5JP
19	Camden House West The Parade, Birmingham, United Kingdom, B1 3PY
20	Arnold House St Julians Avenue, St Peter Port, Guernsey, GY1 3NF
21	37 Front Street, Hamilton, Bermuda, HM 11
22	HSBC Main Building 1 Queen's Road Central, Hong Kong
23	First Floor, Xinhua Bookstore Xindong Road (SE of roundabout), Miyun District, Beijing, China
24	95 Washington Street , Buffalo, New York, United States Of America, 14203
25	1209 Orange Street , Wilmington, Delaware, United States Of America, 19801
26	c/o The Corporation Trust Company 1209 Orange Street, Wilmington, Delaware, United States Of America, 19801
27	Corporation Service Company 251 Little Falls Drive, Wilmington, Delaware, United States Of America, 19808
28	Solidere - Rue Saad Zaghloul Immeuble - 170 Marfaa, PO Box 17 5476 Mar Michael 11042040, Beyrouth, Lebanon
29	No 1, Bei Huan East Road Dazu County, Chongqing, China
30	No 107, Ping Du Avenue (E), Sanhe Town, Fengdu County , Chongqing, China
31	No. 3, 5, 7, Haitang Erzhi Road Changyuan, Rongchang, Chongqing, China, 402460
32	Hill House 1 Little New Street, London, United Kingdom, EC4A 3TR
33	Bederstrasse 49 , Zurich, Switzerland, CH-8002
34	First & Second Floor, No.3 Nanshan Road, Pulandian , Dalian, Liaoning, China
35	CT Corporation System 225 Hillsborough Street, Raleigh, North Carolina, United States Of America, 27603
36	39, rue de Bassano, Paris, France, 75008
37	103, avenue des Champs-Elysées, Paris, France, 75008
38	64, rue Galilée, Paris, France, 75008

Registered offices

39	MMG Tower, 23 floor Ave. Paseo del Mar Urbanizacion Costa del Este, Panama
40	15, rue Vernet , Paris, France, 75008
41	No. 1 1211 Yanjiang Zhong Road, Yongan, Fujian, China
42	83 Des Voeux Road Central , Hong Kong
43	Königsallee 21/23 , Düsseldorf, Germany, 40212
44	No. 44, Xin Ping Road Central, Encheng, Enping , Guangdong, China, 529400
45	34/F and 36/F, Hang Seng Bank Tower, 1000 Lujiazui Ring Road,, China (Shanghai) Pilot Free Trade Zone,, Shanghai , China, 200120
46	Commerce House, Wickhams Cay 1, P.O. Box 3140, Road Town, Tortola, VG1110, British Virgin Islands
47	The Corporation Trust Company of Nevada 311 S. Division Street, Carson City, Nevada, United States Of America, 89703
48	HSBC House Esplanade, St. Helier, Jersey, JE4 8UB
49	10th Floor, North Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100
50	13th Floor, South Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100
51	21 Collyer Quay #10-02 HSBC Building , Singapore, 049320
52	52/60 M G Road, Fort, Mumbai, India, 400 001
53	557 Bouchard, Level 20 , Ciudad de Buenos Aires, Capital federal, Argentina, C1106ABG
54	1 Queen's Road Central , Hong Kong
55	3rd Floor, Merchantile Bank Chamber 16, Veer Nariman Road, Fort, Mumbai, India, 400001
56	Level 36 Tower 1 International Towers Sydney, 100 Barangaroo Avenue, Sydney, New South Wales, Australia, 2000
57	Isidora Goyenechea 2800, 23rd floor, Las Condes , Santiago, Chile, 7550647
58	HSBC Building Shanghai ifc, 8 Century Avenue, Pudong, Shanghai, China, 200120
59	6th floor, HSBC Centre, 18, Cybercity, Ebene , Mauritius
60	2 Paveletskaya square, building 2 , Moscow, Russian Federation, 115054
61	13F-14F, 333 Keelung Road, Sec.1 , Taipei, 110
62	25 de Mayo 471 , Montevideo, Uruguay, 11000
63	The Metropolitan 235 Dong Khoi Street , District 1, Ho Chi Minh City , Vietnam
64	Esentepe mah. Büyükdere Caddesi No.128 Istanbul 34394 , Turkey
65	66 Teryan street , Yerevan, Armenia, 0009
66	885 West Georgia Street, 3rd Floor, Vancouver, British Columbia, Canada, V6C 3E9
67	306 Corniche El Nil , Maadi, Egypt, 11728
68	116 Archbishop Street, Valletta, Malta
69	Level 1, Building No. 8, Gate Village Dubai International Financial Centre, PO Box 30444, United Arab Emirates
70	Majer Consulting, Office 54/44, Building A1, Residence Ryad Anfa,, Boulevard Omar El Khayam, Casa Finance City (CFC), Casablanca, Morocco
71	Al Khuwair Office PO Box 1727 PC111 CPO Seeb, Muscat, Oman
72	1800 Tysons Boulevard Suite 50, Tysons, Virginia, United States Of America, 22102
73	Rua Funchal, n° 160, SP Corporate Towers, Torre Norte, 19° andar, cj 191A - Parte, São Paulo, Brazil, 04551-060
74	66 Wellington Street West, Suite 5300, Toronto, Ontario, Canada, M5K 1E6
75	P.O. Box 1109, Strathvale House, Ground floor, 90 North Church Street , George Town, Grand Cayman, Cayman Islands, KY1-1102
76	90 North Church Street, Strathvale House - Ground Floor, PO Box 1109, George Town, Grand Cayman, Grand Cayman, Cayman Islands, KY1-1102
77	HSBC House Esplanade, St. Helier, Jersey, JE1 1HS
78	c/o Rogers Capital St. Louis Business Centre, Cnr Desroches & St Louis Streets, Port Louis, Mauritius
79	49 avenue J.F. Kennedy , Luxembourg, Luxembourg, 1855

Registered offices

80	4-17/F, Office Tower 2 TaiKoo Hui, No. 381 Tian He Road, Tian He District, Guangzhou, Guangdong, China
81	Suite 1005, 10th Floor, Wisma Hamzah Kwong Hing No. 1, Leboh Ampang, Kuala Lumpur, Malaysia, 50100
82	HSBC, Filinvest One Bldg Northgate Cyberzone, Filinvest Corporate City, Alabang, Muntinlupa City, Philippines, 1781
83	HSBC House Plot No.8, Survey No.64 (Part), Hightec City Layout Madhapur, Hyderabad, India, 500081
84	439, Sri Jayawardenapura Mawatha Welikada, Rajagiriya, Colombo, Sri Lanka
85	Smart Village 28th Km Cairo- Alexandria Desert Road Building , Cairo, Egypt
86	Suite 300, 3381 Steeles Avenue East , Toronto, Ontario, Canada, M2H 3S7
87	Centre Ville 1341 Building - 4th Floor Patriarche Howayek Street (facing Beirut Souks), PO Box Riad El Solh, Lebanon, 9597
88	First Floor Building No. 5, Emaar Square,, Dubai, Dubai, United Arab Emirates
89	World Trade Center Montevideo Avenida Luis Alberto de Herrera 1248, Torre 1, Piso 15, Oficina 1502, Montevideo, Uruguay, CP 11300
90	Level 12, HSBC Building 37, Chilpae-ro, Jung-gu, Seoul, Korea, Republic Of (South)
91	Immeuble Coeur Défense 110, Esplanade du Général de Gaulle-La défense 4, Courbevoie, France, 92400
92	HSBC House Esplanade, St. Helier, Jersey, JE4 8WP
93	HSBC Building 11-1, Nihonbashi 3-chome, Chuo-ku, Tokyo, Japan, 103-0027
94	80 Mill Street, Qormi, Malta, QRM 3101
95	Herrengasse 1-3 , Wien, Austria, 1010
96	Gartenstrasse 26 , Zurich, Switzerland
97	24th Fl., 97-99, Sec.2, Tunhwa S. Rd., Taipei, Taiwan, R.O.C. , Taiwan
98	452 Fifth Avenue, New York NY10018, United States Of America
99	Bouchard 557, Piso 18° , Cdad. Autónoma de Buenos Aires, Argentina, 1106
100	Mareva House 4 George Street, Nassau, Bahamas
101	70 York Street, Toronto, Ontario, Canada, M5J 1S9
102	Breite Str. 29/31 , Düsseldorf, Germany, 40213
103	18 HSBC Centre, 6th Floor, Cybercity, Ebene, Mauritius, 72201
104	18th Floor, Tower 1, HSBC Centre, 1 Sham Mong Road, Kowloon, Hong Kong
105	Level 32, HSBC Main Building 1 Queen's Road Central, Hong Kong SAR, Hong Kong
106	7/F HSBC Centre 3058 Fifth Ave West, Bonifacio Global City, Taguig City, Philippines
107	HSBC Building Minet El Hosn, Riad el Solh, Beirut 1107-2080, PO Box 11-1380, Lebanon
108	300 Delaware Avenue Suite 1401, Wilmington, Delaware, United States Of America, 19801
109	Woodbourne Hall, Road Town PO Box 916, Tortola, British Virgin Islands
110	Craigmuir Chambers, PO Box 71, Road Town, Tortola, British Virgin Islands
111	9-11 Floors, NESCO IT Park Building No. 3 Western Express Highway, Goregaon (East), Mumbai, India, 400063
112	3, Aboul Feda Street, Zamalek, Cairo , Egypt
113	300 - 885 West Georgia Street, Vancouver, British Columbia, Canada, V6C 3E9
114	16 Boulevard d'Avranches, Luxembourg, Luxembourg, 1160
115	21 Farncombe Road , Worthing, United Kingdom, BN11 2BW
116	18/F, Unit 2101, 2113, 2113A, 2115 and 2116 of 21/F, HSBC Building, 8 Century Avenue, China (Shanghai) Pilot Free Trade Zone, Shanghai, China, 200120
117	Plot No.312-878 Mezzanine Floor,, Bldg. of Sheikh Hamdan Bin Rashid, Dubai Creek, Dubai, United Arab Emirates
118	Unit 101 Level 1, Gate Village Building No. 8 Dubai International Financial Centre, Dubai, United Arab Emirates, PO BOX 506553
119	Level 16 HSBC Tower, Downtown Dubai, Dubai, United Arab Emirates

Registered offices

120	885 West Georgia Street Suite 300, Vancouver, British Columbia, Canada, V6C 3E9
121	HSBC House Level 9, One Queen Street, Auckland, New Zealand, 1010
122	21-23 Yorckstraße, Düsseldorf, Nordrhein-Westfalen, Germany, 40476
123	The Corporation Trust Incorporated, 2405 York Road, Suite 201, Lutherville Timonium, Maryland, United States Of America, 21093
124	557 Bouchard, Level 22 , Ciudad de Buenos Aires, Capital federal, Argentina, C1106ABG
125	HSBC House Esplanade, St. Helier, Jersey, JE1 1GT
126	Quai des Bergues 9-17 , Geneva, Switzerland, 1201
127	1 Grand Canal Square Grand Canal Harbour, Dublin 2, D02 P820, Ireland
128	Büyükdere Cad. No.128 D Blok Esentepe Sisli Istanbul, Turkey
129	1441 Brickell Avenue , Miami, Florida, United States Of America, 33131
130	300-885 West Georgia Street, Vancouver, British Columbia, Canada, V6C 3E9
131	Block 27 A&B, Qianhai Enterprise Dream Park No. 63 Qianwan Yi Road, Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China, 518052
132	St Nicholas House, 10th Floor Catholic Mission St Lagos, Nigeria
133	HSBC Building 7267 Olaya - Al Murrooj, Riyadh, Saudi Arabia, 12283 - 2255
134	Unit 1 GF The Commerical Complex Madrigal Avenue, Ayala
135	6/F HSBC Centre, 3058 Fifth Avenue West, Bonifaco Global City, Taguig City, Philippines
136	1 Mutual Place 107 Rivonia Road , Sandton , Sandton, Gauteng, South Africa, 2196
137	13F 333 Keelung Road, Sec.1, Taipei, Taiwan, 110
138	Palm Grove House PO Box 438, Road Town, Tortola, British Virgin Islands
139	Kapelanka 42A , Krakow, Poland, 30-347
140	MB&H Corporate Services Ltd Mareva House, 4 George Street, Nassau, Bahamas
141	The Corporation Trust Company 820 Bear Tavern Road, West Trenton, New Jersey, United States Of America, 08628
142	L22, Office Tower 2, Taikoo Hui, 381 Tianhe Road, Tianhe District, Guangzhou, Guangdong, Guangdong, China
143	HSBC Centre River Side, West Avenue, 25B Raheja woods, Kalyaninagar, Pune, India, 411006
144	Level 19, HSBC Building, Shanghai ifc 8 Century Avenue Pudong, Shanghai, China
145	Yorckstraße 21 - 23 40476, Duesseldorf, Germany
146	P.O. Box 309 Ugland House , Grand Cayman, Cayman Islands, KY1-1104
147	No. 56, Yu Rong Street , Macheng, China, 438300
148	No. 205, Lie Shan Road Suizhou, Hubei, China
149	Building 3, Yin Zuo Di Jing Wan Tianmen New City?Tianmen, Hubei Province, China
150	RM101, 102 & 106 Sunshine Fairview, Sunshine Garden, Pedestrian Walkway, Pingjiang, China
151	6, rue Adolphe , Luxembourg, L-1116
152	Kings Meadow Chester Business Park, Chester, United Kingdom, CH99 9FB
153	PO Box 1109 Strathvale House, 90 North Church Street, George Town, Grand Cayman, Cayman Islands
154	World Trade Center 1, Floor 8-9 Jalan Jenderal Sudirman Kavling 29 - 31, Jakarta, Indonesia, 12920
155	5th Floor, World Trade Center 1, Jl. Jend. Sudirman Kav. 29-31, Jakarta, Indonesia, 12920
156	No 1 Mutual Place 107 Rivonia Road , Sandton , Sandton , Gauteng, South Africa, 2196
157	No.198-2, Chengshan Avenue (E) , Rongcheng, China, 264300
158	Woodbourne Hall, Road Town PO Box 3162, Tortola, British Virgin Islands
159	43 rue de Paris , Saint Denis, France, 97400

Registered offices

160	RM 2112, HSBC Building, Shanghai ifc No. 8 Century Road, Pudong, Shanghai, China, 200120
161	Büyükdere Cad. No.122 D Blok Esentepe Sisli Istanbul , Turkey
162	11 Dr. Roy's Drive PO Box 694GT, Grand Cayman, Cayman Islands, KY1-1107
163	109 avenue des Champs-Elysees, Paris, France, 75008
164	Lot 6.05, Level 6, KPMG Tower 8 First Avenue, Bandar Utama, Petaling Jaya, Selangor Darul Ehsan, Malaysia, 47800
165	c/o MUFG Fund Services (Bermuda) Limited The Belvedere Building, 69 Pitts Bay Road, Pembroke, Bermuda, HM08
166	c/o Hackwood Secretaries Limited One Silk Street, London, United Kingdom, EC2Y 8HQ
167	All Saints Triangle, Caledonian Road, London, United Kingdom, N19UT
168	No.188, Yin Cheng Zhong Road China (Shanghai) Pilot Free Trade Zone, Shanghai, China
169	49/F, The Lee Gardens, 33 Hysan Avenue , Hong Kong
170	13 - 15 York Buildings , London, United Kingdom, WC2N 6JU
171	First Floor The Bower, 207 Old Street, England, United Kingdom, EC1V 9NR
172	Unit No. 208, 2nd Floor, Kanchenjunga Building 18 Barakhamba Road, New Delhi - 110001, India
173	65 Gresham Street, 6th Floor, London , United Kingdom, EC2V 7NQ
174	Kacyiru BP 3094, Kigali, Rwanda
175	LR No. 1758/13 Grevella Grove Road, Kalamu House PO Box 47323-00100, Nairobi, Kenya
176	Plot No. 89-90 Mbezi Industrial Area Box 347, Dar es Salaam City
177	3 avenue de l'Opera , PARIS, France, 75001
178	37 avenue Henri Lafleur , Nouméa, New Caledonia, BP K3 98849
179	Room 1303, 106 Feng Ze Dong Road, Nansha District, Guangzhou, Guangdong, China
180	Flat 209 Hedge Fund Centre of Qianhai Shenzhen-Hong Kong Fund Town, No. 128 Guiwan Five Road, Qianhai Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China
181	17F, HSBC Building, Shanghai ifc 8 Century Avenue, Pudong, Shanghai, China
182	C T Corporation System 1200 South Pine Island Road, Plantation, Florida, United States Of America, 33324
183	c/o Trident Trust Company Trident Chambers, PO Box 146, Tortola, British Virgin Islands
184	Precinct Building 4, Level 3 Dubai International Financial Centre, Dubai, United Arab Emirates, PO BOX 506553
185	833 Three Bentall Centre 595 Burrard Street, Vancouver, British Columbia, Canada, V7X 1C4
186	Jayla Place Wickhams Cay I, PO Box 3190, Road Town, British Virgin Islands
187	75 Park Lane, Croydon, Surrey, United Kingdom, CR9 1XS
188	32, rue du Champ de Tir , NANTES, France, 44300
189	Ernst-Schneider-Platz 1 , Duesseldorf, Germany, 40212
190	Al Amir Abdulaziz Ibn Mossaad Ibn Jalawi Street, Riyadh, Saudi Arabia
191	Office Block A, Bay Studios Business Park, Fabian Way, Swansea, SA1 8QB, Wales, United Kingdom
192	10 Earlsfort Terrace, Dublin, Ireland, D02 T380