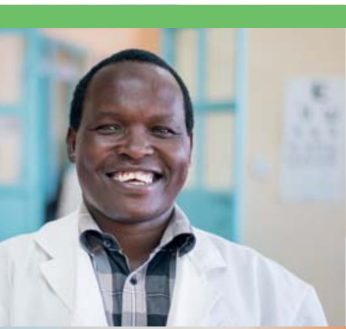
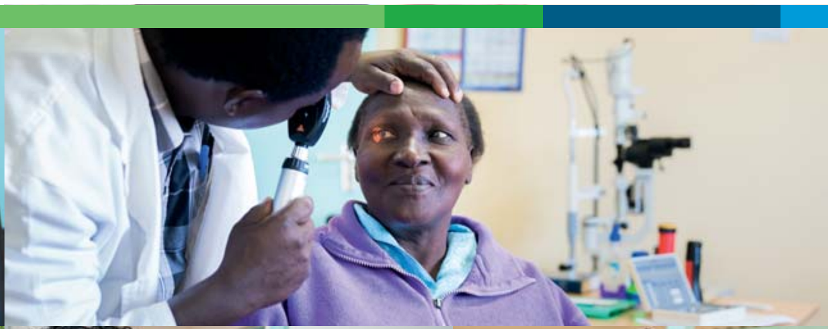




Seeing is Believing
OPERATION EYESIGHT UNIVERSAL
For All The World To See
EYE CLINIC


SEEING IS BELIEVING

Helping tackle avoidable blindness

Eleven-year-old Safira lives in Indonesia with her parents and family, and dreams of becoming a doctor. This dream was threatened, however, when cataracts started to affect her ability to participate in school. Access to treatment funded by Seeing is Believing (SiB) – our global initiative to tackle avoidable blindness and visual impairment – has restored Safira's eyesight, and she now takes part in her lessons, and is able to ride her bike and play with her friends. Safira is one of thousands of children who have benefited from SiB's focus on child eye health in 2017.

"An estimated 19 million children worldwide are visually impaired, with 12 million simply requiring a pair of spectacles to correct their sight."

An estimated 19 million children worldwide are visually impaired, and of these, 12 million are simply suffering from refractive error and require a pair of spectacles to correct their sight. Seeing is Believing has committed 25 per cent of its $100 million fundraising target to treat childhood blindness and visual impairment.

In 2017, SiB supported child eye health projects in Africa, China and Indonesia, and a project to reduce blindness caused by retinopathy of prematurity in India, in conjunction with the Queen Elizabeth Diamond Jubilee Trust. Donations collected from our 2017 One Hour campaign, where employees donated the equivalent of one hour of their salary to SiB programmes, was earmarked for child eye health projects and raised $347,000.

Risk review and Capital review

Risk review and Capital review

The following parts of the Risk review and Capital review form part of the financial statements and are audited:

→ From the start of the Risk profile section (page 122) to the end of 'Top risks and emerging risks' in the same section (page 159), excluding:

Risk section	Page
Asset backed securities	145
Country risk	146
Market risk changes – risks not in VaR	148
Market risk changes – backtesting	148
Mapping of market risk items to the balance sheet	149
Liquidity coverage ratio (LCR)	151
Stressed coverage	151
Net stable funding ratio (NSFR)	152
Liquidity pool	152
Encumbrance	153
Earnings sensitivity	157
Operational risk	158

→ From the start of Principal risks (page 165) to the end of 'Capital and liquidity risk' (page 172), excluding Country risk (page 168)

→ From the start of Capital Requirements Directive (CRD) IV Capital base (page 185) to the end of 'Movement in total capital' (page 186), excluding UK leverage ratios and risk-weighted assets (RWA)

Risk update

All risk types, both financial and non-financial are managed and reported in accordance with the Group's risk management framework. 2017 saw good progress towards improving the resilience of the Group's portfolios as shown here by the key highlights from the past year

Key highlights 2017

- Increased granularity and scope of risk appetite metrics
- Improved credit quality of the Group's loan book, with continued focus on good quality origination
- Total loan impairment is down by $1.4 billion in the year, a considerable decrease from the elevated levels seen in 2015 and 2016
- The loan book is increasingly diversified and predominantly short tenor
- Our capital and liquidity metrics remain strong

An update on our portfolio quality

Today the Group has a more clearly defined risk appetite, a strong liquidity position and remains well capitalised. The Group has taken steps to improve its risk management approach in part by implementing more granular risk appetite limits and by embedding ownership of risk in the front line. The Group has targeted growth in certain sectors and geographies, continues to have a focus on good quality origination, and has actively reduced exposure to selected sectors and clients.

The credit quality of the corporate portfolio has improved in 2017, evidenced by an increase in the percentage of exposure to investment grade clients within the total corporate book to 57 per cent (2016: 56 per cent). We have continued to manage down our liquidation portfolio assertively from $3.9 billion in 2016 to $2.2 billion at the end of 2017, which corresponds to a reduction in RWA of $3.0 billion. Additionally, exposures on early alert reduced to $8.7 billion (2016: $12.9 billion) driven in the main by exposures being regularised. We remain vigilant against potential idiosyncratic and systemic threats, and continue to perform regular reviews and stress tests of our portfolio to help mitigate any risks that might arise.

The Group remains well diversified across industry sectors, products and geographies. Loans to financing, insurance and non-bank financial counterparties remain the largest sector concentration within the Corporate & Institutional Banking and Commercial Banking portfolios, at 27 per cent of our loans and advances to customers, mostly to investment-grade institutions. All other industry concentrations are at or below 13 per cent. Net exposure to our top 20 corporate clients as a percentage of Tier 1 capital has reduced to 50 per cent in 2017, down from 55 per cent at the end of 2016.

Our Corporate & Institutional Banking and Commercial Banking loan portfolios remain predominantly short tenor with 70 per cent of loans and advances to customers having less than one year until maturity (2016: 70 per cent). We are also collateralised for over half of the long-term sub-investment grade exposure that we carry. The Group holds a diverse mix of collateral with conservative valuations.

Retail and Private Banking represents 41 per cent of total customer loans and advances, a similar proportion to the end of 2016. Given the focus on mortgage and wealth management products, 84 per cent of the book is fully secured, and the overall loan-to-value of the mortgage portfolio decreased to 47 per cent. The Retail Banking segment continues to have little exposure outside its core markets.

The Group has maintained a strong liquidity position in 2017, although the advances-to-deposits ratio increased slightly to 69 per cent (2016: 68 per cent). We continue to focus on attracting a diverse funding base that spans different tenors and customer types, and overall the Group remains a net provider of funding to the interbank markets.

Global financial markets experienced low volatility and average Group VaR was 19 per cent lower than the previous year at $26 million (2016: $32 million), with trading activities remaining client driven. The largest operational risk loss recognised as at 31 December 2017 relates to the Group's $17.2 million settlement of a US class action brought against a number of banks concerning foreign exchange benchmark rates.

Key Indicators

	31.12.17	31.12.16	31.12.15
Group total business			
Gross NPLs ($ billion)	**8.7**	9.7	12.8
Group ongoing business			
Credit grade 12 ($ billion)	**1.5**	1.5	0.9
Gross NPLs ($ billion)	**6.5**	5.9	5.2
Cover ratio	**63%**	69%	62%
Cover ratio (including collateral)	**79%**	74%	71%
Corporate & Institutional Banking and Commercial Banking			
Investment grade corporate exposures as a percentage of total corporate exposures	**57%**	56%	46%
Loans and advances maturing in one year or less as a percentage of total loans and advances to customers	**70%**	70%	67%
Early alert portfolio ($ billion)	**8.7**	12.9	12.3
Aggregate Top 20 corporate exposures as a percentage of Tier 1 capital	**50%**	55%	61%
Collateralisation of sub-investment grade exposures maturing in more than 1 year	**55%**	55%	59%
Retail Banking			
Loan-to-value ratio of retail mortgages	**47%**	49%	49%

An update on non-performing loans (NPLs)

Overall gross NPLs for the Group reduced in 2017 as increases in the ongoing business were more than offset by planned reductions in the liquidation portfolio.

Gross NPLs for the ongoing business increased from $5.9 billion to $6.5 billion in 2017, driven by a small number of Corporate & Institutional Banking exposures in Oil & Gas Support services and India. Whilst NPL inflows in Corporate & Institutional Banking have increased, these were mainly accounts that had been closely monitored over a period of time and do not signal any new areas of stress. In Commercial Banking, ongoing business gross NPLs have decreased from $2.2 billion to $1.9 billion in 2017, driven by a lower level of NPL inflows, as well as repayments and write-offs.

The Retail Banking portfolio has continued to benefit from the risk decision framework that was implemented in 2015, particularly in Korea, India and China, as a result of risk actions taken in the unsecured portfolio. Gross NPLs for the overall Retail Banking portfolio decreased 11 per cent from $548 million in 2016 to $489 million in 2017.

The cover ratio of NPLs in the ongoing business reduced from 69 per cent to 63 per cent, but including collateral increased to 79 per cent from 74 per cent. The cover ratio before collateral for the Corporate & Institutional Banking ongoing business decreased to 56 per cent (2016: 62 per cent) and after collateral increased to 74 per cent (2016: 65 per cent), due to the high collateral held against the clients which were downgraded in 2017. The cover ratio before collateral for the Commercial Banking ongoing business is marginally lower at 74 per cent (2016: 75 per cent). After collateral the ratio remained broadly flat at 83 per cent as compared to 2016.

An update on loan impairment

At a Group level, total loan impairment including the liquidation and restructuring portfolio was $1.4 billion representing 50 basis points of average customer loans and advances. This was significantly lower than observed in 2016 ($2.8 billion) and 2015 ($5.0 billion). Loan impairment for the ongoing business reduced by 50 per cent to $1.2 billion (2016: $2.4 billion), with improvement across all business segments. Part of the improvement relates to the release of $190 million of judgmental portfolio impairment provisions overlay due to improvement in portfolio quality.

Loan impairment for the Corporate & Institutional Banking ongoing business was down 53 per cent from 2016 at $657 million (2016: $1.4 billion), benefiting from the deployment of management actions to improve the risk profile of the portfolio. In particular, loan impairments significantly reduced in sectors that had been historically under stress such as the commodities-related sectors and the Diamond & Jewellery sector.

Commercial Banking ongoing business loan impairment decreased by 66 per cent to $168 million (2016: $491 million), resulting from our strategic actions to enhance credit risk management and client selection. This has been observed across all regions, however we continue to remain vigilant for any emerging risks.

Retail Banking loan impairment was 24 per cent lower in the year (2017: $374 million, 2016: $489 million) driven by improved portfolio performance and the implementation of the risk decision framework, although in the fourth quarter of 2017 we took a one off provision of $40 million due to a change in Personal Debt Rehabilitation Scheme regulation in Korea. The risk decision framework continued to target higher quality growth and lower volatility in the unsecured asset portfolio, with improvements observed particularly in Korea, Hong Kong, Singapore, and Malaysia.

Loan impairment in the restructuring portfolio was $162 million, of which the liquidation portfolio accounted for $120 million (2016: $409 million), driven by the resolution of some cases and other reassessments of realisable value. Of the non-liquidation portfolio impairment, $30 million related to the non-strategic Principal Finance business in Corporate & Institutional Banking.

Loan Impairment

	31.12.17 $million	31.12.16 $million	31.12.15 $million
Corporate & Institutional Banking	**657**	1,401	723
Commercial Banking	**168**	491	980
Private Banking	**1**	1	–
Retail Banking	**374**	489	677
Central & other items	**–**	–	–
Total Ongoing Business	**1,200**	2,382	2,381
Restructuring charge (including liquidation portfolio)	**162**	409	2,595

Risk profile

Our risk profile in 2017

Through our well-established risk governance structure and risk management framework, we closely manage our risks with the objective of maximising risk-adjusted returns while remaining in compliance with the Risk Appetite Statement. We manage uncertainties through a framework that provides a forward-looking 12 to 18 month view of the economic, business and credit conditions across the Group's key markets, enabling us to proactively manage our portfolio.

We continue to take action to reposition the Group's corporate portfolio, exiting weaker credit or lower-returning clients and adding new clients selectively. The Group's portfolio is well diversified across dimensions such as industries, geographies and products.

The table below highlights the Group's overall risk profile associated with our business strategy.

Our risk profile in 2017

Revised Enterprise Risk Management Framework and experienced senior team

- In 2017 we reviewed and significantly enhanced our Enterprise Risk Management Framework, in particular around risk culture, the control framework, strategic risk management and Principal Risk Types
- We also embarked on a key initiative to build out the Enterprise Risk Management function, allowing the Group to identify and manage risks holistically, with appropriate governance, oversight and information in place to run a safe, secure and well-controlled organisation
- We have a clear Risk Appetite Statement which is aligned to the Group's strategy; it is approved by the Board and informs the more granular risk parameters within which our businesses operate, with a particular focus on reducing concentrations
- We have an experienced senior risk team and our risk committees are staffed by the Group's most senior leaders
- We continuously monitor our risk profile to ensure it remains within our risk appetite, conduct regular stress tests, and adjust our exposures, underwriting standards and limits

Further details on the Enterprise Risk Management Framework can be found in the Risk Management Approach (page 160)

Increasingly diversified short tenor portfolio with reducing concentrations

- Our balance sheet remains resilient and well diversified across a wide range of geographies, industries and products which serves to mitigate risk
- Within the Corporate & Institutional and Commercial Banking portfolios:
  - Loans and advances to the financing, insurance and non-banking industry are 27 per cent of the total customer portfolio, and are mostly to investment grade institutions. All other industry concentrations are at or below 13 per cent of the total customer portfolio
  - The loan portfolio remains predominantly short-dated, with 70 per cent of loans and advances to customers maturing in under one year
  - Our top 20 corporate exposures have reduced to 50 per cent of Tier 1 capital in 2017 (2016: 55 per cent)
  - Exposure to investment grade clients has increased to 57 per cent of the total corporate book in 2017 (2016: 56 per cent).
- We hold a diverse mix of collateral and 55 per cent of long-term sub-investment grade exposures within the corporate portfolio are collateralised
- More than 40 per cent of customer loans and advances are in Retail Products. 68 per cent of the Retail Products are mortgages where the overall loan-to-value ratio is less than 47 per cent
- Within the Retail Banking portfolio, we maintain minimal exposure outside of our core markets.

Strong capital and liquidity position

- We remain well capitalised and our balance sheet remains highly liquid
- We have a strong advances-to-deposits ratio, and remain a net provider of liquidity to interbank markets
- Our customer deposit base is diversified by type and maturity
- We have a substantial portfolio of liquid assets which can be realised if a liquidity stress occurs

Basis of preparation

Unless otherwise stated the balance sheet and income statement information presented within this section is based on the Group's management view. This is principally the location from which a client relationship is managed, which may differ from where it is financially booked and may be shared between businesses and/or regions. This view reflects how the client segments and regions are managed internally.

Credit risk

This section details the Group's credit risk exposure, split as follows:

- Overall exposure to credit risk, for on-balance sheet and off-balance sheet financial instruments, before and after taking into account credit risk mitigation (page 124)
- Credit quality, which provides an analysis of the loan portfolio by client segment categorised by Strong, Satisfactory and Higher risk, forborne loans, and credit quality by region, and credit quality by industry (pages 125 to 132)
- Problem credit management and provisioning, which provides an analysis of non-performing loans and impaired loans (pages 133 to 137)
- Credit risk mitigation, which provides analysis of collateral held by client segment and collateral type, and details of loan-to-value ratios and other forms of credit risk mitigation (pages 138 to 141)
- Other portfolio analysis, which provides maturity analysis by client segment, and industry and retail products analysis by region (pages 142 to 143)
- Selected portfolios, which provide further detail on debt securities and treasury bills and asset backed securities (pages 144 to 145)

Credit risk is the potential for loss due to the failure of a counterparty to meet its obligations to pay the Group in accordance with agreed terms. Credit exposures arise from both the banking and trading books.

A summary of our current policies and practices regarding credit risk management is provided in the risk management approach (page 165).

Maximum exposure to credit risk

The table below presents the Group's maximum exposure to credit risk for its on-balance sheet and off-balance sheet financial instruments as at 31 December 2017, before and after taking into account any collateral held or other credit risk mitigation.

For on-balance sheet instruments, the maximum exposure to credit risk is the carrying amount reported on the balance sheet. For off-balance sheet instruments, the maximum exposure to credit risk generally represents the contractual notional amounts.

The Group's maximum exposure to credit risk is spread across its markets and is affected by the general economic conditions in the regions in which it operates. The Group sets limits on the exposure to any counterparty, and credit risk is spread over a variety of different personal, commercial and institutional customers.

The Group's gross maximum exposure to credit risk has increased by $29 billion when compared to 2016, driven by the increase in both on-balance sheet and off-balance sheet exposure. Cash and balances at central banks have decreased by $11.8 billion reflecting lower fluctuating liquidity. Loans and advances to customers and banks have increased by $36.3 billion, mainly driven by customer loan growth and expansion of the reverse repo business in response to client demand and improving the quality of our funding base. Off-balance sheet exposures, mainly arising from trade finance, increased by $13.2 billion, reflecting the business growth.

Investment securities increased by $14.6 billion due to increased holdings benefitting from the higher government yields in the UK and the treasury and liquidity management activities. The Group's credit risk exposure before risk mitigation arising from derivatives decreased by $18.5 billion.

Maximum exposure to credit risk

	2017				2016			
		Credit risk management				Credit risk management		
	Maximum exposure $million	Collateral $million	Master netting agreements $million	Net exposure $million	Maximum exposure $million	Collateral $million	Master netting agreements $million	Net exposure $million
On balance sheet								
Cash and balances at central banks	58,864	–	–	58,864	70,706	–	–	70,706
Loans and advances to customers held at:[1]								
Fair value through profit or loss	3,265				3,177			
Amortised cost	282,288				252,719			
	285,553				255,896			
Loans and advances to banks held at:[1]								
Fair value through profit or loss	3,137				2,060			
Amortised cost	78,188				72,609			
	81,325				74,669			
Total loans and advances to banks and customers[2]	366,878	168,247	–	198,631	330,565	151,310	–	179,255
Investment securities[3]								
As per balance sheet	117,025	–	–	117,025	108,972	–	–	108,972
Held at fair value through profit or loss	21,162	–	–	21,162	14,840	–	–	14,840
Less: equity securities	(2,345)	–	–	(2,345)	(2,564)	–	–	(2,564)
	135,842	–	–	135,842	121,248	–	–	121,248
Derivative financial instruments[4]	47,031	9,825	29,135	8,071	65,509	9,624	40,391	15,494
Accrued income	1,947			1,947	1,639			1,639
Assets held for sale	2			2	1,102			1,102
Other assets[5]	29,922			29,922	33,942			33,942
Total balance sheet	640,486	178,072	29,135	433,279	624,711	160,934	40,391	423,386
Off-balance sheet								
Contingent liabilities	43,521	–	–	43,521	38,302[7]	–	–	38,302
Undrawn irrevocable standby facilities, credit lines and other commitments to lend[6]	63,890	–	–	63,890	55,655	–	–	55,655
Documentary credits and short-term trade-related transactions	3,880	–	–	3,880	4,120	–	–	4,120
Forward asset purchases and forward deposits	–	–	–	–	6	–	–	6
Total off- balance sheet	111,291	–	–	111,291	98,083	–	–	98,083
Total	751,777	178,072	29,135	544,570	722,794	160,934	40,391	521,469

1 An analysis of credit quality is set out in the credit quality analysis section (page 125). Further details of collateral held by client segment and held for past due and individually impaired loans are set out in the collateral analysis section (page 138)

2 Loans and advances include reverse repurchase agreements and other similar secured lending of $55,187 million for 2017 and $44,916 million for 2016

3 Equity shares are excluded as they are not subject to credit risk

4 The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions.

5 Other assets include Hong Kong certificates of indebtedness, cash collateral, and acceptances, in addition to unsettled trades and other financial assets

6 Excludes unconditionally cancellable facilities

7 Total contingent liabilities of the Group in 2016 were $37.4 billion and have been restated to $38.3 billion

Credit quality analysis

An overall breakdown of the loan portfolio by client segment is provided in the client segment analysis section (pages 126 to 127) differentiating between the performing and non-performing book.

Within the performing book, there is an analysis:

- By credit quality, which plays a central role in the quality assessment and monitoring of risk
- Of loans and advances past due but not impaired: a loan is considered past due if payment of principal or interest has not been made on its contractual due date
- Of loans and advances where an impairment provision has been raised: these represent certain forborne Retail accounts that have complied with their revised contractual terms for more than 180 days and on which no further loss of principal is expected

Credit grade migration

Performing loans constitute 99 per cent of customer loans, which is consistent with the prior period.

A breakdown of the performing loans by credit quality is provided in the credit quality analysis section (page 126).

Risk measurement plays a central role in risk-quantification and portfolio management decisions. The Group uses the advanced internal ratings-based (IRB) approach under the Basel regulatory framework to calculate credit risk capital for the majority of its portfolios.

A standard credit risk grade (CG) scale is used for Corporate & Institutional Banking and Commercial Banking. The numeric grades run from 1 to 14 and some of the grades are further sub-classified. Lower numbered credit grades are indicative of a lower likelihood of default. CG 1 to 12 are assigned to performing clients, while CG 13 and 14 are assigned to non-performing or defaulted clients. Further details can be found in the Risk Management Approach (page 166).

The Group uses an internal risk mapping to determine the credit quality for loans, as shown in the table below.

Year-on-year, the overall portfolio credit quality of the Group has improved as a result of active portfolio management and steps taken to improve the quality of origination over the last two years. The new originations are in line with our granular risk appetite and diversified across industries, geographies and products. The proportion of Group loans and advances classified as strong has increased from 67 per cent to 70 per cent in 2017, with an increase in strong credit quality exposures observed across all business segments.

In Corporate & Institutional Banking, the strong credit quality category has increased by $12 billion due to increased lending to corporate clients across multiple industries. The largest increases were from financing, insurance & non-banking ($3.0 billion), commercial real estate ($1.8 billion), manufacturing ($1.8 billion) and transportation ($1.7 billion). The satisfactory credit quality category has decreased by $2.6 billion due to actions taken to reduce single name concentration and commodities exposure.

For the rest of the portfolio, the credit quality composition across most sectors and countries is broadly consistent with the prior year, although there has been some deterioration in India and Africa.

In Commercial Banking, the strong credit quality category has increased by $1.2 billion and satisfactory credit quality category has increased by $2.9 billion. This growth was well diversified across multiple countries and industries with an average of $0.1 billion increase per country or per industry.

Retail Banking credit quality remained stable over the past year with overall performing loans growing by 10 per cent ($9.5 billion), predominantly in the strong credit quality category. The implementation of the Risk Decision Framework has continued to show improvements through 2016 and 2017, shaping the portfolio towards preferred segments such as priority and employee banking, and better credit quality customers with optimum risk-return profiles.

The credit quality composition for loans to banks is also consistent with prior periods, with the majority of the growth in this period observed in the strong and satisfactory category.

Performing loans and advances that are past due but not impaired decreased by $0.7 billion in 2017. The past due balances arise substantially in the 'up to 30 days past due' category. In the Corporate & Institutional Banking and Commercial Banking segments, across all past due categories, approximately 70 per cent (2016: 73 per cent) of the amounts past due were regularised by 31 January 2018.

Mapping of credit quality

The Group uses the following internal risk mapping to determine the credit quality for loans.

	Corporate & Institutional Banking and Commercial Banking			Private Banking	Retail Banking
Credit quality description	**Default Grade mapping**	**S&P external ratings equivalent**	**PD range**	**Internal ratings**	**Number of days past due**
Strong	Grades 1-5	AAA/AA+ to BB+/BBB-	0.000-0.425	Class I and Class IV	Current loans (no past dues nor impaired)
Satisfactory	Grades 6-8	BB+ to BB-/B+	0.426-2.350	Class II and Class III	Loans past due till 29 days
	Grades 9-11	B+/B to B-/CCC	2.351-15.750		
Higher Risk	Grade 12	B-/CCC	15.751-50.000	GSAM managed	Past due loans 30 days and over till 90 days

Non-performing loans (NPLs)

An NPL is any loan that is more than 90 days past due or is otherwise individually impaired. This excludes Retail Banking loans renegotiated at or after 90 days past due, but on which there has been no default in interest or principal payments for more than 180 days since renegotiation, and against which no loss of principal is expected.

NPLs are analysed, net of individual impairment provisions, between what is past due but not impaired and what is impaired.

NPLs (net of individual impairment provisions) have reduced to $3.5 billion compared to 2016 ($3.9 billion). This is driven primarily by the liquidation portfolio in the Corporate & Institutional Banking segment.

NPLs (net of individual impairment provisions) for the ongoing business have increased to $2.8 billion from $2.5 billion due to the deterioration of a small number of exposures booked in the UAE and UK in the Corporate & Institutional Banking book.

Liquidation portfolio NPLs (net of individual impairment provisions) have decreased from $1,386 million to $653 million in 2017 primarily due to sales and writedowns.

Total Corporate & Institutional Banking NPLs (net of individual impairment provisions) remained stable at $2.5 billion (2016: $2.5 billion).

Retail Banking NPL (net of individual impairment provisions) decreased by 19 per cent compared to 2016 (2017: $274 million; 2016: $339 million) particularly in Korea, India and China.

By client segment

	2017						
		Loans to customers					
	Loans to banks[1] $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total[1] $million
Performing loans							
– Strong	68,958	75,672	100,687	6,072	9,220	9,253	200,904
– Satisfactory	12,309	52,610	1,586	21,216	3,951	90	79,453
– Higher risk	54	1,128	405	323	42	–	1,898
	81,321	129,410	102,678	27,611	13,213	9,343	282,255
Impaired forborne loans, net of provisions	–	–	269	–	–	–	269
Non-performing loans, net of provisions	5	2,484	274	596	140	–	3,494
Total loans	81,326	131,894	103,221	28,207	13,353	9,343	286,018
Portfolio impairment provision	(1)	(156)	(208)	(99)	(2)	–	(465)
Total net loans	81,325	131,738	103,013	28,108	13,351	9,343	285,553

The following table further analyses total loans included within the table above:

Included in performing loans							
Neither past due nor impaired							
– Strong	68,740	75,482	100,687	6,058	9,220	9,251	200,698
– Satisfactory	12,255	51,846	–	20,831	3,866	90	76,633
– Higher risk	54	899	–	239	42	–	1,180
	81,049	128,227	100,687	27,128	13,128	9,341	278,511
Past due but not impaired							
– Up to 30 days past due	247	951	1,586	360	69	–	2,966
– 31 – 60 days past due	25	32	278	49	16	–	375
– 61 – 90 days past due	–	200	127	74	–	2	403
	272	1,183	1,991	483	85	2	3,744
Total performing loans	81,321	129,410	102,678	27,611	13,213	9,343	282,255
of which, forborne loans amounting to	2	480	84	31	–	–	595
Included in non-performing loans							
Past due but not impaired							
– 91 – 120 days past due	–	–	67	–	–	–	67
–121 – 150 days past due	–	–	56	–	–	–	56
	–	–	123	–	–	–	123
Individually impaired loans, net of provisions	5	2,484	151	596	140	–	3,371
Total non-performing loans	5	2,484	274	596	140	–	3,494
of the above, forborne loans	4	861	268	186	–	–	1,315

The following table sets out loans held at fair value through profit and loss which are included within the table above:

	2017						
		Loans to customers					
	Loans to banks[1] $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total[1] $million
Neither past due nor impaired							
– Strong	2,081	1,451	–	30	–	–	1,481
– Satisfactory	1,056	1,572	–	186	–	–	1,758
– Higher risk	–	7	–	–	–	–	7
	3,137	3,030	–	216	–	–	3,246
Individually impaired loans	–	19	–	–	–	–	19
Total loans held at fair value through profit and loss	3,137	3,049	–	216	–	–	3,265

1 Loans and advances include reverse repurchase agreements and other similar secured lending of $55,187 million.

		2016					
		Loans to customers					
	Loans to banks[1] $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total[1] $million
Performing loans							
– Strong	66,954	63,547	91,186	4,851	7,816	4,023	171,423
– Satisfactory	7,682	55,207	1,560	18,296	3,767	233	79,063
– Higher risk	34	1,223	410	264	38	–	1,935
	74,670	119,977	93,156	23,411	11,621	4,256	252,421
Impaired forborne loans, net of provisions	–	–	251	–	–	–	251
Non-performing loans, net of provisions	–	2,515	339	768	289	–	3,911
Total loans	74,670	122,492	93,746	24,179	11,910	4,256	256,583
Portfolio impairment provision	(1)	(261)	(258)	(166)	(2)	–	(687)
Total net loans	74,669	122,231	93,488	24,013	11,908	4,256	255,896

The following table further analyses total loans included within the table above:

Included in performing loans							
Neither past due nor impaired							
– Strong	66,600	63,416	91,186	4,812	7,816	4,023	171,253
– Satisfactory	7,580	53,791	–	17,728	3,690	233	75,442
– Higher risk	34	1,121	–	188	18	–	1,327
	74,214	118,328	91,186	22,728	11,524	4,256	248,022
Past due but not impaired							
– Up to 30 days past due	456	1,402	1,560	539	91	–	3,592
– 31 – 60 days past due	–	100	282	111	–	–	493
– 61 – 90 days past due	–	147	128	33	6	–	314
	456	1,649	1,970	683	97	–	4,399
Total performing loans	74,670	119,977	93,156	23,411	11,621	4,256	252,421
of which, forborne loans amounting to[2]	1	760	224	104	–	–	1,088
Included in non-performing loans							
Past due but not impaired							
– 91 – 120 days past due	–	–	72	5	–	–	77
–121 – 150 days past due	–	–	60	12	–	–	72
	–	–	132	17	–	–	149
Individually impaired loans, net of provisions	–	2,515	207	751	289	–	3,762
Total non-performing loans	–	2,515	339	768	289	–	3,911
of the above, forborne loans[2]	–	858	135	182	–	–	1,175

The following table sets out loans held at fair value through profit and loss which are included within the table above:

		2016					
		Loans to customers					
	Loans to banks[1] $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total[1] $million
Neither past due nor impaired							
– Strong	1,659	1,769	–	–	–	–	1,769
– Satisfactory	401	1,346	–	47	–	–	1,393
– Higher risk	–	–	–	–	–	–	–
	2,060	3,115	–	47	–	–	3,162
Individually impaired loans	–	15	–	–	–	–	15
Total loans held at fair value through profit and loss	2,060	3,130	–	47	–	–	3,177

1 Loans and advances include reverse repurchase agreements and other similar secured lending of $44,916 million

2 The 2016 comparatives have been represented to reflect the forbearance policy change

Forborne loans

A forborne loan arises when a concession has been made to the contractual terms of a loan in response to a customer's financial difficulties. The table below presents performing and non-performing loans with forbearance measures by segment. In 2017, the Group changed its policy to allow for curing of forborne loans, which has been applied retrospectively. Refer to note 8 of the financial statements on impairment losses on loans and advances and other credit risk provisions.

The performing forborne loans have decreased by $474 million to $866 million in 2017 (2016: $1,340 million). The Corporate & Institutional Banking segment decreased by $280 million to $480 million in 2017 (2016: $760 million) primarily due to repayments from clients in the Africa & Middle East region. The Retail Banking segment decreased by $122 million to $353 million in 2017 (2016: $475 million).

The net non-performing forborne loans have increased by $144 million to $1,319 million in 2017 (2016: $1,175 million); this increase was in the Retail Banking segment on account of a change in accounting policy on forborne loans.

Forborne loans

	2017						
	Loans to banks $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
All loans with forbearance measures	6	2,143	797	647	–	–	3,593
Accumulated impairment	–	(802)	(176)	(430)	–	–	(1,408)
Net balance	6	1,341	621	217	–	–	2,185

Included within the above table

Performing loans with forbearance measures:

	2017						
	Loans to banks $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
All performing forborne loans	2	480	353	31	–	–	866
of which: modification of terms and conditions[1]	2	480	353	28	–	–	863
Refinancing[2]	–	–	–	3	–	–	3
Collateral held on performing forborne loans	–	4	2	–	–	–	6

Non-performing loans with forbearance measures:

	2017						
	Loans to banks $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
All non-performing forborne loans	4	1,663	384	616	–	–	2,667
of which: modification of terms and conditions[1]	4	1,314	384	559	–	–	2,261
Refinancing[2]	–	349	–	57	–	–	406
Accumulated impairment	–	(802)	(116)	(430)	–	–	(1,348)
of which: modification of terms and conditions[1]	–	(554)	(116)	(400)	–	–	(1,070)
Refinancing[2]	–	(248)	–	(30)	–	–	(278)
Net non-performing forborne loans	4	861	268	186	–	–	1,319
Collateral held on non-performing forborne loans	–	52	20	34	–	–	106

1 Modification of terms is any contractual change apart from refinancing, as a result of credit stress of the counterparty, i.e. interest reductions, loan covenant waivers

2 Refinancing is a new contract to a lender in credit stress, such that they are refinanced and can pay other debt contracts that they were unable to honour

Forborne loans

	2016						
	Loans to banks $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
All loans with forbearance measures	1	2,528	725	598	–	–	3,852
Accumulated impairment	–	(910)	(115)	(312)	–	–	(1,337)
Net balance	1	1,618	610	286	–	–	2,515

Included within the above table

Performing loans with forbearance measures:

	2016						
	Loans to banks $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
All performing forborne loans	1	760	475	104	–	–	1,340
of which: modification of terms and conditions[1]	1	760	475	65	–	–	1,301
Refinancing[2]	–	–	–	39	–	–	39
Collateral held on performing forborne loans	–	54	–	36	–	–	90

Non-performing loans with forbearance measures:

	2016						
	Loans to banks $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
All non-performing forborne loans	–	1,768	195	494	–	–	2,457
of which: modification of terms and conditions[1]	–	1,609	195	398	–	–	2,202
Refinancing[2]	–	159	–	96	–	–	255
Accumulated impairment	–	(910)	(60)	(312)	–	–	(1,282)
of which: modification of terms and conditions[1]	–	(813)	(60)	(264)	–	–	(1,137)
Refinancing[2]	–	(97)	–	(48)	–	–	(145)
Net non-performing forborne loans	–	858	135	182	–	–	1,175
Collateral held on non-performing forborne loans	–	215	–	42	–	–	257

1. Modification of terms is any contractual change apart from refinancing, as a result of credit stress of the counterparty, i.e. interest reductions, loan covenant waivers
2. Refinancing is a new contract to a lender in credit stress, such that they are refinanced and can pay other debt contracts that they were unable to honour

The table below shows an analysis of forborne loans by region. Refer to note 8 of the financial statements for the accounting policy on forborne loans.

	2017				
	Greater China & North Asia $million	**ASEAN & South Asia $million**	**Africa & Middle East $million**	**Europe & Americas $million**	**Total $million**
Not impaired	**56**	**40**	**395**	**106**	**597**
Impaired	**353**	**778**	**202**	**255**	**1,588**
Total forborne loans	**409**	**818**	**597**	**361**	**2,185**

	2016				
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Not impaired	159	237	584	109	1,089
Impaired	327	718	243	138	1,426
Total forborne loans[1]	486	955	827	247	2,515

1 The 2016 comparatives have been represented to reflect the forbearance policy change

Credit quality by geographic region

The following tables set out an analysis of the loans to customers and banks, split between those loans that are neither past due nor impaired, those that are past due but not impaired, those that are impaired, the impairment provision and net impairment charge by geographic region.

Loans and advances to customers

	2017								
	Balance sheet[1]						Profit and loss[1]		
	Neither past due nor individually impaired $million	Past due but not individually impaired $million	Individually impaired $million	Individual impairment provision $million	Portfolio impairment provision $million	Total $million	Net individual impairment provision $million	Portfolio impairment provision/ (release) $million	Net loan impairment charge $million
Greater China & North Asia	125,565	809	806	(312)	(129)	126,739	169	(79)	90
ASEAN & South Asia	79,175	1,711	4,233	(2,361)	(179)	82,579	871	(66)	805
Africa & Middle East	27,774	1,153	2,654	(1,858)	(121)	29,602	308	(5)	303
Europe & Americas	45,997	194	1,184	(706)	(36)	46,633	233	(90)	143
	278,511	3,867	8,877	(5,237)	(465)	285,553	1,581	(240)	1,341

	2016								
	Balance sheet[1]						Profit and loss[1]		
	Neither past due nor individually impaired $million	Past due but not individually impaired $million	Individually impaired $million	Individual impairment provision $million	Portfolio impairment provision $million	Total $million	Net individual impairment provision $million	Portfolio impairment provision/ (release) $million	Net loan impairment charge $million
Greater China & North Asia	109,250	901	1,115	(535)	(198)	110,533	484	(53)	431
ASEAN & South Asia	69,652	1,648	4,665	(2,568)	(236)	73,161	984	6	990
Africa & Middle East	25,846	1,720	2,682	(1,981)	(127)	28,140	594	7	601
Europe & Americas	43,274	279	1,218	(583)	(126)	44,062	491	92	583
	248,022	4,548	9,680	(5,667)	(687)	255,896	2,553	52	2,605

1 Excludes impairment charges relating to debt securities classified as loans and receivables, refer to note 8 of the financial statements for details (page 218)

Loans and advances to banks

	2017								
	Balance sheet[1]						Profit and loss[1]		
	Neither past due nor individually impaired $million	Past due but not individually impaired $million	Individually impaired $million	Individual impairment provision $million	Portfolio impairment provision $million	Total $million	Net individual impairment provision $million	Portfolio impairment provision/ (release) $million	Net loan impairment charge $million
Greater China & North Asia	33,096	130	–	–	–	33,226	–	–	–
ASEAN & South Asia	16,482	41	–	–	–	16,523	–	–	–
Africa & Middle East	7,328	101	–	–	(1)	7,428	–	–	–
Europe & Americas	24,143	–	9	(4)	–	24,148	–	–	–
	81,049	272	9	(4)	(1)	81,325	–	–	–

	2016								
	Balance sheet[1]						Profit and loss[1]		
	Neither past due nor individually impaired $million	Past due but not individually impaired $million	Individually impaired $million	Individual impairment provision $million	Portfolio impairment provision $million	Total $million	Net individual impairment provision $million	Portfolio impairment provision/ (release) $million	Net loan impairment charge $million
Greater China & North Asia	31,930	309	–	–	–	32,239	–	–	–
ASEAN & South Asia	14,722	17	163	(163)	(1)	14,738	–	–	–
Africa & Middle East	7,492	61	–	–	–	7,553	–	–	–
Europe & Americas	20,070	69	–	–	–	20,139	–	–	–
	74,214	456	163	(163)	(1)	74,669	–	–	–

1 Excludes impairment charges relating to debt securities classified as loans and receivables, refer to note 8 of the financial statements for details (page 218)

Credit quality analysis by industry

	2017								
						Movements in impairment			
	Neither past due nor individually impaired $million	Past due but not individually impaired $million	Individually impaired $million	Individual impairment provision $million	Total $million	Individual impairment provision held as at 1 Jan 2017 $million	Net impairment charge/ (release) $million	Amounts written off/other movements $million	Individual impairment provision held as at 31 Dec 2017 $million
Industry:									
Energy	18,090	116	1,217	(879)	18,544	814	208	(143)	879
Manufacturing	22,085	397	860	(611)	22,731	644	250	(283)	611
Financing, insurance and non-banking	44,439	314	444	(213)	44,984	409	79	(275)	213
Transport, telecom and utilities	15,640	123	777	(376)	16,164	218	230	(72)	376
Food and household products	9,543	179	756	(422)	10,056	561	75	(214)	422
Commercial real estate	14,574	199	400	(34)	15,139	33	9	(8)	34
Mining and quarrying	6,063	64	1,297	(783)	6,641	1,140	26	(383)	783
Consumer durables	8,792	132	725	(583)	9,066	523	124	(64)	583
Construction	3,346	60	781	(484)	3,703	553	59	(128)	484
Trading companies & distributors	2,155	43	458	(331)	2,325	310	46	(25)	331
Government	14,390	25	6	(1)	14,420	–	(1)	2	1
Other	5,579	16	252	(176)	5,671	195	37	(54)	178
Retail Products:									
Mortgage	77,279	1,340	276	(117)	78,778	104	34	(21)	117
CCPL and other unsecured lending	16,700	610	360	(135)	17,535	140	398	(405)	133
Auto	588	45	–	–	633	–	1	(1)	–
Secured Wealth products	13,969	57	198	(70)	14,154	4	28	38	70
Other	5,279	147	70	(22)	5,474	19	19	(16)	22
Loans and advances to customers	278,511	3,867	8,877	(5,237)	286,018				
Individual impairment provision						5,667	1,622	(2,052)	5,237
Portfolio impairment provision					(465)	687	(239)	17	465
Total					285,553	6,354	1,383	(2,035)	5,702
Loans and advances to banks	81,049	272	9	(4)	81,326	–	–	–	–
Individual impairment provision						163	–	(159)	4
Portfolio impairment provision					(1)	1	–	–	1
Total					81,325	164	–	(159)	5

	2016								
						Movements in impairment			
	Neither past due nor individually impaired $million	Past due but not individually impaired $million	Individually impaired $million	Individual impairment provision $million	Total $million	Individual impairment provision held as at 1 Jan 2016 $million	Net impairment charge/ (release) $million	Amounts written off/other movements $million	Individual impairment provision held as at 31 Dec 2016 $million
Industry:									
Energy	18,110	287	1,194	(814)	18,777	1,679	288	(1,153)	814
Manufacturing	18,840	477	1,069	(644)	19,742	563	259	(178)	644
Financing, insurance and non-banking	40,425	314	903	(409)	41,233	423	63	(77)	409
Transport, telecom and utilities	15,032	176	509	(218)	15,499	519	113	(414)	218
Food and household products	9,562	253	798	(561)	10,052	373	215	(27)	561
Commercial real estate	10,920	323	74	(33)	11,284	20	14	(1)	33
Mining and quarrying	7,326	149	1,489	(1,140)	7,824	854	230	56	1,140
Consumer durables	8,854	122	917	(523)	9,370	426	394	(297)	523
Construction	3,348	69	952	(553)	3,816	332	258	(37)	553
Trading companies & distributors	2,098	94	507	(310)	2,389	320	67	(77)	310
Government	6,313	–	2	–	6,315	–	–	–	–
Other	4,484	85	252	(195)	4,626	174	59	(38)	195
Retail Products:									
Mortgage	72,071	1,296	244	(104)	73,507	125	26	(47)	104
CCPL and other unsecured lending	15,262	669	415	(140)	16,206	195	458	(513)	140
Auto	600	38	–	–	638	–	1	(1)	–
Secured wealth products	10,757	46	281	(4)	11,080	4	64	(64)	4
Other	4,020	150	74	(19)	4,225	16	45	(42)	19
Loans and advances to customers	248,022	4,548	9,680	(5,667)	256,583				
Individual impairment provision						6,023	2,554	(2,910)	5,667
Portfolio impairment provision					(687)	657	53	(23)	687
Total					255,896	6,680	2,607	(2,933)	6,354
Loans and advances to banks	74,214	456	163	(163)	74,670	–	–	–	–
Individual impairment provision						163	–	–	163
Portfolio impairment provision					(1)	1	–	–	1
Total					74,669	164	–	–	164

Problem credit management and provisioning

Impairments

At a Group level, total loan impairment including the liquidation portfolio was $1,362 million, representing 50 basis points (bps) of average customer loans and advances, down from $2,791 million (107 bps) in 2016.

Loan impairment in the Group's ongoing business improved from the elevated levels seen in 2015 and 2016. The ongoing business loan impairment of $1,200 million in 2017 is significantly lower than in previous years (2016: $2,382 million, 2015: $2,381 million).

The ongoing business loan impairment in Corporate & Institutional Banking decreased to $657 million in 2017 (2016: $1,401 million). This was due to lower loan impairment in the commodities and diamond and jewellery sectors. Loan impairment in 2017 was primarily driven by a small number of India related exposures, with ASEAN & South Asia contributing to 60 per cent of the total Corporate & Institutional Banking impairment charge.

Commercial Banking ongoing business loan impairment fell by 66 per cent to $168 million in 2017 (2016: $491 million). This was driven by lower losses across all regions, reflecting improvements in credit and account management, but the Group remains vigilant of emerging risks.

By industry, loan impairment related to the commodities sector has decreased significantly. Total commodities (excluding oil and gas related exposures) loan impairment for Corporate & Institutional Banking and Commercial Banking fell to $18 million (2016: $536 million).

In India, ongoing business loan impairment in Corporate & Institutional Banking was down 32 per cent to $193 million (2016: $284 million) mainly due to reductions in the commodities sector. Commercial Banking ongoing business loan impairment in India decreased by 64 per cent to $37 million (2016: $103 million).

Retail Banking loan impairment reduced by 24 per cent to $374 million in 2017, (2016: $489 million), driven by improved portfolio performance and the implementation of the Risk Decision Framework, although in the fourth quarter of 2017 we took a one-off provision of $40 million due to a change in Personal Debt Rehabilitation Scheme regulation in Korea. The framework targets higher quality sustainable growth and lower volatility in the unsecured asset portfolio. Improvements have been observed, particularly in key markets such as Korea, Hong Kong, Singapore and Malaysia.

During the last quarter of 2017, a net impairment charge of $57 million was taken on the liquidation portfolio bringing the yearly total to $120 million (2016: $409 million). This resulted from the resolution of some cases and other reassessments of realisable value. Further restructuring impairment also includes a $30 million impairment relating to the non-strategic Principal Finance business in Corporate & Institutional Banking.

The following table provides details of the impairment charge for the period.

	2017 $million	2016 $million
Ongoing business portfolio loan impairment		
Corporate & Institutional Banking	**657**	1,401
Retail Banking	**374**	489
Commercial Banking	**168**	491
Private Banking	**1**	1
Impairment on loans and advances and other credit risk provisions	**1,200**	2,382
Restructuring		
Liquidation portfolio	**120**	409
Others	**42**	–
Impairment on loans and advances and other credit risk provisions	**162**	409
Total Loan Impairment	**1,362**	2,791

Non-performing loans by client segment

Gross NPLs decreased by $1,008 million, or 10 per cent, compared to 2016, as increases in the ongoing business were more than offset by planned reductions in the liquidation portfolio. NPLs in the Corporate & Institutional Banking liquidation portfolio decreased by $1,388 million in 2017 to $1,945 million (2016: $3,333 million) on account of loan disposals, write-offs and repayments.

Corporate & Institutional Banking ongoing business NPLs increased by $869 million in 2017 primarily due to the deterioration of a few accounts in the oil & gas support services and India. New NPLs were mainly accounts that had been closely monitored over a period of time and include a large exposure that was repaid in full, and some others that are highly collateralised.

For sectors with previously high NPL exposures, specifically commodities and diamond & jewellery, NPL inflows were muted in 2017 relative to 2016.

NPLs in Commercial Banking reduced by $343 million (14 per cent) relative to 2016. This was largely due to write-offs and recoveries in India, Hong Kong and the United Arab Emirates (UAE). Commercial Banking NPL inflows were down 28 per cent in 2017 at $460 million (2016: $642 million).

Gross NPLs in Retail Banking reduced by 11 per cent compared to 2016, benefiting from the risk decision framework implemented in 2015.

The movement of gross NPLs to banks and customers, together with the provisions held and the respective cover ratios for all segments, is presented in the next table (page 134).

Provisions

The Group's loan loss provisions are established to recognise incurred impairment losses either on specific loan assets or within a portfolio of loans and advances.

Provisions are taken in the form of:

- Individually impaired provisions (IIP);
- Portfolio impairment provisions (PIP), which cover the inherent losses in the portfolio that exist at the balance sheet date but have not yet been individually identified.

Individual impairment provisions

Corporate & Institutional and Commercial Banking individual impairment provisions decreased by $493 million and $171 million respectively in 2017. These were primarily driven by a reduction of provision charges in the commodities and diamond and jewellery sectors, as well as writedowns.

Retail Banking individual impairment provision as a percentage of loans and advances remained broadly stable at 0.2 per cent.

Portfolio impairment provisions

Portfolio impairment provision balances for the Group have decreased by $222 million from 2016 due to reductions in Corporate & Institutional Banking of $105 million, Commercial Banking of $67 million and Retail Banking of $50 million. These decreases were on account of judgemental risk adjustments to the modelled number which has now reduced due to improvement in portfolio credit quality and receipt of expected repayments in certain stress portfolios.

Cover ratio

The cover ratio measures the proportion of total impairment provisions to gross NPLs, and is a metric commonly used in considering impairment trends. This metric does not allow for variations in the composition of NPLs and should be used in conjunction with other credit risk information provided, including the level of collateral cover.

The cover ratio for the Group currently stands at 65 per cent (2016: 67 per cent). With collateral, the cover ratio has improved to 81 per cent (2016: 76 per cent).

The cover ratio for the Group's ongoing portfolio has reduced from 69 per cent in 2016 to 63 per cent in 2017 and with collateral, the cover ratio improved to 79 per cent from 74 per cent.

By client segment, the cover ratio for Corporate & Institutional Banking reduced from 65 per cent to 61 per cent. The cover ratio including collateral improved from 72 per cent to 77 per cent.

The cover ratio for Commercial Banking remained relatively flat at 75 per cent and 84 per cent including collateral. The cover ratio for Retail Banking improved from 85 per cent to 87 per cent, and including collateral increased from 85 per cent to 89 per cent.

The balance of NPLs not covered by individual impairment provisions represents the adjusted value of collateral held and the Group's estimate of the net outcome of any workout or recovery strategy.

Collateral provides risk mitigation to some degree in all client segments and supports the credit quality and cover ratio assessments post impairment provisions. Further information on collateral is provided in the Credit risk mitigation section (page 138).

	2017				
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
Gross non-performing loans at 1 January	6,477	547	2,370	294	9,688
Exchange translation differences	86	28	45	4	163
Classified as non-performing during the year	2,316	572	460	20	3,368
Recoveries on loans and advances previously written off	83	16	64	1	164
Additions	2,399	588	524	21	3,532
Transferred to assets held for sale	–	–	–	–	–
Transferred to performing during the year	–	(47)	(21)	(3)	(71)
Net repayments	(1,145)	(130)	(362)	(104)	(1,741)
Amounts written off	(888)	(481)	(400)	–	(1,769)
Disposals of loans	(807)	(16)	(130)	(5)	(958)
Other movement	(165)	–	–	–	(165)
Reductions	(3,005)	(674)	(913)	(112)	(4,704)
Gross non-performing loans at 31 December	5,957	489	2,026	207	8,679
Individual impairment provisions[1]	(3,468)	(215)	(1,430)	(67)	(5,180)
Net non-performing loans	2,489	274	596	140	3,499
Portfolio impairment provision	(157)	(208)	(99)	(2)	(466)
Total	2,332	66	497	138	3,033
Cover ratio	61%	87%	75%	33%	65%
Collateral ($ million)	1,111	218	277	203	1,809
Cover ratio (after collateral)	77%	89%	84%	100%	81%
Of the above, included in liquidation portfolio:					
Gross non-performing loans at 31 December	1,945	–	125	156	2,226
Individual impairment provisions	(1,388)	–	(123)	(62)	(1,573)
Net non-performing loans	557	–	2	94	653
Cover ratio	71%	–	98%	40%	71%
Collateral ($ million)	237	–	–	96	333
Cover ratio (after collateral)	84%	–	98%	100%	86%

1 The difference to total individual impairment provision reflects provisions against forborne loans that are not included within non-performing loans as they have been performing for 180 days

	2016				
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
Gross non-performing loans at 1 January	9,128	747	2,559	325	12,759
Exchange translation differences	(68)	(12)	(59)	(2)	(141)
Classified as non-performing during the year	1,800	864	642	103	3,409
Recoveries on loans and advances previously written off	13	63	51	–	127
Additions	1,813	927	693	103	3,536
Transferred to assets held for sale	–	(47)	–	–	(47)
Transferred to performing during the year	(39)	(147)	(5)	–	(191)
Net repayments	(2,416)	(180)	(300)	–	(2,896)
Amounts written off	(1,390)	(722)	(480)	(63)	(2,655)
Disposals of loans	(552)	(18)	(39)	(69)	(678)
Reductions	(4,397)	(1,114)	(824)	(132)	(6,467)
Gross non-performing loans at 31 December	6,476	548	2,369	294	9,687
Individual impairment provisions[1]	(3,961)	(209)	(1,601)	(5)	(5,776)
Net non-performing loans	2,515	339	768	289	3,911
Portfolio impairment provision	(262)	(258)	(166)	(2)	(688)
Total	2,253	81	602	287	3,223
Cover ratio	65%	85%	75%	2%	67%
Collateral ($ million)	702	255	358	290	1,605
Cover ratio (after collateral)	72%	85%	83%	100%	76%
Of the above, included in liquidation portfolio:					
Gross non-performing loans at 31 December	3,333	–	213	261	3,807
Individual impairment provisions	(2,267)	–	(154)	–	(2,421)
Net non-performing loans	1,066	–	59	261	1,386
Cover ratio	68%	–	72%	–	64%
Collateral ($ million)	356	–	–	261	617
Cover ratio (after collateral, excluding PIP)	79%	–	72%	100%	80%

1 The difference to total individual impairment provision reflects provisions against forborne loans that are not included within non-performing loans as they have been performing for 180 days

Non-performing loans by geographic region

Gross non-performing loans decreased by $1,008 million compared to 2016. The largest reductions were observed in the ASEAN & South Asia ($763 million) and Greater China & North Asia ($275 million) regions, primarily driven by planned reductions in the liquidation portfolio.

The following tables present a breakdown of total non-performing loans to banks and customers by geographic regions:

	2017				
	Greater China & North Asia $million	**ASEAN & South Asia $million**	**Africa & Middle East $million**	**Europe & Americas $million**	**Total $million**
Loans and advances					
Gross non-performing	**895**	**3,948**	**2,692**	**1,144**	**8,679**
Individual impairment provisions[1]	**(396)**	**(2,389)**	**(1,675)**	**(720)**	**(5,180)**
Non-performing loans net of individual impairment provision	**499**	**1,559**	**1,017**	**424**	**3,499**
Portfolio impairment provision	**(129)**	**(180)**	**(121)**	**(36)**	**(466)**
Net non-performing loans and advances	**370**	**1,379**	**896**	**388**	**3,033**
Cover ratio	**59%**	**65%**	**67%**	**66%**	**65%**

1 The difference to total individual impairment provision reflects provisions against forborne loans that are not included within non-performing loans as they have been performing for 180 days

	2016				
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Loans and advances					
Gross non-performing	1,170	4,711	2,739	1,067	9,687
Individual impairment provision[1]	(600)	(2,659)	(1,847)	(670)	(5,776)
Non-performing loans net of individual impairment provision	570	2,052	892	397	3,911
Portfolio impairment provision	(198)	(236)	(128)	(126)	(688)
Net non-performing loans and advances	372	1,816	764	271	3,223
Cover ratio	68%	61%	72%	75%	67%

1 The difference to total individual impairment provision reflects provisions against forborne loans that are not included within non-performing loans as they have been performing for 180 days

Individual and portfolio impairment provision

The present value of estimated future cashflows, discounted at the asset's original effective interest rate, is used to determine the amount of any impairment. In the case of the liquidation portfolio, the effect and timing of the disposal strategy is included in the estimate of future cashflows.

The reduction in individual impairment provisions is predominantly due to write offs from the liquidation portfolio.

The portfolio impairment provisions reduced primarily due to an improvement in overall portfolio credit quality and receipt of expected repayments in certain stress portfolios.

Amounts written off are significantly lower although this is due to 2016 seeing elevated levels in the liquidation portfolio and ongoing business, mainly in India.

	2017			2016		
	Individual impairment provisions $million	**Portfolio impairment provisions $million**	**Total $million**	Individual impairment provisions $million	Portfolio impairment provisions $million	Total $million
Provisions held at 1 January	**5,830**	**688**	**6,518**	6,186	658	6,844
Exchange translation differences	**102**	**14**	**116**	(68)	(9)	(77)
Amounts written off	**(2,160)**	**–**	**(2,160)**	(2,745)	–	(2,745)
Releases of acquisition fair values	**(1)**	**–**	**(1)**	–	–	–
Recoveries of amounts previously written off	**234**	**–**	**234**	177	–	177
Discount unwind	**(83)**	**–**	**(83)**	(287)	–	(287)
Transferred to assets held for sale	**(6)**	**3**	**(3)**	(16)	(13)	(29)
Disposal of business units	**–**	**–**	**–**	–	–	–
New provisions – restructuring	**162**	**–**	**162**	409	–	409
New provisions – excluding restructuring	**2,094**	**57**	**2,151**	2,582	205	2,787
New provisions	**2,256**	**57**	**2,313**	2,991	205	3,196
Recoveries/provisions no longer required	**(652)**	**(296)**	**(948)**	(438)	(153)	(591)
Net impairment charge/(releases) against profit	**1,604**	**(239)**	**1,365**	2,553	52	2,605
Other movements	**(279)**	**–**	**(279)**	30	–	30
Provisions held at 31 December	**5,241**	**466**	**5,707**	5,830	688	6,518

Individually impaired loans by client segment

Gross individually impaired loans decreased by 10 per cent in 2017, primarily driven by the Corporate & Institutional Banking segment which reduced by $519 million on account of loan disposals and settlements, mainly in the ASEAN & South Asia region.

Gross impaired loans in the Retail Banking book have shown modest improvement with a decrease of 3 per cent year-on-year.

The following table shows the movement of individually impaired loans and provisions for each client segment:

	2017				
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
Gross impaired loans at 1 January	6,476	720	2,353	294	9,843
Exchange translation differences	87	48	45	4	184
Classified as individually impaired during the year	2,293	421	380	20	3,114
Transferred to not impaired during the year	–	(31)	(21)	(3)	(55)
Other movements[1]	(2,899)	(463)	(730)	(108)	(4,200)
Gross impaired loans at 31 December	5,957	695	2,027	207	8,886
Provisions held at 1 January	3,961	262	1,602	5	5,830
Exchange translation differences	55	15	31	1	102
Amounts written off	(1,139)	(577)	(444)	–	(2,160)
Releases of acquisition fair values	(1)	–	–	–	(1)
Recoveries of amounts previously written off	27	153	22	32	234
Discount unwind	(41)	(23)	(19)	–	(83)
Disposal of business units	–	(6)	–	–	(6)
New provisions	1,197	669	327	63	2,256
Recoveries/provisions no longer required	(314)	(218)	(86)	(34)	(652)
Net individual impairment charge against profit	883	451	241	29	1,604
Other movements[2]	(277)	–	(2)	–	(279)
Individual impairment provisions held at 31 December	3,468	275	1,431	67	5,241
Net individually impaired loans	2,489	420	596	140	3,645

	2016				
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
Gross impaired loans at 1 January	9,128	831	2,546	325	12,830
Exchange translation differences	(75)	(11)	(59)	(1)	(146)
Classified as individually impaired during the year	1,801	769	573	103	3,246
Transferred to not impaired during the year	(39)	(87)	(2)	–	(128)
Other movements[1]	(4,339)	(782)	(705)	(133)	(5,959)
Gross impaired loans at 31 December	6,476	720	2,353	294	9,843
Provisions held at 1 January	4,230	337	1,616	3	6,186
Exchange translation differences	(77)	(3)	12	–	(68)
Amounts written off	(1,439)	(722)	(520)	(64)	(2,745)
Recoveries of amounts previously written off	8	164	5	–	177
Discount unwind	(230)	(26)	(31)	–	(287)
Transferred to assets held for sale	–	(16)	–	–	(16)
New provisions	1,574	763	587	67	2,991
Recoveries/provisions no longer required	(134)	(235)	(68)	(1)	(438)
Net individual impairment charge against profit	1,440	528	519	66	2,553
Other movements[2]	29	–	1	–	30
Individual impairment provisions held at 31 December	3,961	262	1,602	5	5,830
Net individually impaired loans	2,515	458	751	289	4,013

1 Other movements include repayments, amounts written off and disposals of loans

2 Other movements include provisions for liabilities and charges that have been drawn down and are now part of loan impairment

Credit risk mitigation

Potential credit losses from any given account, customer or portfolio are mitigated using a range of tools such as collateral, netting arrangements, credit insurance and credit derivatives, taking into account expected volatility and guarantees.

The reliance that can be placed on these mitigants is carefully assessed in light of issues such as legal certainty and enforceability, market valuation correlation and counterparty risk of the guarantor. Our overall approach to credit risk mitigation is further discussed in Risk Management Approach (page 165).

Collateral

The requirement for collateral is not a substitute for the ability to pay, which is the primary consideration for any lending decisions. As a result of reinforcing our collateralisation requirements, the fair value of collateral held as a percentage of amount outstanding has remained stable in 2017.

The unadjusted market value of collateral across all asset types, in respect of Corporate & Institutional Banking and Commercial Banking, without adjusting for over-collateralisation, was $247 billion (2016: $229 billion).

The collateral values in the table below are adjusted where appropriate in accordance with our risk mitigation policy and for the effect of over-collateralisation. 47 per cent of clients that have placed collateral with the Group are over-collateralised. The average amount of over-collateralisation is 41 per cent.

We have remained conservative in the way we assess the value of collateral, which is calibrated for a severe downturn and back-tested against our prior experience. On average, across all types of non-cash collateral, the value ascribed is approximately half of its current market value. Collateral held against Corporate & Institutional Banking and Commercial Banking exposures amounted to $77 billion (2016: $64 billion).

In the Retail Banking and Private Banking segments, a secured loan is one where the borrower pledges an asset as collateral of which the Group is able to take possession in the event that the borrower defaults. The collateral level for Retail Banking has increased by $3.2 billion in 2017.

For loans and advances to customers and banks (including those held at fair value through profit or loss), the table below sets out the fair value of collateral held by the Group, adjusted where appropriate in accordance with the risk mitigation policy as outlined in Risk Management Approach (page 165) and for the effect of over-collateralisation.

	Maximum exposure			Collateral			Net expsoure[1,2]		
	Total $million	Past due but not individually impaired loans $million	Individually impaired loans $million	Total $million	Past due but not individually impaired loans $million	Individually impaired loans $million	Total $million	Past due but not individually impaired loans $million	Individually impaired loans $million
As at 31 December 2017									
Corporate & Institutional Banking	**193,442**	**1,455**	**5,957**	**70,499**	**160**	**1,111**	**122,943**	**1,295**	**4,846**
Retail Banking	**103,371**	**2,114**	**695**	**76,543**	**1,514**	**218**	**26,828**	**600**	**477**
Commercial Banking	**29,602**	**483**	**2,027**	**6,570**	**247**	**277**	**23,032**	**236**	**1,750**
Private Banking	**13,359**	**85**	**207**	**9,296**	**82**	**203**	**4,063**	**3**	**4**
Central & other items	**27,570**	**2**	**–**	**5,339**	**–**	**–**	**22,231**	**2**	**–**
Total	**367,344**	**4,139**	**8,886**	**168,247**	**2,003**	**1,809**	**199,097**	**2,136**	**7,077**
As at 31 December 2016									
Corporate & Institutional Banking	174,877	2,105	6,476	57,378	93	702	117,499	2,012	5,774
Retail Banking	93,846	2,102	720	73,352	1,527	255	20,494	575	465
Commercial Banking	25,042	700	2,353	7,084	393	358	17,958	307	1,995
Private Banking	11,926	97	294	7,584	94	290	4,342	3	4
Central & other items	25,562	–	–	5,912	–	–	19,650	–	–
Total	331,253	5,004	9,843	151,310	2,107	1,605	179,943	2,897	8,238

1 Includes loans held at fair value through profit or loss

2 Includes loans and advances

Corporate & Institutional Banking and Commercial Banking

Collateral held against Corporate & Institutional Banking and Commercial Banking exposures amounted to $77 billion (2016: $64 billion). The increase of $13 billion was primarily in reverse repurchase (repo) collateral due to increased liquidity management activity by the Group. The proportion of investment grade securities in reverse repos collateral has increased from 85 per cent in 2016 to 96 per cent in 2017. The average residual maturity of the reverse repo collateral is 8.3 years.

Collateral taken for longer-term and sub-investment grade Corporate loans continues to be high at 55 per cent (2016: 55 per cent).

Our underwriting standards encourage taking specific charges on assets and we consistently seek high quality, investment grade collateral. 27 per cent of collateral held comprises physical assets or is property-based (2016: 29 per cent), with the remainder largely in cash and investment securities.

Non-tangible collateral such as guarantees and standby letters of credit may also be held against corporate exposures, although the financial effect of this type of collateral is less significant in terms of recoveries. However, this type of collateral is considered when determining probability of default and other credit-related factors. Collateral is also held against off-balance sheet exposures, including undrawn commitments and trade-related instruments.

The following table provides an analysis of the types of collateral held against Corporate & Institutional Banking and Commercial Banking loan exposures.

Corporate & Institutional Banking	2017 $million	2016 $million
Maximum exposure	**193,442**	174,877
Property	**7,014**	5,920
Plant, machinery and other stock	**3,612**	3,574
Cash	**5,742**	7,778
Reverse repos	**49,736**	35,930
AAA	**1,027**	327
A- to AA+	**40,421**	27,660
BBB- to BBB+	**6,448**	2,657
Lower than BBB-	**915**	854
Unrated	**925**	4,432
Commodities	**162**	772
Ships and aircraft	**4,233**	3,404
Total value of collateral	**70,499**	57,378
Net exposure	**122,943**	117,499

Commercial Banking	2017 $million	2016 $million
Maximum exposure	**29,602**	25,042
Property	**4,642**	4,843
Plant, machinery and other stock	**767**	935
Cash	**923**	1,064
Reverse repos	**–**	–
AAA	**–**	–
A- to AA+	**–**	–
BBB- to BBB+	**–**	–
Lower than BBB-	**–**	–
Unrated	**–**	–
Commodities	**4**	4
Ships and aircraft	**234**	238
Total value of collateral	**6,570**	7,084
Net exposure	**23,032**	17,958

Retail Banking and Private Banking

In Retail Banking and Private Banking, 84 per cent of the portfolio is fully secured. The proportion of unsecured loans remains unchanged at 15 per cent.

LTV ratios measure the ratio of the current mortgage outstanding to the current fair value of the properties on which they are secured.

In mortgages the value of property held as security significantly exceeds the value of mortgage loans. The average LTV of the overall mortgage portfolio is less than 47 per cent, a decrease from the end of 2016 (49 per cent). Hong Kong, which represents 37 per cent of the Retail Banking mortgage portfolio has an average LTV of 38.6 per cent. All of our other key markets continue to have low portfolio LTVs, with Korea, Singapore and Taiwan at 48.0 per cent, 59.5 per cent and 50.4 per cent respectively.

An analysis of LTV ratios by geography for the mortgage portfolio is presented in the mortgage LTV ratios by geography table below.

The following table presents an analysis of loans to individuals by product split between fully secured, partially secured and unsecured.

	2017				2016			
	Fully secured $million	Partially secured $million	Unsecured $million	Total[1] $million	Fully secured $million	Partially secured $million	Unsecured $million	Total[1] $million
Maximum exposure	**97,523**	**1,301**	**17,750**	**116,574**	88,450	1,632	15,574	105,656
Loans to individuals								
Mortgages	**78,755**	**23**	**–**	**78,778**	73,484	23	–	73,507
CCPL	**240**	**86**	**17,209**	**17,535**	360	690	15,156	16,206
Auto	**630**	**–**	**3**	**633**	635	–	3	638
Secured wealth products	**13,903**	**156**	**95**	**14,154**	11,036	44	–	11,080
Other	**3,995**	**1,036**	**443**	**5,474**	2,935	875	415	4,225
Total collateral				**85,839**				80,936
Net exposure				**30,735**				24,720
Percentage of total loans	**84%**	**1%**	**15%**		83%	2%	15%	

1 Amounts net of individual impairment provisions

Mortgage loan-to-value ratios by geography

The following table provides an analysis of LTV ratios by region for the mortgages portfolio:

	2017				
	Greater China & North Asia %	ASEAN & South Asia %	Africa & Middle East %	Europe & Americas %	Total %
Less than 50 per cent	**62.9**	**36.1**	**21.6**	**28.4**	**54.7**
50 per cent to 59 per cent	**16.4**	**17.5**	**16.9**	**23.4**	**16.8**
60 per cent to 69 per cent	**15.3**	**18.7**	**22.6**	**31.4**	**16.6**
70 per cent to 79 per cent	**4.5**	**22.8**	**20.8**	**13.7**	**9.5**
80 per cent to 89 per cent	**0.7**	**4.3**	**11.2**	**2.0**	**1.9**
90 per cent to 99 per cent	**0.1**	**0.3**	**3.9**	**0.4**	**0.3**
100 per cent and greater	**0.1**	**0.3**	**3.0**	**0.8**	**0.2**
Average portfolio loan-to-value	**43.5**	**55.0**	**63.9**	**52.1**	**46.8**
Loans to individuals – mortgages ($million)	**54,609**	**20,105**	**2,279**	**1,785**	**78,778**

	2016				
	Greater China & North Asia %	ASEAN & South Asia %	Africa & Middle East %	Europe & Americas %	Total %
Less than 50 per cent	55.9	36.9	22.3	36.7	49.9
50 per cent to 59 per cent	18.2	16.8	16.9	37.4	18.1
60 per cent to 69 per cent	17.3	18.8	20.5	16.2	17.8
70 per cent to 79 per cent	6.4	17.6	20.7	8.3	9.7
80 per cent to 89 per cent	1.9	8.8	11.3	0.9	3.9
90 per cent to 99 per cent	0.2	0.7	4.2	0.5	0.5
100 per cent and greater	0.1	0.4	4.1	–	0.3
Average portfolio loan-to-value	46.6	54.7	64.9	44.4	49.0
Loans to individuals – mortgages ($million)	51,219	18,903	2,245	1,140	73,507

Collateral and other credit enhancements possessed or called upon

The Group obtains assets by taking possession of collateral or calling upon other credit enhancements (such as guarantees). Repossessed properties are sold in an orderly fashion. Where the proceeds are in excess of the outstanding loan balance the excess is returned to the borrower. Certain equity securities acquired may be held by the Group for investment purposes and are classified as available-for-sale, and the related loan written off.

The carrying value of collateral possessed and held by the Group as at 31 December 2017 is $24.1 million (2016: $51.1 million). The decrease in collateral value is largely due to the reduction in cash collateral following utilisation to settle customer outstanding.

	2017 $million	2016 $million
Property, plant and equipment	14.9	13.0
Equity shares	0.2	0.1
Guarantees	4.0	11.5
Cash	4.6	26.1
Other	0.4	0.4
Total	24.1	51.1

Other credit risk mitigation

Other forms of credit risk mitigation are set out below.

Securitisation

The Group has transferred to third-parties by way of securitisation, the rights to any collection of principal and interest on client loan assets with a face value of $11 million (2016: $21 million). The Group continues to recognise these assets in addition to the proceeds and related liability of $13 million (2016: $15 million) arising from the securitisations. The Group considers the above client loan assets to be encumbered. Further details of encumbered assets are provided in the Encumbered assets section (pages 153 to 154).

Credit default swaps

The Group has entered into credit default swaps for portfolio management purposes, referencing loan assets with a notional value of $16 billion (2016: $17.5 billion). These credit default swaps are accounted for as guarantees as they meet the accounting requirements set out in International Accounting Standards (IAS) 39. The Group continues to hold the underlying assets referenced in the credit default swaps and it continues to be exposed to related credit and foreign exchange risk on these assets.

Derivatives financial instruments

The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions. The value of exposure under master netting agreements is $29,135 million (2016: $40,391 million).

In addition, we enter into credit support annexes (CSAs) with counterparties where collateral is deemed a necessary or desirable mitigant to the exposure. Cash collateral includes collateral called under a variation margin process from counterparties if total uncollateralised mark-to-market exposure exceeds the threshold and minimum transfer amount specified in the CSA. With certain counterparties, the CSA is reciprocal and requires us to post collateral if the overall mark-to-market values of positions are in the counterparty's favour and exceed an agreed threshold. The Group holds $6,562 million (2016: $7,280 million) under CSAs.

Off-balance sheet exposures

For certain types of exposures, such as letters of credit and guarantees, the Group obtains collateral such as cash depending on internal credit risk assessments, as well as in the case of letters of credit holding legal title to the underlying assets should a default take place.

Other portfolio analysis

This section provides maturity analysis by business segment and industry and Retail Products analysis by region.

Maturity analysis by client segment

The loans and advances to the Corporate & Institutional Banking and Commercial Banking segments remain predominantly short-term, with 70 per cent of loans and advances to customers in the segments maturing in less than one year, a decrease compared to December 2016. 96 per cent of loans to banks mature in less than one year. Shorter maturity gives us the flexibility to respond promptly to events and rebalance or reduce our exposure to clients or sectors that are facing increased pressure or uncertainty.

The Private Banking loan book also demonstrates a short-term bias, typical for loans that are secured on wealth management assets.

The Retail Banking loan book continues to be longer-term in nature with 60 per cent of the loans maturing over five years as mortgages constitute the majority of the Retail Banking loan book.

	2017			
	One year or less $million	One to five years $million	Over five years $million	Total $million
Corporate & Institutional Banking	90,613	31,827	9,454	131,894
Retail Banking	24,200	17,341	61,680	103,221
Commercial Banking	21,683	5,293	1,231	28,207
Private Banking	12,407	270	676	13,353
Central & other items	9,335	6	2	9,343
Loans and advances to customers net of individual impairment provision	158,238	54,737	73,043	286,018
Portfolio impairment provision				(465)
Net loans and advances to customers				285,553
Net loans and advances to banks	77,739	2,974	612	81,325

	2016			
	One year or less $million	One to five years $million	Over five years $million	Total $million
Corporate & Institutional Banking	84,199	29,919	8,374	122,492
Retail Banking	15,510	16,725	61,511	93,746
Commercial Banking	19,125	4,048	1,006	24,179
Private Banking	10,802	249	859	11,910
Central & other items	4,215	39	2	4,256
Loans and advances to customers net of individual impairment provision	133,851	50,980	71,752	256,583
Portfolio impairment provision				(687)
Net loans and advances to customers				255,896
Net loans and advances to banks	71,867	2,644	158	74,669

Industry and Retail Products analysis by geographic region

This section provides analysis of the Group's loan portfolio by Industry and Region.

In the Corporate & Institutional Banking and Commercial Banking segments our largest industry exposure is financing, insurance and non-banking, which constitutes 27 per cent of Corporate & Institutional Banking and Commercial Banking loans and advances to customers (2016: 27 per cent). Lending to financing, insurance and non-banking clients is mostly to investment grade institutions and is part of the liquidity management of the Group.

The manufacturing sector makes up 13 per cent of the Corporate & Institutional Banking and Commercial Banking loans and advances (2016: 13 per cent). The manufacturing industry group is spread across a diverse range of industries, including automobiles and components, capital goods, pharmaceuticals, biotech and life sciences, technology hardware and equipment, chemicals, paper products and packaging, with lending spread over 3,900 clients.

Loans and advances to the energy sector have remained stable and constitute 11 per cent (2016: 12 per cent) of total loans and advances to Corporate & Institutional Banking and Commercial Banking. The energy sector lending is spread across five subsectors and over 350 clients.

The Group provides loans to commercial real estate (CRE) counterparties of $15.1 billion (2016: $11.3 billion), which represents 5 per cent of total customer loans and advances. In total, $8.0 billion of this lending is to counterparties where the source of repayment is substantially derived from rental or sale of real estate and is secured by real estate collateral. The remaining CRE loans comprise working capital loans to real estate corporates, loans with non-property collateral, unsecured loans and loans to real estate entities of diversified conglomerates. The average LTV ratio of the commercial real estate (CRE) portfolio has increased to 41 per cent, compared with 39 per cent in 2016. The proportion of loans with an LTV greater than 80 per cent has remained at 1 per cent during the same period.

Credit cards and personal loans (CCPL) and other unsecured lending of total Retail Products loans and advances remains broadly stable at 15 per cent.

	2017				
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Industry:					
Energy	2,855	6,097	3,303	6,289	18,544
Manufacturing	10,919	6,685	3,221	1,906	22,731
Financing, insurance and non-banking	8,213	6,421	1,308	29,042	44,984
Transport, telecom and utilities	6,456	3,965	4,707	1,036	16,164
Food and household products	2,174	4,126	2,577	1,179	10,056
Commercial real estate	8,429	5,169	1,479	62	15,139
Mining and quarrying	2,079	2,903	1,089	570	6,641
Consumer durables	4,432	2,544	1,300	790	9,066
Construction	989	1,118	1,358	238	3,703
Trading companies and distributors	1,192	573	432	128	2,325
Government	4,864	6,728	1,430	1,398	14,420
Other	1,839	2,174	1,075	583	5,671
Retail Products:					
Mortgages	54,609	20,105	2,279	1,785	78,778
CCPL and other unsecured lending	10,175	4,336	3,022	2	17,535
Auto	–	399	234	–	633
Secured wealth products	5,278	7,005	213	1,658	14,154
Other	2,365	2,410	696	3	5,474
	126,868	82,758	29,723	46,669	286,018
Portfolio impairment provision	(129)	(179)	(121)	(36)	(465)
Total loans and advances to customers	126,739	82,579	29,602	46,633	285,553
Total loans and advances to banks	33,226	16,523	7,428	24,148	81,325

	2016				
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Industry:					
Energy	2,781	5,334	4,076	6,586	18,777
Manufacturing	8,807	5,944	3,161	1,830	19,742
Financing, insurance and non-banking	7,959	5,007	1,451	26,816	41,233
Transport, telecom and utilities	5,562	4,570	3,659	1,708	15,499
Food and household products	1,932	4,624	2,408	1,088	10,052
Commercial real estate	5,580	4,555	1,122	27	11,284
Mining and quarrying	2,063	3,568	1,234	959	7,824
Consumer durables	4,356	2,321	1,432	1,261	9,370
Construction	1,027	1,313	1,392	84	3,816
Trading companies and distributors	938	535	657	259	2,389
Government	2,290	3,053	468	504	6,315
Other	1,437	1,644	1,015	530	4,626
Retail Products:					
Mortgages	51,219	18,903	2,245	1,140	73,507
CCPL and other unsecured lending	9,265	3,838	3,012	91	16,206
Auto	–	315	323	–	638
Secured wealth products	3,725	5,965	90	1,300	11,080
Other	1,790	1,908	522	5	4,225
	110,731	73,397	28,267	44,188	256,583
Portfolio impairment provision	(198)	(236)	(127)	(126)	(687)
Total loans and advances to customers	110,533	73,161	28,140	44,062	255,896
Total loans and advances to banks	32,239	14,739	7,552	20,139	74,669

Selected portfolios

Debt securities and other eligible bills

This section provides further detail on debt securities and treasury bills and asset backed securities.

Debt securities and other eligible bills are analysed as follows:

	2017 Debt securities and other eligible bills $million	2016 Debt securities and other eligible bills $million
Net impaired securities:		
Impaired securities	421	406
Impairment	(376)	(400)
	45	6
Securities neither past due nor impaired:		
AAA	35,937	44,815
AA- to AA+	51,914	34,112
A- to A+	13,305	15,316
BBB- to BBB+	17,498	12,598
Lower than BBB-	5,333	5,361
Unrated	11,810	9,040
	135,797	121,242
Total	135,842	121,248
Of which:		
Assets at fair value		
Trading	19,318	13,310
Designated at fair value	393	354
Available-for-sale	109,161	104,308
	128,872	117,972
Assets at amortised cost		
Loans and receivables	2,630	3,106
Held-to-maturity	4,340	170
	6,970	3,276
Total	135,842	121,248

The above table analyses debt securities and treasury bills that are neither past due nor impaired by external credit rating.

The standard credit ratings used by the Group are those used by Standard & Poor's or its equivalent. Debt securities held that have a short-term rating are reported against the long-term rating of the issuer. For securities that are unrated, the Group applies an internal credit rating, as described under the credit rating and measurement section (page 166).

Net impaired debt securities increased during the year, primarily due to a new impairment in Singapore.

Debt securities in the AAA rating category decreased during the year by $8.9 billion to $35.9 billion, mainly driven by a downgrade of UK-held Treasury Bills to the AA- to AA+ rating category. The resulting increase in the AA- to AA+ rating category was further enhanced by the purchase of government securities in Asia.

Unrated securities have primarily related to corporate issuers, but during 2017 the Group also purchased unrated government securities.

Using internal credit ratings, $9,109 million (2016: $7,013 million) of these securities are considered to be equivalent to investment grade.

Asset backed securities (unaudited)

Total exposures to asset backed securities

	2017				2016			
	Percentage of notional value of portfolio $million	**Notional $million**	**Carrying value $million**	**Fair value[1] $million**	Percentage of notional value of portfolio $million	Notional $million	Carrying value $million	Fair value[1] $million
Residential mortgage backed securities (RMBS)[2]	**44%**	**2,814**	**2,812**	**2,812**	37%	2,248	2,248	2,244
Collateralised debt obligations (CDOs)	**1%**	**75**	**70**	**69**	0%	28	8	7
Commercial mortgage backed securities (CMBS)	**1%**	**63**	**29**	**29**	1%	50	19	18
Other asset backed securities (other ABS)[3]	**54%**	**3,518**	**3,517**	**3,519**	62%	3,717	3,716	3,716
	100%	**6,470**	**6,428**	**6,429**	100%	6,043	5,991	5,985
Of which included within:								
Financial assets held at fair value through profit or loss	**14%**	**887**	**885**	**885**	3%	172	172	172
Investment securities – available-for-sale	**64%**	**4,145**	**4,106**	**4,109**	72%	4,380	4,331	4,331
Investment securities – loans and receivables	**22%**	**1,438**	**1,437**	**1,435**	25%	1,491	1,488	1,482
	100%	**6,470**	**6,428**	**6,429**	100%	6,043	5,991	5,985

1 Fair value reflects the value of the entire portfolio, including assets redesignated to loans and receivables.

2 RMBS includes Other UK, Dutch, Australia and Korea RMBS

3 Other asset backed securities includes auto loans, credit cards, student loans, future flows and trade receivables

The carrying value of asset-backed securities (ABS) represents 1 per cent (2016: 1 per cent) of the Group's total assets.

The credit quality of the ABS portfolio remains strong, with over 99 per cent of the overall portfolio rated investment grade, and 68 per cent of the overall portfolio is rated as AAA. The portfolio is broadly diversified across asset classes and geographies, with an average credit grade of AA. Residential mortgage-backed securities (RMBS) make up 43 per cent of the overall portfolio and have a weighted averaged credit rating of AAA (AAA in 2016).

Other ABS includes Auto ABS, comprising 30 per cent of the overall portfolio, and credit card ABS (13 per cent); both maintain a weighted average credit rating of AAA. The balance of Other ABS mainly includes securities backed by diversified payment rights, and receivables ABS.

Country risk (unaudited)

Country risk is defined as the potential for default or losses due to political or economic events in a country. A key component of Country Risk is Country cross-border risk, which is the risk that the Group will be unable to obtain payment from counterparties on their contractual obligations as a result of actions taken by foreign governments, chiefly relating to convertibility and transferability of foreign currency.

The profile of the Group's country cross-border exposures as at 31 December 2017 remained consistent with its strategic focus on core franchise countries, and with the scale of the larger markets in which it operates.

Country cross-border exposure to China remains predominantly short-term; 87 per cent of exposure had a tenor of less than 12 months. During 2017, the Group's cross-border exposure to China from lending and trade finance increased, driven by robust economic growth in China and support to China's Belt and Road initiative. The significant increase in China cross-border exposure was predominantly short-term in tenor and related to trade and lending facilities as well as interbank placements with strategic clients.

Country cross-border risk exposure to Hong Kong declined during 2017 with a reduction in exposure from liquidity management activity, interbank placements, and corporate business loans.

The increase in cross border exposure to South Korea in 2017 reflects an expansion of export volumes and improved economic growth compared to the previous year.

The overall size of cross-border exposure to India reflects the size of the Group's franchise in the country, and the facilitation of overseas investment and trade flows supported by parent companies in India. The increase in India cross-border exposure relates to new or expanded arrangements with chosen counterparties and product categories that are accretive to the India franchise.

Cross-border exposure to developed countries in which the Group does not have a major presence predominantly relates to short-dated money market treasury and liquidity management activities, which can change significantly from period to period. Exposure also represents global corporate business for customers with interests in our footprint. This is a key factor explaining the significant cross-border exposure to the US, Japan and Germany.

The table below, which is based on the Group's internal country cross-border risk reporting requirements, shows cross-border exposures that exceed 1 per cent of total assets.

	2017			2016[1]		
	Less than one year $million	**More than one year $million**	**Total $million**	Less than one year $million	More than one year $million	Total $million
China	**40,351**	**6,204**	**46,555**	29,727	4,414	34,142
US	**10,068**	**9,524**	**19,592**	9,675	10,255	19,930
Hong Kong	**11,685**	**7,867**	**19,553**	15,517	7,738	23,255
Singapore	**13,555**	**5,955**	**19,510**	15,101	5,086	20,187
South Korea	**14,513**	**4,331**	**18,844**	11,436	5,124	16,559
India	**11,687**	**5,819**	**17,506**	9,280	4,589	13,869
United Arab Emirates	**7,932**	**8,341**	**16,272**	7,523	7,730	15,253
Germany	**3,022**	**4,505**	**7,527**	2,600	3,536	6,136
Japan	**5,272**	**1,555**	**6,827**	8,625	1,669	10,294

1 2016 cross-border exposure data has been restated as a result of a recalibration and enhancement to the internal methodology for reporting country cross-border risk. Methodology changes have been implemented in line with BCBS239 principles.

Market risk

Market risk is the potential for loss of economic value due to adverse changes in financial market rates or prices. The Group's exposure to market risk arises predominantly from the following sources:

- **Trading book:** The Group provides clients access to financial markets, the facilitation of which entails the Group taking moderate market risk positions. All trading teams support client activity; there are no proprietary trading teams. Hence, income earned from market risk-related activities is primarily driven by the volume of client activity rather than risk-taking
- **Non-trading book:**
  - The Treasury Markets desk is required to hold a liquid assets buffer much of which is held in high-quality marketable debt securities
  - The Group has capital invested and related income streams denominated in currencies other than US dollars. To the extent that these are not hedged, the Group is subject to structural foreign exchange risk which is reflected in reserves

A summary of our current policies and practices regarding market risk management is provided in the Principal Risks section (page 169).

The primary categories of market risk for the Group are:

- Interest rate risk: arising from changes in yield curves, credit spreads and implied volatilities on interest rate options
- Currency exchange rate risk: arising from changes in exchange rates and implied volatilities on foreign exchange options
- Commodity price risk: arising from changes in commodity prices and implied volatilities on commodity options; covering energy, precious metals, base metals and agriculture
- Credit spread risk: arising from changes in the credit spread of the Group's derivative counterparties through CVA accounting.

Market risk changes

The average level of total trading and non-trading VaR in 2017 was 19 per cent lower than in 2016 and the actual level of total VaR as at year end 2017 was 25 per cent lower than in 2016. These declines were driven by reduced market volatility in the historical time series. In 2016 the VaR had been elevated by events such as the devaluation of the Chinese renminbi in August 2015 and uncertainty about the timing of anticipated US interest rate rises.

Trading book interest rate VaR and trading book total VaR results are not comparable year-on-year as the 2017 figures include the XVA desk VaR but the 2016 figures do not. The average level of VaR for the XVA desk in 2017 was 44 per cent lower than in 2016 at $5.5 million (2016 $9.8 million).

Daily value at risk (VaR at 97.5%, one day)

	2017				2016			
Trading and non-trading	**Average $million**	**High[1] $million**	**Low[1] $million**	**Actual[2] $million**	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Interest rate risk[3,6]	**22.6**	**28.5**	**18.1**	**18.7**	27.7	32.7	24.1	25.3
Foreign exchange risk	**5.5**	**12.3**	**3.0**	**6.0**	6.3	12.2	3.7	9.4
Commodity risk	**1.2**	**2.0**	**0.6**	**1.0**	1.9	3.1	1.0	1.4
Equity risk	**7.7**	**8.4**	**6.4**	**6.7**	10.0	13.1	6.9	8.1
Total[4,6]	**25.7**	**32.4**	**20.3**	**22.3**	31.6	38.8	26.4	29.9

	2017				2016			
Trading[5]	**Average $million**	**High[1] $million**	**Low[1] $million**	**Actual[2] $million**	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Interest rate risk[3,6]	**10.1**	**13.1**	**7.7**	**8.5**	6.7	10.3	4.7	6.8
Foreign exchange risk	**5.5**	**12.3**	**3.0**	**6.0**	6.3	12.2	3.7	9.4
Commodity risk	**1.2**	**2.0**	**0.6**	**1.0**	1.9	3.1	1.0	1.4
Equity risk	**0.1**	**0.4**	**0.06**	**0.14**	0.4	1.3	0.1	0.1
Total[4,6]	**12.1**	**15.7**	**8.3**	**10.9**	10.6	18.7	7.5	11.6

	2017				2016			
Non-trading	**Average $million**	**High[1] $million**	**Low[1] $million**	**Actual[2] $million**	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Interest rate risk[3]	**19.5**	**23.1**	**14.4**	**14.4**	26.3	31.4	21.5	22.8
Equity risk	**7.6**	**8.1**	**6.2**	**6.6**	9.8	12.5	6.9	8.1
Total[4]	**21.7**	**27.6**	**16.3**	**16.3**	30.7	35.1	24.6	27.3

1 Highest and lowest VaR for each risk factor are independent and usually occur on different days

2 Actual one day VaR at year end date

3 Interest rate risk VaR includes credit spread risk arising from securities held for trading or available-for-sale.

4 The total VaR shown in the tables above is not a sum of the component risks due to offsets between them

5 Trading book for market risk is defined in accordance with the EU Capital Requirements Regulation (CRDIV/CRR) Part 3 Title I Chapter 3 which restricts the positions permitted in the trading book. This regulatory definition is narrower than the accounting definition of the trading book within IAS39 'Financial Instruments: Recognition and Measurement

6 XVA (Credit and Funding Valuation Adjustment): In 2016 the XVA desk VaR was incompletely reflected in the related total VaR lines as follows:

- Total trading and non-trading VaR and total trading and non-trading interest rate VaR reflected XVA desk VaR but only from 1 August 2016 onwards
- Total trading VaR and trading interest rate VaR figures did not reflect XVA VaR at all in 2016

The following table sets out how trading and non-trading VaR is distributed across the Group's products:

	2017				2016			
	Average $million	High[1] $million	Low[1] $million	Actual[2] $million	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Trading and non-trading	25.7	32.4	20.3	22.3	31.6	38.8	26.4	29.9
Trading[4]								
Rates	5.9	8.6	4.4	5.1	5.2	8.6	3.3	5.8
Global foreign exchange	5.5	12.3	3.0	6.0	6.3	12.2	3.7	9.4
Credit trading and capital markets	4.6	6.9	2.6	4.9	3.0	5.3	2.2	3.2
Commodities	1.2	2.0	0.6	1.0	1.9	3.1	1.0	1.4
Equities	0.1	0.4	0.1	0.1	0.4	1.3	0.1	0.1
XVA[5]	5.5	8.3	3.0	3.0	9.8	12.0	6.6	6.6
Total[3]	12.1	15.7	8.3	10.9	10.6	18.7	7.5	11.6
Non-trading								
Asset & liability management	19.5	23.1	14.4	14.4	26.3	31.4	21.5	22.8
Listed private equity	7.6	8.1	6.2	6.6	9.8	12.5	6.9	8.1
Total[3]	21.7	27.6	16.3	16.3	30.7	35.1	24.6	27.3

1 Highest and lowest VaR for each risk factor are independent and usually occur on different days

2 Actual one day VaR at year end date

3 The total VaR shown in the tables above is not a sum of the component risks due to offsets between them

4 Trading book for market risk is defined in accordance with the EU Capital Requirements Regulation (CRDIV/CRR) Part 3 Title I Chapter 3 which restricts the positions permitted in the trading book. This regulatory definition is narrower than the accounting definition of the trading book within IAS39 'Financial Instruments: Recognition and Measurement'

5 XVA (Credit and Funding Valuation Adjustment): In 2016 the XVA desk VaR reflects a period from 1 August 2016 to 30 December 2016

Risks not in VaR (unaudited)

In 2017 the main market risk not reflected in VaR was currency risk where the exchange rate is currently pegged or managed. The historical one-year VaR observation period does not reflect the future possibility of a change in the currency regime such as sudden depegging. The other material market risk not reflected in VaR was associated with off-the-run bonds. Newly issued bonds are actively traded (on-the-run), however off-the-run bonds are less frequently traded, meaning that historical market price data for VaR is sometimes more limited. Additional capital is set aside to cover such 'risks not in VaR'. For further details on market risk capital see the Standard Chartered PLC Pillar 3 Disclosures 2017 section on market risk.

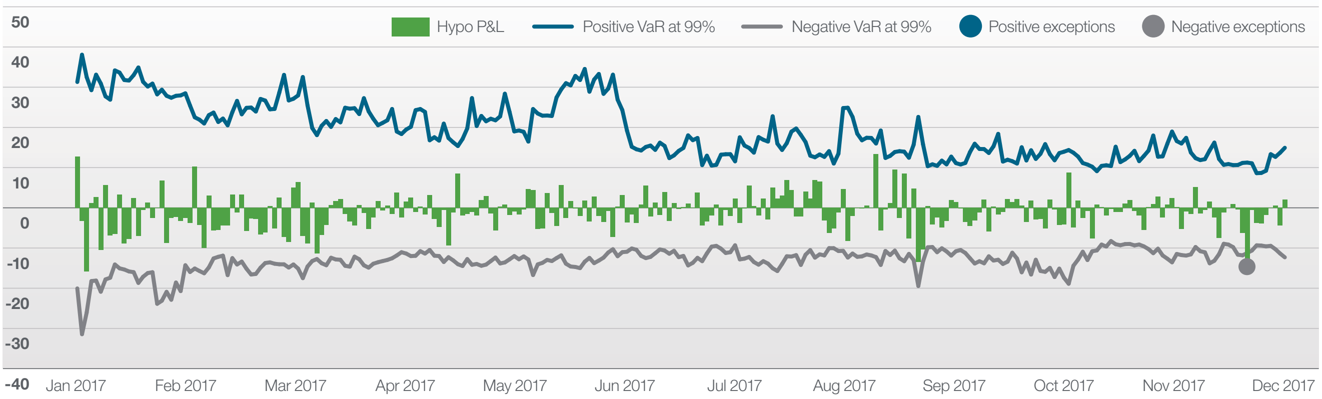
Backtesting (unaudited)

Regulatory backtesting is applied at both Group and Solo levels. In 2017 there has been one negative exception at both Group level and Solo level (in 2016 there was one exception at Group level and two at Solo level).

This exception occurred on 18 December due to yield curve moves in Nigeria. The Central Bank of Nigeria restarted their liquidity management open market operations unexpectedly, filling Nigerian treasury bill auctions below the lowest bid yields. This move caused the market to sell-off and Nigerian Naira yields to rise sharply. One exception in a year due to market events is within the 'green zone' applied internationally to internal models by bank supervisors (Basel Committee on Banking Supervision: 'Supervisory framework for the use of backtesting in conjunction with the internal models approach to market risk capital requirements', January 1996).

The graph below illustrates the performance of the VaR model used in capital calculations. It compares the 99 percentile loss confidence level given by the VaR model with the Hypothetical P&L of each day given the actual market movement without taking into account any intra-day trading activity.

2017 Backtesting chart
Internal model approach regulatory trading book at Group level
Hypothetical profit and loss (P&L) versus VaR (99 per cent, one day)



Financial Markets loss days

	2017	2016
Number of loss days reported for Financial Markets trading book total product income[1]	15	30

1 Reflects total product income for Financial Markets:

- Including CVA and FVA risk.
- Excluding Treasury-Markets business (non-trading) and periodic valuation changes for Capital Markets, expected loss provisions and OIS discounting.

There were fewer Financial Markets loss days in 2017 as market volatility dropped following the events of 2016 which saw a collapse in oil prices, a Chinese equities sell-off, the UK referendum to leave the European Union (Brexit) and the US presidential election.

Average daily income earned from market risk related activities[1]

Trading	2017 $million	2016 $million
Interest rate risk	3.5	4.5
Foreign exchange risk	3.7	4.6
Commodity risk	0.6	0.7
Equity risk	–	–
Total	7.8	9.8
Non-trading		
Interest rate risk	2.4	1.8
Equity risk	0.3	(0.2)
Total	2.7	1.6

1 Reflects total product income which is the sum of Client Income and Own Account Income. Includes elements of Trading Income, Interest Income and Other Income which are generated from market risk related activities. XVA income is included under Interest rate risk

Mapping of market risk items to the balance sheet (unaudited)

Market risk contributes only 8.2 per cent of the Group's regulatory capital risk-weighted asset (RWA) requirement, as shown in the risk-weighted assets tables (page 188). As highlighted in the VaR disclosure, during 2017 the majority of market risk was managed within Treasury Markets and Financial Markets, which span both trading book and non-trading book. The non-trading equity market risk is generated by listed private equity holdings within Principal Finance. Treasury manages the market risk associated with debt and equity capital issuance.

	Amounts as per financial statements $million	Exposure to trading risk $million	Exposure to non-trading risk $million	Market risk type
Financial assets				
Derivative financial instruments	47,031	46,855	176	Interest rate, foreign exchange, commodity and/or equity risk
Loans and advances to banks	81,325	19,305	62,020	Interest rate and/or foreign exchange risk
Loans and advances to customers	285,553	33,707	251,846	Interest rate and/or foreign exchange risk
Debt securities and other eligible bills	135,842	19,493	116,349	Interest rate mainly, but also foreign exchange and/or equity risk
Equities	2,345	718	1,627	Equities risk mainly, but also interest and/or foreign exchange risk
Other assets	33,490	6,266	27,224	Interest rate, foreign exchange, commodity and/or equity risk
Total	585,586	126,344	459,242	
Financial liabilities				
Deposits by banks	35,486	–	35,486	Interest rate and/or foreign exchange risk
Customer accounts	411,724	–	411,724	Interest rate and/or foreign exchange risk
Debt securities in issue	53,402	–	53,402	Interest rate mainly, but also foreign exchange and/or equity risk
Derivatives financial instruments	48,101	47,652	449	Interest rate, foreign exchange, commodity and/or equity risk
Short positions	3,637	3,608	29	Interest rate, foreign exchange, commodity and/or equity risk
Total	552,350	51,260	501,090	

Structural foreign exchange exposures

The table below sets out the principal structural foreign exchange exposures (net of investment hedges) of the Group.

	2017 $million	2016 $million
Hong Kong dollar	7,119	6,452
Indian rupee	4,806	4,450
Renminbi	3,784	3,370
Singapore dollar	2,972	2,505
Korean won	2,361	2,460
Taiwanese dollar	1,589	2,140
UAE dirham	1,842	1,556
Malaysian ringgit	1,512	1,330
Thai baht	1,277	1,290
Indonesian rupiah	1,090	1,090
Pakistani rupee	543	573
Other	4,000	3,595
	32,895	30,811

As at 31 December 2017, the Group had taken net investment hedges (using a combination of derivative and non-derivative financial investments) of $2,003 million (2016: $1,313 million) to partly cover its exposure to the Korean won. An analysis has been performed on these exposures to assess the impact of a 1 per cent fall in the US dollar exchange rates, adjusted to incorporate the impacts of correlations of these currencies to the US dollar. The impact on the positions above would be a decrease of $357 million (2016: $225 million). Changes in the valuation of these positions are taken to reserves.

For analysis of the Group's capital position and requirements, refer to the Capital Review (page 183)

Liquidity and funding risk

Liquidity and funding risk is the potential that the Group does not have sufficient financial resources or stable sources of funding in the medium or long term, to meet its obligations as they fall due, or can access these financial resources only at excessive cost.

The Group's liquidity and funding risk framework requires each country to ensure that it operates within predefined liquidity limits and remain in compliance with Group liquidity policies and practices, as well as local regulatory requirements.

The Group achieves this through a combination of setting risk appetite and associated limits, policy formation, risk measurement and monitoring, prudential and internal stress testing, governance and review.

For further information on the Group's liquidity and funding risk framework, refer to the Risk Management Approach (page 171).

In 2017, the Group issued approximately $1.5 billion of senior debt securities and $1 billion of Additional Tier 1 (AT1) securities from its holding company Standard Chartered PLC (2016: $4.4 billion of term senior debt, $1.25 billion of subordinated debt and $2 billion of AT1).

Since the beginning of the year, there were no significant changes in treasury policies as disclosed in the 2016 Annual Report and Accounts.

Primary sources of funding

The Group's funding strategy is largely driven by its policy to maintain adequate liquidity at all times, in all geographic locations and for all currencies, and hence to be in a position to meet all obligations as they fall due. The Group's funding profile is therefore well diversified across different sources, maturities and currencies.

A substantial portion of our assets are funded by customer deposits aligned with our policy to fund customer assets predominantly using customer deposits. Wholesale funding is diversified by type and maturity and represents a stable source of funds for the Group.

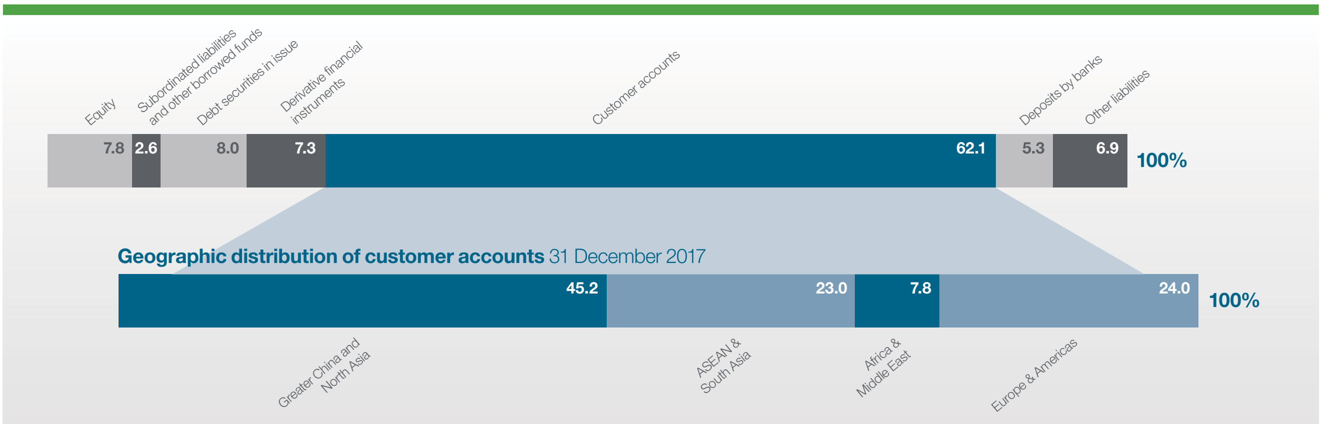
We maintain access to wholesale funding markets in all major financial centres in which we operate. This seeks to ensure that we have market intelligence, maintain stable funding lines and can obtain optimal pricing when performing our interest rate risk management activities.

Debt refinancing levels are low. In the next 12 months approximately $5.6 billion of the Group's holding company senior debt and subordinated debt are falling due for repayment either contractually or callable by the Group.

The information presented in the Liquidity Pool section (page 152) is on a financial view. This is the location in which the transaction or balance was booked and provides a more accurate view of where liquidity risk is actually located.

The chart below shows the composition of liabilities in which customer deposits make up 62.1 per cent of total equity and liabilities as at 31 December 2017, the majority of which are

Group's composition of liabilities 31 December 2017



current accounts, savings accounts and time deposits. Our largest customer deposit base by geography is Greater China & North Asia (in particular Hong Kong), which holds 45.2 per cent of Group customer accounts.

Liquidity and funding risk metrics

We monitor key liquidity metrics regularly, both on a country basis and in aggregate across the Group.

The following Liquidity and Funding Board Risk Appetite metrics define the maximum amount and type of risk that the Group is willing to assume in pursuit of its strategy: liquidity coverage ratio (LCR), liquidity stress survival horizons, external wholesale borrowing and advances to deposits ratio.

Liquidity coverage ratio (LCR) (unaudited)

The LCR is a regulatory requirement set to ensure that the Group has sufficient unencumbered high quality liquid assets to meet its liquidity needs in a 30-calendar-day liquidity stress scenario.

The Group monitors and reports its liquidity position under European Commission Delegated Regulation 2015/ 61 and has maintained its liquidity position above the prudential requirement.

At the reporting date, the Group LCR was 146 per cent (2016: 133 per cent) with a prudent surplus to both Board-approved Risk Appetite and regulatory requirements. The ratio increased 13 per cent year-on-year due to a reduction in net cash outflows as we focused on high quality liquidity across our businesses. We also held adequate liquidity across our footprint to meet all local prudential LCR requirements, where applicable.

For a more detailed Group LCR disclosure, refer to Section 6 of the Group's 2017 Pillar 3 Disclosures.

	2017 $million	2016 $million
Liquidity buffer	**132,251**	136,291
Total net cash outflows	**90,691**	102,263
Liquidity coverage ratio	**146%**	133%

Stressed coverage (unaudited)

The Group intends to maintain a prudent and sustainable funding and liquidity position, in all presence countries and currencies, such that it can withstand a severe but plausible liquidity stress.

Our approach to managing liquidity and funding risk is reflected in the following Risk Appetite statement.

"The Group should hold an adequate buffer of high quality liquid assets to survive extreme but plausible liquidity stress scenarios for at least 60 days without recourse to extraordinary central bank support."

The Group's internal liquidity stress testing framework covers the following stress scenarios:

- Standard Chartered-specific – this scenario captures the liquidity impact from an idiosyncratic event affecting Standard Chartered only, i.e. the rest of the market is assumed to operate normally
- Market-wide – this scenario captures the liquidity impact from a market-wide crisis affecting all participants in a country, region or globally
- Combined – this scenario assumes both Standard Chartered-specific and Market- Wide events affecting the Group simultaneously, and is hence the most severe scenario

All scenarios include, but are not limited to, modelled outflows for retail and wholesale funding, off-balance sheet funding risk, cross-currency funding risk, intraday risk, franchise risk and risks associated with a deterioration of a firm's credit rating.

Stress testing results show that a positive surplus was maintained under all scenarios at 31 December 2017, i.e. the respective countries included were able to survive for a period of time as defined under each scenario. The combined scenario at 31 December 2017 showed the Group maintaining liquidity resources to survive greater than 60 days, as per our Risk Appetite. The results take into account currency convertibility and portability constraints across all major presence countries.

Standard Chartered Bank's credit ratings as at 31 December 2017 were A+ with stable outlook (Fitch), A with stable outlook (S&P) and A1 with stable outlook (Moody's). A downgrade in the Group's long-term credit ratings would increase derivative collateral requirements and outflows due to rating-linked liabilities. At 31 December 2017, the estimated contractual outflow of a two-notch long term ratings downgrade is $1.3 billion (unaudited).

For further information on the Group's liquidity stress testing framework refer to the Risk Management Approach (page 162).

External wholesale borrowing

The Board sets a risk limit to prevent excessive reliance on wholesale borrowing. Limits are applied to all branches and operating subsidiaries in the Group and as at the reporting date the Group remained within the Board-approved Risk Appetite.

Advances-to-deposits ratio

This is defined as the ratio of total loans and advances to customers relative to total customer accounts. An advances-to-deposits ratio of below 100 per cent demonstrates that customer deposits exceed customer loans as a result of the emphasis placed on generating a high level of funding from customers.

The advances-to-deposits ratio (2017: 69.4 per cent) increased from the previous year (2016: 67.6 per cent).

Loans and advances to customers have increased 12 per cent since the end of 2016 to $286 billion. This growth was largely due to higher Corporate Finance balances in Hong Kong and increased retail mortgage lending in Singapore and Korea, benefiting in part from favourable foreign exchange movement. Our repo business also grew over the period as we benefitted from our deep client franchise and balance sheet strength.

Customer accounts have also increased 9 per cent from the end of 2016 to $412 billion as the Group focused on high-quality liquidity across its businesses with an emphasis on Retail, Transaction Banking and other deposits with high liquidity and regulatory value. Retail current and savings account balances increased significantly over the period along with growth in time deposits.

	2017 $million	2016 $million
Loans and advances to customers[1,2]	**285,553**	255,896
Customer accounts[3]	**411,724**	378,302
Advances-to-deposits ratio	**69.4%**	67.6%

1. See note 13 of the financial statements (page 229 to 231)
2. Includes reverse repurchase agreements and other similar secured lending of $55,187 million
3. Includes repurchase agreements and other similar secured borrowing of $39,783 million

Net stable funding ratio (NSFR) (unaudited)

On 23 November 2016 the European Commission, as part of a package of risk-reducing measures, proposed a binding requirement for stable funding (Net Stable Funding Ratio (NSFR)) at European Union level. The proposal aims to implement the European Banking Authority's interpretation of the Basel standard on NSFR (BCBS295).

Pending implementation of the final rules, the Group continues to monitor NSFR in line with the BCBS' final recommendation (BCBS295), At the last reporting date, the Group NSFR remained above 100 per cent.

Liquidity pool (unaudited)

The liquidity value of the Group's LCR eligible liquidity pool at the reporting date was $132 billion. The figures in the below table account for haircuts, currency convertibility and portability constraints and therefore are not directly comparable with the consolidated balance sheet. The pool is held to offset stress outflows as defined in European Commission Delegated Regulation 2015/ 61.

The pool decreased $4 billion year-on-year, reflecting the improved quality of our funding base and redeployment of surplus liquidity, held primarily in Europe & Americas, into commercial assets. Our liquidity pool composition also changed over the period as we increased our holdings of Level 1 LCR eligible securities and reduced cash and central bank reserves.

	2017				
	Greater China & North Asia $ million	**ASEAN & South Asia $ million**	**Africa & Middle East $ million**	**Europe & Americas $ million**	**Total $ million**
Level 1 securities					
Cash and balances at central banks	**13,779**	**2,400**	**1,708**	**33,191**	**51,078**
Central banks, governments/public sector entities	**28,187**	**12,265**	**1,064**	**24,464**	**65,980**
Multilateral development banks and international organisations	**–**	**563**	**159**	**8,568**	**9,290**
Other	**–**	**–**	**–**	**130**	**130**
Total Level 1 securities	**41,966**	**15,228**	**2,931**	**66,353**	**126,478**
Level 2A securities	**2,234**	**825**	**113**	**1,147**	**4,319**
Level 2B securities	**–**	**246**	**3**	**1,206**	**1,455**
Total LCR eligible assets	**44,200**	**16,299**	**3,047**	**68,706**	**132,252**

	2016				
	Greater China & North Asia $ million	ASEAN & South Asia $ million	Africa & Middle East $ million	Europe & Americas $ million	Total $ million
Level 1 securities					
Cash and balances at central banks	14,206	2,878	1,452	45,054	63,590
Central banks, governments/public sector entities	28,304	10,430	1,709	16,271	56,714
Multilateral development banks and international organisations	178	1,362	169	9,178	10,887
Other	–	–	–	200	200
Total Level 1 securities	42,688	14,670	3,330	70,703	131,391
Level 2A securities	–	1,848	152	1,597	3,597
Level 2B securities	–	59	–	1,244	1,303
Total LCR eligible assets	42,688	16,577	3,482	73,544	136,291

Encumbrance (unaudited)

Encumbered assets

Encumbered assets represent on-balance sheet assets pledged or subject to any form of arrangement to secure, collateralise or credit enhance any transaction from which it cannot be freely withdrawn. Cash collateral pledged against derivatives and Hong Kong government certificates of indebtedness, which secure the equivalent amount of Hong Kong currency notes in circulation, are included within Other assets.

Unencumbered – readily available for encumbrance

Unencumbered assets that are considered by the Group to be readily available in the normal course of business to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, and are not subject to any restrictions on their use for these purposes.

Unencumbered – other assets capable of being encumbered

Unencumbered assets that, in their current form, are not considered by the Group to be readily realisable in the normal course of business to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, and are not subject to any restrictions on their use for these purposes. Included within this category are loans and advances which would be suitable for use in secured funding structures such as securitisations.

Unencumbered – cannot be encumbered

Unencumbered assets are assets that have not been pledged and we have assessed that cannot be used to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements.

Derivatives, reverse repurchase assets and stock lending

These assets are shown separately as these on-balance sheet amounts cannot be pledged. However, these assets can give rise to off-balance sheet collateral, which can be used to raise secured funding or meet additional funding requirements.

The following table provides a reconciliation of the Group's encumbered assets to total assets.

		2017								
		Assets encumbered as a result of transactions with counterparties other than central banks			Other assets (comprising assets encumbered at the central bank and unencumbered assets)					
					Assets positioned at the central bank (ie pre-positioned plus encumbered)	Assets not positioned at the central bank				
	Assets $million	As a result of securitisations $million	Other $million	Total $million	$million	Readily available for encumbrance $million	Other assets that are capable of being encumbered $million	Derivatives and reverse repo/stock lending $million	Cannot be encumbered $million	Total $million
Cash and balances at central banks	58,864	–	–	–	9,761	49,103	–	–	–	58,864
Derivative financial instruments	47,031	–	–	–	–	–	–	47,031	–	47,031
Loans and advances to banks[1]	81,325	–	–	–	–	47,380	5,333	21,260	7,352	81,325
Loans and advances to customers[1]	285,553	11	–	11	–	–	232,328	33,928	19,286	285,542
Investment securities[1]	138,187	–	8,213	8,213	178	91,928	29,967	–	7,901	129,974
Other assets	33,490	–	14,930	14,930	–	–	11,604	–	6,956	18,560
Current tax assets	491	–	–	–	–	–	–	–	491	491
Prepayments and accrued income	2,307	–	–	–	–	–	1,503	–	804	2,307
Interests in associates and joint ventures	2,307	–	–	–	–	–	–	–	2,307	2,307
Goodwill and intangible assets	5,013	–	–	–	–	–	352	–	4,661	5,013
Property, plant and equipment	7,211	–	–	–	–	–	1,148	–	6,063	7,211
Deferred tax assets	1,177	–	–	–	–	–	–	–	1,177	1,177
Assets classified as held for sale	545	–	–	–	–	–	–	–	545	545
Total	663,501	11	23,143	23,154	9,939	188,411	282,235	102,219	57,543	640,347

1 Includes assets held at fair value through profit or loss and reverse repurchase agreements and other similar secured lending

	2016									
		Assets encumbered as a result of transactions with counterparties other than central banks			Other assets (comprising assets encumbered at the central bank and unencumbered assets)					
						Assets not positioned at the central bank				
	Assets $million	As a result of securitisations $million	Other $million	Total $million	Assets positioned at the central bank (ie pre-positioned plus encumbered) $million	Readily available for encumbrance $million	Other assets that are capable of being encumbered $million	Derivatives and reverse repo/stock lending $million	Cannot be encumbered $million	Total $million
Cash and balances at central banks	70,706	–	–	–	8,648	62,058	–	–	–	70,706
Derivative financial instruments	65,509	–	–	–	–	–	–	65,509	–	65,509
Loans and advances to banks[1]	74,669	–	–	–	–	50,561	4,092	18,568	1,448	74,669
Loans and advances to customers[1]	255,896	21	–	21	–	–	214,354	26,348	15,173	255,875
Investment securities[1]	123,812	–	5,868	5,868	35	78,535	33,083	–	6,291	117,944
Other assets	36,940	–	19,674	19,674	–	–	10,637	–	6,629	17,266
Current tax assets	474	–	–	–	–	–	–	–	474	474
Prepayments and accrued income	2,238	–	–	–	–	–	887	–	1,351	2,238
Interests in associates and joint ventures	1,929	–	–	–	–	–	–	–	1,929	1,929
Goodwill and intangible assets	4,719	–	–	–	–	–	109	–	4,610	4,719
Property, plant and equipment	7,252	–	–	–	–	–	1,039	–	6,213	7,252
Deferred tax assets	1,294	–	–	–	–	–	–	–	1,294	1,294
Assets classified as held for sale	1,254	–	–	–	–	–	–	–	1,254	1,254
Total[2]	646,692	21	25,542	25,563	8,683	191,154	264,201	110,425	46,666	621,129

1 Includes assets held at fair value through profit or loss and reverse repurchase agreements and other similar secured lending

2 The 2016 comparatives have been represented to split unencumbered assets to enhance disclosures

The Group received $72,982 million (2016: $54,473 million) as collateral under reverse repurchase agreements that was eligible for repledging; of this, the Group sold or repledged $34,018 million (2016: $33,053 million) under repurchase agreements.

Liquidity analysis of the Group's balance sheet

Contractual maturity of assets and liabilities

The following table presents assets and liabilities by maturity groupings based on the remaining period to the contractual maturity date as at the balance sheet date on a discounted basis. Contractual maturities do not necessarily reflect actual repayments or cashflow.

Within the tables below, cash and balances with central banks, interbank placements and investment securities that are available-for-sale are used by the Group principally for liquidity management purposes.

At the reporting date, assets remain predominantly short-dated, with 61 per cent maturing in under one year. Our less than three month cumulative net funding gap increased from the previous year, largely due to an increase in customer accounts as the Group focused on improving the quality of its deposit base. In practice, these deposits are recognised as stable and have behavioural profiles that extend beyond their contractual maturities.

	2017								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Assets									
Cash and balances at central banks	49,103	–	–	–	–	–	–	9,761	58,864
Derivative financial instruments	6,284	7,706	5,930	3,537	2,601	5,427	7,111	8,435	47,031
Loans and advances to banks[1,2]	36,548	21,238	12,042	4,299	3,612	1,588	1,386	612	81,325
Loans and advances to customers[1,2]	87,794	32,618	17,459	11,357	8,545	17,500	37,237	73,043	285,553
Investment securities	14,185	18,208	13,692	11,213	9,145	22,369	31,660	17,715	138,187
Other assets	19,349	4,466	2,521	105	247	138	127	25,588	52,541
Total assets	213,263	84,236	51,644	30,511	24,150	47,022	77,521	135,154	663,501
Liabilities									
Deposits by banks[1,3]	29,365	2,484	1,437	530	730	154	135	651	35,486
Customer accounts[1,4]	327,434	37,178	19,716	10,775	9,321	3,115	1,746	2,439	411,724
Derivative financial instruments	8,018	8,035	6,068	3,544	2,685	5,057	7,794	6,900	48,101
Senior debt	67	273	1,801	53	1,937	5,053	4,747	5,585	19,516
Other debt securities in issue[1]	4,139	10,616	9,954	2,005	779	1,091	794	4,508	33,886
Other liabilities	20,428	5,988	3,672	671	303	696	897	13,150	45,805
Subordinated liabilities and other borrowed funds	–	116	1,382	–	–	–	3,887	11,791	17,176
Total liabilities	389,451	64,690	44,030	17,578	15,755	15,166	20,000	45,024	611,694
Net liquidity gap	(176,188)	19,546	7,614	12,933	8,395	31,856	57,521	90,130	51,807

1 Loans and advances, investment securities, deposits by banks, customer accounts and debt securities in issue include financial instruments held at fair value through profit or loss, see note 13 of the financial statements (pages 229 to 231)

2 Loans and advances include reverse repurchase agreements and other similar secured lending borrowing of $55.2 billion

3 Deposits by banks include repurchase agreements and other similar secured borrowing of $3.8 billion

4 Customer accounts include repurchase agreements and other similar secured lending borrowing of $36 billion

	2016								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Assets									
Cash and balances at central banks	62,058	–	–	–	–	–	–	8,648	70,706
Derivative financial instruments	7,749	10,562	8,263	5,317	4,580	8,472	10,798	9,768	65,509
Loans and advances to banks[1,2]	32,231	23,388	10,667	3,041	2,540	1,240	1,404	158	74,669
Loans and advances to customers[1,2]	71,483	27,977	17,948	7,917	7,839	18,365	32,615	71,752	255,896
Investment securities[1]	8,600	16,894	11,796	10,496	11,764	19,272	32,626	12,364	123,812
Other assets	23,357	5,379	2,857	195	1,007	60	113	23,132	56,100
Total assets	205,478	84,200	51,531	26,966	27,730	47,409	77,556	125,822	646,692
Liabilities									
Deposits by banks[1,3]	31,340	2,912	1,115	665	573	629	146	232	37,612
Customer accounts[1,4]	280,329	46,060	25,258	11,135	8,942	2,577	2,119	1,882	378,302
Derivative financial instruments	8,709	9,911	7,661	6,058	4,797	8,969	11,275	8,332	65,712
Senior debt	96	173	1,212	1,500	981	3,347	8,849	3,433	19,591
Other debt securities in issue[1]	5,916	11,188	6,883	2,687	447	860	748	4,050	32,779
Other liabilities	19,262	6,163	5,003	687	604	1,368	847	10,581	44,515
Subordinated liabilities and other borrowed funds	22	31	–	1,710	–	978	785	15,997	19,523
Total liabilities	345,674	76,438	47,132	24,442	16,344	18,728	24,769	44,507	598,034
Net liquidity gap	(140,196)	7,762	4,399	2,524	11,386	28,681	52,787	81,315	48,658

1 Loans and advances, investment securities, deposits by banks, customer accounts and debt securities in issue include financial instruments held at fair value through profit or loss, see note 13 of the financial statements (pages 229 to 231)

2 Loans and advances include reverse repurchase agreements and other similar secured lending borrowing of $44.9 billion

3 Deposits by banks include repurchase agreements and other similar secured borrowing of $4 billion

4 Customer accounts include repurchase agreements and other similar secured lending borrowing of $33.7 billion

Behavioural maturity of financial assets and liabilities

The cashflows presented in the previous section reflect the cashflows that will be contractually payable over the residual maturity of the instruments. However, contractual maturities do not necessarily reflect the timing of actual repayments or cashflow. In practice, certain assets and liabilities behave differently from their contractual terms, especially for short-term customer accounts, credit card balances and overdrafts, which extend to a longer period than their contractual maturity. On the other hand, mortgage balances tend to have a shorter repayment period than their contractual maturity date. Expected customer behaviour is assessed and managed on a country basis using qualitative and quantitative techniques, including analysis of observed customer behaviour over time.

Maturity of financial liabilities on an undiscounted basis

The following table analyses the contractual cashflows payable for the Group's financial liabilities by remaining contractual maturities on an undiscounted basis. The financial liability balances in the table below will not agree to the balances reported in the consolidated balance sheet as the table incorporates all contractual cashflows, on an undiscounted basis, relating to both principal and interest payments. Derivatives not treated as hedging derivatives are included in the "On demand" time bucket and not by contractual maturity.

Within the 'More than five years and undated' maturity band are undated financial liabilities, all of which relate to subordinated debt, on which interest payments are not included as this information would not be meaningful given the instruments are undated. Interest payments on these instruments are included within the relevant maturities up to five year.

	2017								
	One month or less $million	**Between one month and three months $million**	**Between three months and six months $million**	**Between six months and nine months $million**	**Between nine months and one year $million**	**Between one year and two years $million**	**Between two years and five years $million**	**More than five years and undated $million**	**Total $million**
Deposits by banks	**29,427**	**2,497**	**1,460**	**545**	**743**	**160**	**150**	**697**	**35,679**
Customer accounts	**327,501**	**37,353**	**20,720**	**10,901**	**9,463**	**3,178**	**1,840**	**2,919**	**413,875**
Derivative financial instruments[1]	**47,267**	**–**	**3**	**–**	**153**	**166**	**246**	**266**	**48,101**
Debt securities in issue	**4,287**	**10,888**	**11,878**	**2,141**	**2,876**	**6,550**	**6,163**	**11,769**	**56,552**
Subordinated liabilities and other borrowed funds	**126**	**207**	**1,490**	**210**	**166**	**657**	**3,726**	**19,356**	**25,938**
Other liabilities	**20,800**	**6,052**	**3,676**	**681**	**324**	**720**	**929**	**11,241**	**44,423**
Total liabilities	**429,408**	**56,997**	**39,227**	**14,478**	**13,725**	**11,431**	**13,054**	**46,248**	**624,568**

	2016								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Deposits by banks	31,412	2,923	1,123	671	576	644	154	257	37,760
Customer accounts	280,731	46,268	25,539	11,289	9,074	2,622	2,177	2,548	380,248
Derivative financial instruments[1]	62,917	10	–	–	876	11	472	1,426	65,712
Debt securities in issue	6,159	11,361	8,228	4,240	1,606	4,574	10,271	9,362	55,801
Subordinated liabilities and other borrowed funds	173	86	163	1,949	77	1,691	2,724	23,228	30,091
Other liabilities	21,139	6,905	5,059	769	612	1,391	915	11,459	48,249
Total liabilities	402,531	67,553	40,112	18,918	12,821	10,933	16,713	48,280	617,861

1. Derivatives are on the discounted basis

Earnings sensitivity (unaudited)

The following table provides the estimated impact on the Group's earnings of a 50 basis point parallel shock (up and down) across all yield curves. The sensitivities shown represent the estimated change in base case projected net interest income (NII), plus the change in interest rate implied income and expense from FX swaps used to manage banking book currency positions, under the two interest rate shock scenarios.

The interest rate sensitivities are indicative and based on simplified scenarios, estimating the aggregate impact of an instantaneous 50 basis point parallel shock across all yield curves over a one-year horizon, including the time taken to implement changes to pricing before becoming effective. The assessment assumes that non-interest rate-sensitive aspects of the size and mix of the balance sheet remain constant and that there are no specific management actions in response to the change in rates. No assumptions are made in relation to the impact on credit spreads in a changing rate environment.

Significant modelling and behavioural assumptions are made regarding scenario simplification, market competition, pass-through rates, asset and liability re-pricing tenors, and price flooring. In particular, the assumption that interest rates of all currencies and maturities shift by the same amount concurrently, and that no actions are taken to mitigate the impacts arising from this are considered unlikely. Reported sensitivities will vary over time due to a number of factors including changes in balance sheet composition, market conditions, customer behaviour and risk management strategy and should therefore not be considered an income or profit forecast.

	2017			
Estimated one-year impact to earnings from a parallel shift in yield curves at the beginning of the period of:	**USD bloc $million**	**HKD, SGD & KRW bloc $million**	**Other currency bloc $million**	**Total $million**
+ 50 basis points	**70**	**120**	**140**	**330**
- 50 basis points	**(50)**	**(100)**	**(140)**	**(290)**

As at 31 December 2017, the Group estimates the one-year impact of an instantaneous, parallel increase across all yield curves of 50 basis points would result in an earnings benefit of $330 million. The corresponding impact from a parallel decrease of 50 basis points would result in an earnings reduction of $290 million.

The benefit from rising interest rates is primarily from reinvesting at higher yields and from assets re-pricing faster and to a greater extent than deposits. The current estimate indicates that the majority of the earnings benefit would come from our GCNA region and from non-USD currencies.

The USD sensitivity is impacted by the dampening effect due to the asymmetry of funding Trading Book assets with Banking Book liabilities. The sensitivities include the cost of Banking Book liabilities used to fund the Trading Book, however the revenue associated with the Trading Book positions is recognised in net trading income. This asymmetry in both the up and down scenarios should be broadly offset within total operating income.

Operational risk (unaudited)

Operational risks arise from the broad scope of activities carried out across the Group. Risks associated with these activities are mapped into a Group Process Universe where a standardised operational risk management approach is applied to mitigate the risks. We benchmark practices against industry standards and regulatory requirements.

A summary of our operational risk management approach is provided in the Risk management approach (page 173).

Operational risk profile

The operational risk profile is the Group's overall exposure to operational risk, at a given point in time, covering all applicable operational risk sub-types. The operational risk profile comprises both operational risk events and losses that have already occurred and the current exposures to operational risks which, at an aggregate level, includes the consideration of top risks and emerging risks.

Operational risk events and losses

Operational losses are one indicator of the effectiveness and robustness of the operational risk control environment. In addition, lessons learnt reviews and root cause analyses from external and internal loss events, including near misses, are used to improve processes and controls.

As at 31 December 2017, recorded operational losses for 2017 are lower than 2016. Operational losses in 2017 comprise of unrelated non-systemic events which were not individually significant. The largest operational loss recognised as at 31 December 2017 relates to the Group's $17.2 million settlement arising from a US class action brought against a number of banks concerning foreign exchange benchmark rates.

Losses in 2016 include incremental events that were recognised in 2017 and reclassification of Basel event types and Basel business lines. As at 31 December 2017, the largest loss recorded for 2016 relates to a credit loan impairment of $24.5 million in the Commercial Banking Basel business line.

The Group's profile of operational loss events in 2017 and 2016 is summarised in the table below. It shows the percentage distribution of gross operational losses by Basel business line.

	% Loss	
Distribution of operational losses by Basel business line	**2017**	2016[1]
Agency services	**3.2%**	2.5%
Commercial Banking	**7.2%**	25.3%
Corporate Finance	**4.6%**	0.0%
Corporate items	**3.8%**	10.7%
Payment and settlements	**1.6%**	7.0%
Retail Banking	**39.6%**	30.6%
Retail brokerage	**0.1%**	4.4%
Trading and sales	**39.9%**	19.5%

1 2016 losses are restated to reflect incremental losses recorded.

The Group's profile of operational loss events in 2017 and 2016 is also summarised by Basel event type in the table below. It shows the percentage distribution of gross operational losses by Basel event type:

	% Loss	
Distribution of operational losses by Basel event type	**2017**	2016[1]
Business disruption and system failures	**0.6%**	2.1%
Client products and business practices	**41.8%**	10.6%
Damage to physical assets	**0.1%**	0.0%
Employment practices and workplace safety	**0.0%**	0.4%
Execution delivery and process management	**36.0%**	50.7%
External fraud	**20.7%**	34.2%
Internal fraud	**0.8%**	2.0%

1 2016 losses are restated to reflect incremental losses recorded

Operational losses are one indicator of the effectiveness and robustness of the operational risk control environment. In addition, lessons learnt reviews and root cause analyses from external and internal loss events, including near misses, are used to improve processes and controls.

Top risks and emerging risks

A top risk is a risk exposure, or a group of highly correlated risk exposures, that has the highest potential to breach the Group's risk capacity. The objective is to identify those risks that can materially impact the Group's risk capacity, and to calibrate metrics as early warning indicators against undesirable outcomes and performance under stress. Top risk candidates are identified through a top-down assessment of concentration of exposures or aggregation of risks.

Emerging risks are also considered, both internally from the Group's internal operational risk profile and from external events. Given their significance, top risks attract closer scrutiny from management and governance committees. Top risks change over time based on the top-down assessments by management.

The Group's operational top risks as at 31 December 2017 are shown in the table below.

Top risks

Macro-prudential, regulatory, and external risks	Internal processes, systems, and change risks
→ Regulatory non-compliance	→ Change management
→ Anti-money laundering and terrorist financing	→ Data management
→ International sanctions	→ Major systems failure
→ External fraud	→ Significant business interruption
→ Market misconduct	→ Rogue trading
→ Information and cyber security	→ Internal fraud
→ Critical third-party vendors	→ Mis-selling
→ Additional conduct matters	→ Product management
→ Anti-bribery and corruption	→ Collateral and Document management

Enterprise Risk Management Framework

Risk management is essential to consistent and sustainable performance for all of our stakeholders and is therefore a central part of the financial and operational management of the Group. The Group adds value to clients and therefore the communities in which they operate and generates returns for shareholders by taking and managing risk

Through our Enterprise Risk Management Framework we manage enterprise-wide risks, with the objective of maximising risk-adjusted returns while remaining within our risk appetite.

In 2017 we completed a thorough review of our Enterprise Risk Management Framework and the following key changes were approved by the Board:

Key changes

- Refreshing our risk culture and Risk Appetite Statements for our Principal Risk Types
- Changing our Principal Risk Types including:
  - Elevating Conduct, Compliance, Financial crime and Information and cyber security to Principal Risk Types
  - Broadening the scope of Country cross border risk to cover Country risk
  - Pension risk is now a risk sub-type of Market risk
  - Integrating Strategy risk as part of the overall Framework. See section on Strategic Risk Management on the right which explains how the Group approaches Strategic risk
  - Consolidating Capital and Liquidity risk types into one Principal Risk Type
- Strengthening risk assessment by introducing a dynamic risk identification process
- Further clarity on accountability and responsibility by strengthening of the three lines of defence and alignment with the objectives of the Senior Managers' Regime

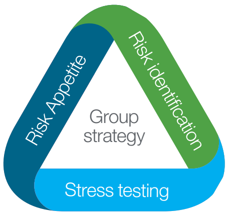
The new revised Enterprise Risk Management Framework is effective from 22 January 2018 and will be further embedded in 2018.

Risk culture

The Group's risk culture provides guiding principles for the behaviours expected from our people when managing risk. The Board has approved a risk culture statement that encourages the following behaviours and outcomes:

- An enterprise level ability to identify and assess current and future risks, openly discuss these and take prompt actions
- The highest level of integrity by being transparent and proactive in disclosing and managing all types of risks
- A constructive and collaborative approach in providing oversight and challenge, and taking decisions in a timely manner
- Everyone to be accountable for their decisions and feel safe using their judgement to make these considered decisions

We acknowledge that banking inherently involves risk-taking and undesired outcomes will occur from time to time; however, we shall take the opportunity to learn from our experience and formalise what we can do to improve. We expect managers to demonstrate a high awareness of risk and control by self-identifying issues and managing them in a manner that will deliver lasting change.



Strategic risk management

The Group approaches strategic risk management by:

- Including in the strategy review process an impact analysis on the risk profile from the growth plans, strategic initiatives and business model vulnerabilities with the aim of proactively identifying and managing new risks or existing risks that need to be reprioritised
- Including in the strategy review process a confirmation that growth plans and strategic initiatives can be delivered within the approved Risk Appetite and/or proposing additional Risk Appetite for Board consideration
- Validating the Corporate Plan against the approved or proposed Risk Appetite Statement to the Board. The Board approves the strategy review and the five year Corporate Plan with a confirmation from the Group Chief Risk Officer that it is aligned with the Enterprise Risk Management Framework and the Group Risk Appetite Statement where projections allow

Roles and responsibilities

Three Lines of Defence model

Roles and responsibilities for risk management are defined under a Three Lines of Defence model. Each line of defence has a specific set of responsibilities for risk management and control as shown in the table on the next page.

Senior Managers' Regime

Roles and responsibilities under the revised Enterprise Risk Management Framework are aligned to the objectives of the Senior Managers' Regime. The Group Chief Risk Officer is responsible for the overall development and maintenance of the Group's Enterprise Risk Management Framework and for identifying material risk types to which the Group may be potentially exposed. The Group Chief Risk Officer delegates effective implementation of the Principal Risk Type frameworks to risk framework owners who provide Second Line of Defence oversight for the Principal Risk Types.

Lines of Defence	Definition	Key responsibilities include
1st	The businesses and functions engaged in or supporting revenue generating activities that own and manage risks	→ Identify, monitor and escalate risks and issues to the Second Line and senior management[1] and promote a healthy risk culture and good conduct → Manage risks within Risk Appetite and ensure laws and regulations are being complied with → Ensure systems meet risk data aggregation, risk reporting and data quality requirements set by the Second Line
2nd	The control functions independent of the First Line that provide oversight and challenge of risk management to provide confidence to the Group Chief Risk Officer, the management team and the Board	→ Identify, monitor and escalate risks and issues to the Group Chief Risk Officer, senior management[1] and the Board and promote a healthy risk culture and good conduct → Oversee and challenge First Line risk taking activities and review First Line risk proposals → Propose Risk Appetite to the Board, monitor and report adherence to Risk Appetite and intervene to curtail business if it is not in line with existing or adjusted Risk Appetite → Set risk data aggregation, risk reporting and data quality requirements
3rd	The independent assurance provided by the Group Internal Audit Function, of the effectiveness of controls that support First Line's risk management of business activities, and the processes maintained by the Second Line. Its role is defined and overseen by the Audit Committee of the Board	→ Independently assess whether management has identified the key risks in the business and whether these are reported and governed in line with the established risk management processes → Independently assess the adequacy of the design of controls and their operating effectiveness

1 Senior management in this table refers to individuals designated as Senior Management Functions (SMF) under the FCA and PRA Senior Managers' Regime (SMR)

The Risk and Compliance function

The Group Chief Risk Officer directly manages the Risk and Compliance function that is separate and independent from the origination, trading and sales functions of the businesses. The role of the function is:

- To maintain the Enterprise Risk Management Framework, ensuring it remains appropriate to the Group's activities, is effectively communicated and implemented across the Group, and to administer related governance and reporting processes
- To uphold the overall integrity of the Group's risk/return decisions, and in particular to ensure that risks are properly assessed, that risk/return decisions are made transparently on the basis of this proper assessment, and that risks are controlled in accordance with the Group's standards and Risk Appetite
- To oversee and challenge the management of credit, country, market, operational, reputational, compliance, conduct, information and cyber security and financial crime risk types

The independence of the Risk and Compliance function is to ensure that the necessary balance in risk/return decisions is not compromised by short-term pressures to generate revenues.

In addition, the Risk and Compliance function is a centre of excellence that provides specialist capabilities of relevance to risk management processes in the broader organisation.

Risk Appetite and profile

We recognise the following constraints which determine the risks that we are willing to take in pursuit of our strategy and the development of a sustainable business:

- **Risk capacity** is the maximum level of risk the Group can assume, given its current capabilities and resources, before breaching constraints determined by capital and liquidity requirements and internal operational capability (including but not limited to technical infrastructure, risk management capabilities, expertise), or otherwise failing to meet the expectations of regulators and law enforcement agencies
- **Risk Appetite** is defined by the Group and approved by the Board. It is the maximum amount and type of risk the Group is willing to assume in pursuit of its strategy. Risk Appetite cannot exceed risk capacity

The Board has approved a Risk Appetite Statement, which is underpinned by a set of financial and operational control parameters known as Risk Appetite metrics and associated thresholds. These directly constrain the aggregate risk exposures that can be taken across the Group. The Risk Appetite Statement is supplemented by an overarching statement outlining the Group's Risk Appetite Principles.

Risk Appetite Principles

The Group Risk Appetite is in accordance with our overall approach to risk management and our risk culture. We follow the highest ethical standards required by our stakeholders and ensure a fair outcome for our clients, the effective operation of financial markets, while at the same time meeting expectations of regulators and law enforcement agencies. We set our Risk Appetite to enable us to grow sustainably and to avoid shocks to earnings or our general financial health and to manage our reputational risk in a way that does not materially undermine the confidence of our investors and all internal and external stakeholders.

Risk Appetite Statement

The Group will not compromise adherence to its Risk Appetite in order to pursue revenue growth or higher returns.

Risk control tools such as exposure limits, underwriting standards, scorecard cut-offs and policies and other operational control parameters are used to keep the Group's risk profile within risk appetite (and therefore also risk capacity). The Group's risk profile is its overall exposure to risk at a given point in time, covering all applicable risk types. Status against Risk Appetite is reported to the Board Risk Committee and the Group Risk Committee, including the status of breaches and remediation plans where applicable.

The Group Risk Committee, the Group Financial Crime Risk Committee, the Group Operational Risk Committee and the Group Asset and Liability Committee are responsible for ensuring that our risk profile is managed in compliance with the Risk Appetite set by the Board. The Board Risk Committee and the Board Financial Crime Risk Committee (for Financial Crime Compliance) advise the Board on the Risk Appetite Statement and monitor the Group's compliance with it.

The individual Principal Risk Types' Risk Appetite Statements along with the key associated Risk Appetite metrics approved by the Board are set out in the Principal Risks section (pages 165 to 178)

Risk identification and assessment

Identification and assessment of potential adverse risk events is an essential first step in managing the risks of any business or activity. To ensure consistency in communication we use Principal Risk Types to classify our risk exposures. Nevertheless, we also recognise the need to maintain an overall perspective since a single transaction or activity may give rise to multiple types of risk exposure, risk concentrations may arise from multiple exposures that are closely correlated, and a given risk exposure may change its form from one risk type to another.

To facilitate the above, the Group maintains a dynamic risk scanning process with inputs on the internal and external risk environment, as well as potential threats and opportunities from the business and client perspectives.

Stress testing

The objective of stress testing is to support the Group in assessing that it:

- Does not have a portfolio with excessive concentrations of risk that could produce unacceptably high losses under severe but plausible scenarios
- Has sufficient financial resources to withstand severe but plausible scenarios
- Has the financial flexibility to respond to extreme but plausible scenarios
- Understands the Group's key business model risks, considers what kind of event might crystallise those risks – even if extreme with a low likelihood of occurring – and identifies, as required, actions to mitigate the likelihood or the impact

Enterprise stress tests include Capital and Liquidity Adequacy Stress Tests including in the context of recovery and resolution, and stress tests that assess scenarios where our business model becomes unviable, such as reverse stress tests.

Stress tests are performed at Group, country, business and portfolio level. Bespoke scenarios are applied to our market and liquidity positions as described in the sections Market risk on page 169 and Liquidity and funding risk on page 171. In addition to these, our stress tests also focus on the potential impact of macroeconomic, geopolitical and physical events on relevant regions, client segments and risk types.

The Board delegates approval of stress tests to the Board Risk Committee, who reviews the recommendations from the Stress Testing Committee. The Stress Testing Committee is appointed by the Group Risk Committee to review and challenge the stress test scenarios, assumptions and results.

Based on the stress test results, the Group Chief Risk Officer and Group Chief Financial Officer can recommend strategic actions to ensure that the Group Strategy remains within the Board-approved Risk Appetite.

Principal Risk Types

Principal risks are those risks that are inherent in our strategy and our business model. These risks are managed through distinct Risk Type Frameworks (RTF). The RTFs are approved by the Group Chief Risk Officer. The principal risks and associated Risk Appetite Statements are approved by the Board.

As part of the overall risk management framework review in 2017 we also reviewed our Principal Risk Types. The table below shows the current Group's principal risks.

Principal Risks Types	Definition
Credit risk	→ Potential for loss due to the failure of a counterparty to meet its agreed obligations to pay the Group
Country risk	→ Potential for default or losses due to political or economic events in a country
Market risk	→ Potential for loss of economic value due to adverse changes in financial market rates or prices
Capital & liquidity risk	→ Capital: potential for insufficient level or composition of capital to support our normal activities → Liquidity: potential for failure where we may not have sufficient stable or diverse sources of funding or financial resources to meet our obligations as they fall due
Operational risk	→ Potential for loss resulting from inadequate or failed internal processes and systems, human error, or from the impact of external events
Reputational risk	→ Potential for loss of earnings or market capitalisation as a result of stakeholders taking a negative view of the organisation or its actions
Compliance	→ Potential for regulatory sanctions or loss from a failure on our part to comply with laws or regulations
Conduct	→ Potential regulatory sanctions or loss from a failure on our part to abide by the Group's Conduct Risk Management Framework
Information and cyber security	→ Potential for loss from a breach of confidentiality, integrity and availability of the Group's information systems and assets through cyber attack, insider activity, error or control failure
Financial crime	→ Potential for legal or regulatory penalties, material financial loss or reputational damage resulting from the failure to comply with applicable laws and regulations relating to International Sanctions, Anti-Money Laundering and Anti-Bribery and Corruption

Further details of our principal risks and how these are being managed are set out in the Principal Risks section (pages 165 to 178)

Executive and Board risk oversight

Overview

The Board has ultimate responsibility for risk management and is supported by the six Board-level committees. The Board approves the Enterprise Risk Management Framework based on the recommendation from the Board Risk Committee, which also recommends the Group Risk Appetite Statement other than financial crime risk. Financial crime risk related Risk Appetite is reviewed and recommended to the Board by the Board Financial Crime Risk Committee.

The Board appoints the Standard Chartered Bank Court to maintain a sound system of internal control and risk management. The Group Risk Committee, through its authority received from the Court, oversees effective implementation of the Enterprise Risk Management Framework. The Group Chief Risk Officer, as Chair of the Group Risk Committee, approves the use of sub-committees to support the Group Risk Committee overseeing risk at Business, Regional, Country, or Principal Risk Type level.

The Board Risk Committee receives regular reports on risk management, including the Group's portfolio trends, policies and standards, stress testing, liquidity and capital adequacy, and is authorised to investigate or seek any information relating to an activity within its terms of reference. The Board Risk Committee also conducts deep dive reviews on a rolling basis of different sections of the consolidated risk information report that is provided at each scheduled committee meeting.

Risk committee governance structure

BOARD OF DIRECTORS

- **Standard Chartered Bank Court**
- **Audit Committee**
- **Board Risk Committee**
- **Brand Values and Conduct Committee**
- **Governance and Nomination Committee**
- **Board Financial Crime Risk Committee**
- **Remuneration Committee**

Group Risk Committee

- Group Operational Risk Committee
- Group Financial Crime Risk Committee
- Group Information Management Governance Committee
- Stress Testing Committee
- IFRS 9 Impairment Committee
- Group Reputational Risk Committee
- Corporate & Institutional Banking Risk Committee
- Private Banking Risk Committee
- Greater China & North Asia Risk Committee
- ASEAN & South Asia Risk Committee
- Africa & Middle East Risk Committee

Group Asset and Liability Committee

- Operational Balance Sheet Committee

Combined United States Operations Risk Committee

The committee governance structure ensures that risk-taking authority and risk management policies are cascaded down from the Board to the appropriate functional, client segment and country-level senior management and committees. Information regarding material risk issues and compliance with policies and standards is communicated to the appropriate country, client segment, functional and Group-level senior management and committees.

Further details on the role of the Board and its committees in matters of risk governance are covered in the Directors' report (pages 53 to 82)

Group Risk Committee

The Group Risk Committee is responsible for ensuring the effective management of risk throughout the Group in support of the Group's strategy. The Group Chief Risk Officer chairs the Group Risk Committee, whose members are drawn from the management team. The Committee determines the overall Enterprise Risk Management Framework for the Group, including the delegation of any part of its authorities to appropriate individuals or properly constituted sub-committees.

The Committee requests and receives information to fulfil its governance mandates relating to the risks to which the Group is exposed. As with the Board Risk Committee, the Group Risk Committee and Group Asset and Liability Committee receive reports that include information on risk measures, Risk Appetite metrics and thresholds, risk concentrations, forward-looking assessments, updates on specific risk situations and actions agreed by these committees to reduce or manage risk.

Group Risk Committee sub-committees

The Corporate & Institutional Banking Risk Committee (CIBRC) covers risks arising from activities in Corporate & Institutional Banking globally and in the Europe & Americas region as well as Group-wide Market and Traded Credit Risk. The CIBRC is chaired by the Chief Risk Officer, Corporate & Institutional Banking.

The Private Banking Risk Committee covers risks arising in Private Banking globally including wealth management. It is chaired by the Chief Risk Officer, Commercial Banking and Private Banking.

The three regional risk committees, chaired by the Chief Risk Officer for each respective region, cover risks arising from their respective region including Commercial and Retail Banking.

The Group Reputational Risk Committee oversees the implementation of the reputational risk framework and takes decisions on material and thematic reputational risk issues.

The Group Operational Risk Committee, chaired by the Group Head, Operational Risk, ensures effective management of operational risk throughout the Group.

The Group Financial Crime Risk Committee, chaired by the Group Chief Risk Officer, provides oversight of the effectiveness of the Group's policies, procedures, systems, controls and assurance arrangements designed to identify, assess, manage, monitor, prevent and/or detect money laundering, non-compliance with sanctions, bribery, corruption and tax crime by third parties.

The Stress Testing Committee, chaired by the Global Head, Enterprise Risk Management, ensures the effective management of capital and liquidity related enterprise-wide stress testing in line with the Group's enterprise-wide stress testing policy and applicable regulatory requirements. The Committee also enforces model governance for Credit risk, Traded Credit risk and Market risk throughout the Group in line with Risk Appetite and in support of Group strategy. In addition, the Committee approves and provides oversight over stress testing models pertaining to Credit risk, Traded Credit and Market risk, Liquidity risk and valuation models.

The Group Information Management Governance Committee, chaired by the Group Chief Information Officer, ensures that an effective Group strategy and approach to data quality management framework, data quality management strategy, priorities, standards and metrics are in place and maintained taking into account the information-related requirements of internal and external stakeholders.

The IFRS 9 Impairment Committee, chaired by the Global Head, Enterprise Risk Management, ensures the effective management of expected credit loss computation as well as stage allocation of financial assets for quarterly financial reporting within the authorities set by the Group Risk Committee.

Group Asset and Liability Committee

Members of the Group Asset and Liability Committee are drawn principally from the Court. The Group Asset and Liability Committee is chaired by the Group Chief Financial Officer. The Group Asset and Liability Committee is responsible for determining the Group's approach to balance sheet management and ensuring that, in executing the Group's strategy, the Group operates within internally approved Risk Appetite and external requirements relating to capital, liquidity and leverage risk. It is also responsible for policies relating to balance sheet management, including management of our liquidity, capital adequacy and structural foreign exchange, and interest rate exposure and tax exposure.

Combined United States Operations Risk Committee

The Combined United States Operations Risk Committee was established in 2016 to comply with the Dodd-Frank Act section 165 Enhanced Prudential Standards (EPS Rules). The EPS Rules legislated a number of enhanced obligations on the US operations commensurate with its structure, risk profile, complexity, activities and size. The Committee receives its authority from the Court of Standard Chartered Bank and is chaired by the Group Chief Risk Officer with membership drawn from the Court of Standard Chartered Bank and one iNED of Standard Chartered PLC. Its responsibilities are drawn from the EPS Rules and pertain to liquidity, risk governance and oversight.

Principal risks

We manage and control our Principal Risk Types through distinct risk type frameworks, policies and Board-approved Risk Appetite

Credit risk

The Group defines Credit risk as the potential for loss due to the failure of a counterparty to meet its agreed obligations to pay the Group

Risk Appetite Statement

The Group manages its credit exposures following the principle of diversification across products, geographies, client segments and industry sectors

Roles and responsibilities

The Credit Risk Framework for the Group is set by the Chief Risk Officers for the Corporate & Institutional Banking, Commercial Banking and Private Banking, and Retail Banking segments. The Credit Risk function is the second line control function that performs independent challenge, monitoring and oversight of the credit risk management practices of the business and functions engaged in or supporting revenue generating activities which constitute the first line of defence. The first and second lines of defence are supported by the organisation structure, job descriptions and delegated authorities. Additionally, to ensure that credit risks are properly assessed and are transparent, credit decisions are controlled in accordance with the Group's Risk Appetite and credit policies and procedures. All segment Credit Officers in Group, regional and country roles are accountable to the segment Chief Risk Officers for credit risk management strategy, policy and performance.

Mitigation

Group-wide credit policies and standards are established and approved by the Group Risk Committee or individuals with authority delegated by the Risk Authorities policy. The Group Risk Committee oversees the delegation of credit approval and loan impairment provisioning authorities. The principles for the delegation, review and maintenance of credit approval authorities are defined in the Risk Authorities policy. In addition, there are other Group-wide policies integral to credit risk management such as those relating to stress testing, risk measurement and impairment provisioning.

Policies and procedures specific to each customer segment are established by individuals authorised via the Risk Authorities policy. These are consistent with our Group-wide credit policies, but are more detailed and adapted to reflect the different risk characteristics across customer segments. Policies are regularly reviewed and monitored to ensure they remain effective and consistent with the risk environment and Risk Appetite.

The Group credit policies set out the key considerations for eligibility, enforceability and effectiveness of credit risk mitigation arrangements. Potential credit losses from any given account, client or portfolio are mitigated using a range of tools such as collateral, netting agreements, credit insurance, credit derivatives and guarantees. The reliance that can be placed on risk mitigants is carefully assessed in light of issues such as legal certainty and enforceability, market valuation, correlation and counterparty risk of the protection provider. The requirement for risk mitigation is, however, not a substitute for the ability to pay, which is the primary consideration for any lending decisions.

Collateral types that are eligible as risk mitigants include: cash; account receivables; residential, commercial and industrial property; fixed assets such as motor vehicles, aircraft, plant and machinery; marketable securities; commodities; risk participations; guarantees; derivatives; credit insurance; and standby letters of credit. Physical collateral, such as property, fixed assets and commodities, and financial collateral must be independently valued and an active secondary resale market must exist. The collateral must be valued prior to drawdown and regularly thereafter as required. The valuation frequency is at minimum annual, and more frequent valuations are driven by the level of price volatility of each type of collateral and the nature of the underlying product or risk exposure. For financial collateral to be eligible for recognition, the collateral must be sufficiently liquid, and its value over time sufficiently stable, to provide appropriate certainty as to the credit protection achieved. Risk mitigation benefits may be reduced or removed where the collateral value is not supported by a recent independent valuation.

Documentation must be held to enable the Group to realise the collateral without the cooperation of the obligor in the event that this is necessary. For certain types of lending, typically mortgages or asset financing where a first charge over the risk mitigant must be attained, the right to take charge over physical assets is significant in terms of determining appropriate pricing and recoverability in the event of default. Physical collateral is required to be insured at all times against risk of physical loss or damage.

Collateral values are, where appropriate, adjusted to reflect current market conditions, the probability of recovery and the period of time to realise the collateral in the event of liquidation. Stress tests are performed on changes in collateral values for key portfolios to assist senior management in managing the risks in those portfolios. The Group also seeks to diversify its collateral holdings across asset classes and markets.

Where guarantees, credit insurance, standby letter of credit or credit derivatives are used as credit risk mitigation, the creditworthiness of the protection provider is assessed and monitored using the same credit approval process applied to the obligor. The main types of guarantors include banks, insurance companies, parent companies, governments and export credit agencies.

Governance Committee Oversight

At a Board level, the Board Risk Committee oversees the effective management of Credit risk and the Board Audit Committee approves the Group Impairment provisioning policy and reviews judgements made by Management on key accounting issues and significant accounting estimates.

At the executive level, the Group Risk Committee delegates the authority for the management of credit risk to several committees – the Corporate & Institutional Banking Risk Committee, Private Banking Risk Committee as well as the regional risk committees for Greater China and North Asia, ASEAN and South Asia and Africa and Middle East. These committees are responsible for overseeing the credit risk profile of the Group within the respective business areas and regions. Meetings are held regularly and the committees monitor all material credit risk exposures, key internal developments and external trends, and ensure that appropriate action is taken.

In addition, there is a Credit Approval Committee and an Underwriting Committee. The Credit Approval Committee, appointed by the Group Risk Committee, reviews and approves major credit exposures to individual counterparties, groups of connected counterparties and portfolios of retail exposures. The Underwriting Committee, appointed by the Corporate & Institutional Banking Risk Committee, approves limits for the underwriting of securities to be held for sale, and ensures effective risk management of underwritten debt securities and syndicated loans.

Decision making authorities and delegation

Major credit exposures to individual counterparties, groups of connected counterparties and portfolios of retail exposures are reviewed and approved by the Credit Approval Committee.

All other credit approval authorities are delegated by the Group Risk Committee to individuals based both on their judgement and experience. These individuals further delegate credit authorities to individual credit officers by applying Group Risk Committee approved delegated Credit Authorities matrices by customer type or portfolio. These matrices establish the maximum limits that the delegated credit officers are authorised to approve, based on risk-adjusted scales which take account of the estimated maximum expected loss from a given customer or portfolio. In Corporate & Institutional Banking, Commercial & Private Banking, the individuals delegating the credit authorities perform oversight by reviewing on a monthly basis a sample of the limit applications approved by the delegated credit officers. In Retail Banking, credit decisions are subject to periodic quality control assessment and assurance checks.

All credit proposals are subject to a robust credit risk assessment. It includes a comprehensive evaluation of the client's credit quality, including willingness, ability and capacity to repay. The primary lending consideration is based on the client's credit quality and the repayment capacity from operating cashflows for counterparties; and personal income or wealth for individual borrowers. The risk assessment gives due consideration to the client's liquidity and leverage position. Where applicable, the assessment includes a detailed analysis of the credit risk mitigation arrangements to determine the level of reliance on such arrangements as the secondary source of repayment in the event of a significant deterioration in a client's credit quality leading to default. Lending activities that are considered as higher risk or non-standard are subjected to stricter minimum requirements and require escalation to a senior credit officer or authorised body.

Monitoring

We regularly monitor credit exposures, portfolio performance, and external trends that may impact risk management outcomes.

Internal risk management reports that are presented to risk committees contain information on key political and economic trends across major portfolios and countries; portfolio delinquency and loan impairment performance.

Credit risk committees meet regularly to assess the impact of external events and trends on the Group's credit risk portfolios and to define and implement our response in terms of the appropriate changes to portfolio shape, portfolio and underwriting standards, risk policy and procedures.

Clients or portfolios are subjected to additional review when they display signs of actual or potential weakness; for example, where there is a decline in the client's position within the industry, financial deterioration, a breach of covenants, non-performance of an obligation within the stipulated period, or there are concerns relating to ownership or management.

Such accounts and portfolios are subjected to a dedicated process overseen by the Credit Issues Committees in the relevant countries where client account strategies and credit grades are re-evaluated. In addition, remedial actions are agreed and monitored. Remedial actions include, but are not limited to, exposure reduction, security enhancement, exiting the account or immediate movement of the account into the control of Group Special Assets Management, our specialist recovery unit for Corporate & Institutional Banking, Commercial Banking & Private Banking.

For Retail Banking exposures, portfolio delinquency trends are monitored continuously at a detailed level. Individual customer behaviour is also tracked and considered for lending decisions. Accounts that are past due or charged-off are subject to a collections or recovery process respectively, and managed independently by the Risk function. In some countries, aspects of collections and recovery activities are outsourced.

Credit rating and measurement

Risk measurement plays a central role, along with judgement and experience, in informing risk-taking and portfolio management decisions.

Since 1 January 2008, we have used the advanced internal ratings-based approach under the Basel II regulatory framework to calculate credit risk capital requirements.

A standard alphanumeric credit risk grade system for Corporate & Institutional Banking and Commercial Banking is used. The numeric grades run from 1 to 14 and some of the grades are further sub-classified. Lower numeric credit grades are indicative of a lower likelihood of default. Credit grades 1 to 12 are assigned to performing customers, while credit grade 13 and 14 are assigned to non-performing or defaulted customers. An analysis by credit quality of those loans that are neither past due nor impaired is set out in the Risk Profile section (pages 126 to 127).

Retail Banking internal ratings-based portfolios use application and behaviour credit scores that are calibrated to generate a probability of default and then mapped to the standard alphanumeric credit risk grade system. We refer to external ratings from credit bureaus (where these are available); however, we do not rely solely on these to determine Retail Banking credit grades.

Advanced internal ratings-based models cover a substantial majority of our exposures and are used in assessing risks at a customer and portfolio level, setting strategy and optimising our risk return decisions. Material internal ratings-based risk measurement models are approved by the Stress Testing Committee on the recommendation of the Credit Model Assessment Committee. The Credit Model Assessment Committee approves all other internal ratings-based risk measurement models, with key decisions noted to the Stress Testing Committee. Prior to review by the Credit Model Assessment Committee, all internal ratings-based models are validated in detail by a model validation team which is separate from the teams that develop and maintain the models. Models undergo annual validation by the model validation team. Reviews are also triggered if the performance of a model deteriorates materially against predetermined thresholds during the ongoing model performance monitoring process which takes place between the annual validations.

Credit concentration risk

Credit concentration risk may arise from a single large exposure to a counterparty or a group of connected counterparties, or from multiple exposures across the portfolio that are closely correlated. Large exposure concentration risk is managed through concentration limits set by a counterparty or a group of connected counterparties based on control and economic dependence criteria.

Risk Appetite metrics are set at portfolio level and monitored to control concentrations, where appropriate, by industry, specific products, tenor, collateralisation level, top 20 concentration and exposure to holding companies. Single name credit concentration thresholds are set by a Client Group depending on credit grade, and by customer segment. For concentrations that are material at a Group level, breaches and potential breaches are monitored by the respective governance committees and reported to the Group Risk and Board Risk Committees.

Traded products

Credit risk from traded products derives from the positive mark-to-market value of the underlying instruments, and an additional component to cater for potential future market movements. This counterparty credit risk is managed within the Group's overall credit Risk Appetite for corporate and financial institutions. In addition to analysing potential future movements, the Group uses various single and multi-risk factor stress test scenarios to identify and manage counterparty credit risk across derivatives and securities financing transactions.

The Group uses bilateral and multilateral netting to reduce pre-settlement and settlement counterparty credit risk. Pre-settlement risk exposures are normally netted using bilateral netting documentation in legally approved jurisdictions. Settlement exposures are generally netted using Delivery versus Payments or Payment versus Payments systems. Master netting agreements are generally enforced only in the event of default. In line with International Accounting Standards (IAS) 32, derivative exposures are presented on a net basis in the financial statements only if there is a legal right to offset and there is intent to settle on a net basis or realise the assets and liabilities simultaneously.

In addition, the Group enters into credit support annexes (CSAs) with counterparties where collateral is deemed a necessary or desirable mitigant to the exposure. Further details on CSAs are set out in the Risk Profile section (page 141). The netting and collateral enforceability status of previously approved jurisdictions is periodically reviewed. This is undertaken as and when industry opinions are updated or where a change in the law or significant event in a relevant jurisdiction requires a re-assessment of the conclusions previously drawn under the existing opinion.

Wrong-way risk occurs when an exposure increase is coupled with a decrease in the credit quality of the obligor. Specifically, as the mark-to-market on a derivative contract or a repurchase agreement contract increases in favour of the Group, the driver of this mark-to-market change also reduces the ability of the counterparty to meet its payment, margin call or collateral posting requirements. The Group employs various policies and procedures to ensure that wrong-way risk exposures are identified, measured and managed.

Securities

The limits for the underwriting of securities to be held for sale are approved by the Underwriting Committee, under the authority of the Corporate & Institutional Banking Risk Committee. The limits contain the overall size of the securities inventory, the maximum holding period, the daily value at risk, the sensitivity to interest rate and credit spread moves. The Underwriting Committee approves individual proposals to underwrite new security issues for our clients.

Day-to-day credit risk management activities for traded securities are carried out by a specialist team within the Risk function whose activities include oversight and approval within the levels delegated by the Underwriting Committee. Issuer credit risk, including settlement and pre-settlement risk, and price risks are controlled by the Risk function. Where an underwritten security is held for a period longer than the target sell-down period, the final decision on whether to sell the position rests with the Risk function.

Loan impairment

A loan is impaired when we assess that we will not recover a portion of the contractual cashflows. Impaired loans are classified as follows:

- In Corporate & Institutional Banking, Commercial Banking & Private Banking, a loan is considered impaired where analysis and review indicate that full payment of either interest or principal, including the timeliness of such payment, is questionable, or as soon as payment of interest or principal is 90 days overdue. Impaired accounts are managed by our Group Special Assets Management recovery unit, GSAM, which is independent from our main businesses
- In Retail Banking, a loan is considered impaired when it meets certain defined threshold conditions in terms of overdue payments (contractual impairment) or meets other objective conditions such as bankruptcy, debt restructuring, fraud or death. A loan is considered delinquent (or past due), when the customer has failed to make a principal or interest payment in accordance with the loan contract. These threshold conditions are defined in policy and are set at the point where empirical evidence suggests that the client is unlikely to meet their contractual obligations or a loss of principal is expected

The Group's loan loss provisions are established to recognise incurred impairment losses either on specific loan assets or within a portfolio of loans and advances. Individually impaired loans are those loans against which individual impairment provisions (IIP) have been raised.

Provisions are taken in the form of:

- Individually impaired provisions (IIP)
- Portfolio impairment provisions (PIP) held to cover the inherent risk of losses which, although not identified, are known through experience to be present in any loan portfolio

More information on the components of these calculations for Corporate & Institutional Banking, Commercial Banking & Private Banking, as well as Retail Banking, can be found in note 8 of the financial statements.

Estimating the amount and timing of future recoveries involves significant judgement, and considers the assessment of matters such as future economic conditions and the value of collateral, for which there may not be a readily accessible market.

Loan losses that have been incurred but have not been separately identified at the balance sheet date are determined by taking into account past loss experience as a result of uncertainties arising from the economic environment, and defaults based on portfolio trends. Actual losses identified could differ significantly from the impairment provisions reported, for example, as a result of uncertainties arising from the economic environment.

The total amount of the Group's impairment provision is inherently uncertain, being sensitive to changes in economic and credit conditions across the regions in which the Group operates. Economic and credit conditions are interdependent within each geography and as a result there is no single factor to which the Group's loan impairment provisions as a whole are sensitive. It is possible that actual events over the next year will differ from the assumptions built into our model, resulting in material adjustments to the carrying amount of loans and advances.

Effective from 1 January 2018, the impairment requirements of IFRS 9 Financial Instruments are being adopted. More information can be found in note 41 of the financial statements.

Country risk

The Group defines Country risk as the potential for default or losses due to political or economic events in a country

Risk Appetite Statement

The Group manages its country cross-border exposures following the principle of diversification across geographies and controls the business activities in line with the level of jurisdiction risk

Roles and responsibilities

The Global Head, Enterprise Risk Management is responsible for the management and control of Country Risk across the Group with the day-to-day management and control activities delegated to the Global Head, Country Risk. They are supported by the Regional Chief Risk Officers and Country Chief Risk Officers who provide second line oversight and challenge to the first line country risk management activities. The first line ownership of country risk resides with the country CEOs who are responsible for the implementation of policy and allocation of approved country risk limits across relevant businesses and product lines, as well as the identification and measurement of country risks and communication of these and any non-compliance to policy to the second line.

Mitigation

Policies and procedures are developed and deployed to put in place standards and controls that all countries must follow to ensure effective management of country risk. The policies include standards for the acceptance and effective management of country risk in particular around identification, measurement, reporting and setting, and the calibration and allocation of country risk limits. The procedures outline the process for country risk limit setting, monitoring and reporting exposures.

Governance Committee Oversight

At a Board level, the Board Risk Committee oversees the effective management of Country risk. At the executive level, the Group Risk Committee is responsible for approving policies and control risk parameters, monitoring material risk exposures and directing appropriate action in response to material risk issues or themes that come to the Committee's attention that relate to Country risk. The Group Risk Committee delegates the management of Country risk to the Group Country Risk function. At a country level, the Country Risk Committee (or Executive Risk Committee for subsidiaries) is responsible for monitoring all risk issues for their given country, including Country risk.

Decision making authorities and delegation

Decision making and approval authorities are guided by reference levels for countries. Reference levels are guidelines to set country limits in respect of Country risk. The reference levels are assessed by the Group Country Risk function and are functionally derived from factors including: Group Tier 1 capital, sovereign risk grade, with adjustment for transfer risk; Group strategy, through Country tiering; portfolio composition (short and medium-term) and Country's total foreign currency earnings.

Monitoring

Monitoring and reporting is included in the policy and procedures and covers the monitoring of exposures relative to Risk Appetite thresholds and limits, and the reporting of material exposures to internal committees and externally. The Group Risk Committee monitors Risk Appetite thresholds on a traffic-light indicator basis which provide an early warning indicator of stress and concentration risk. An escalation process to the Board Risk Committee is in place based on the traffic-light indicators monitoring system. In addition, the Group Risk Committee and the Board Risk Committee receive regular reports on exposures in excess of 1 per cent of total Group assets.

Market risk

The Group defines Market risk as the potential for loss of economic value due to adverse changes in financial market rates or prices

Risk Appetite Statement

The Group should control its trading portfolio and activities to ensure that market risk losses (financial or reputational) do not cause material damage to the Group's franchise

Roles and responsibilities

The Market Risk Framework, which sets the roles and responsibilities in respect of Market risk for the Group, is owned by the Global Head, Market and Traded Credit Risk (MTCR). The front office acting as first line of defence is responsible for the effective management of market risks. The Market Risk Function is the second line control function that performs independent challenge, monitoring and oversight of the market risk management practices of the first line of defence. The first and second lines of defence are supported by the organisation structure, job descriptions and authorities delegated by market risk control owners.

Mitigation

The Group controls its trading portfolio and activities to ensure that market risk losses (financial or reputational) do not cause material damage to the Group's franchise by assessing the various market risk factors. These are captured and analysed using proprietary and custom built analytical tools, in addition to risk managers' specialist market and product knowledge.

MTCR has market risk policies and procedures in place ensuring that appropriate market risk limits are implemented. The Group's market risk exposure is aligned with its appetite for market risk and assessing potential losses that might be incurred by the Group as a consequence of extreme but plausible events.

Market risk limits are applied as required by the Market Risk Limits Policy and related procedures. All businesses incurring market risk must do so in compliance with the Market Risk Limits Policy. The Policy requires that market risk limits are defined at a level appropriate to ensure that the Group remains within market Risk Appetite. The market Risk Appetite metrics are defined in terms of VaR and stress loss, therefore all material market risks must be captured by these metrics. All exposures throughout the Group that the MTCR function is responsible for aggregate up to MTCR's Group-level reporting. This aggregation approach ensures that the limits structure across the Group is consistent with the Group's Risk Appetite.

The Market Risk Stress Testing Policy is designed to ensure that adherence to Group market risk stress appetite is achieved. Stress testing aims at supplementing other risk metrics used within the bank by providing a forward-looking view of positions and an assessment of their resilience to stressed market conditions. Stress testing is performed on all Group businesses with market risk exposures, either where the risk is actively traded or where material risk remains. This additional information is used to inform the management of the market risks taken within the Group. The outcome of stress tests is discussed across the various business lines and management levels so that existing and potential risks can be reviewed and related management actions can be decided upon where appropriate.

Policies are reviewed and approved by the Global Head, MTCR annually to ensure their ongoing effectiveness and sustainability.

Stress testing

Losses beyond the 97.5 per cent confidence interval are not captured by a VaR calculation, which therefore gives no indication of the size of losses in tail event situations.

The VaR measurement is complemented by weekly stress testing of market risk exposures to highlight the potential risk that may arise from extreme market events that are deemed rare but plausible.

Stress testing is an integral part of the market risk management framework and considers both historical market events and forward-looking scenarios. A consistent stress testing methodology is applied to trading and non-trading books. The stress testing methodology assumes that scope for management action would be limited during a stress event, reflecting the decrease in market liquidity that often occurs.

Stress scenarios are regularly updated to reflect changes in risk profile and economic events. The MTCR function reviews stress testing results and, where necessary, enforces reductions in overall market risk exposure. The Group Risk Committee considers the results of stress tests as part of its supervision of Risk Appetite.

Regular stress test scenarios are applied to interest rates, credit spreads, exchange rates, commodity prices and equity prices. This covers all asset classes in the Financial Markets banking and trading books.

Ad hoc scenarios are also prepared, reflecting specific market conditions and for particular concentrations of risk that arise within the business.

Governance Committee Oversight

At a Board level, the Board Risk Committee oversees the effective management of Market risk. At the executive level, the Group Risk Committee delegates responsibilities to the Corporate & Institutional Banking Risk Committee (CIBRC) to act as the primary risk governance body for market risk and to the Stress Testing Committee for stress testing and model risk. The Group Risk Committee also delegates limit authority to the Global Head, MTCR who is responsible for the market risk.

Decision making authorities and delegation

The Group's Risk Appetite Statement, along with the key associated Risk Appetite metrics, is approved by the Board, and responsibility for market risk limits is then tiered accordingly.

Subject to the Group's Risk Appetite for market risk, the Group Risk Committee sets Group-level market risk limits and delegates authority for the supervision of all other market risk limits to the CIBRC and Market & Traded Credit Risk.

Major business limits are reviewed and approved by the CIBRC. The committee is responsible for determining which major business limits meet the criteria for categorisation. The CIBRC is appointed by the Group Risk Committee.

All other market risk limit approval authorities are delegated by the Global Head, MTCR to individual market risk managers. Additional limits are placed on specific instruments and position concentrations where appropriate. Sensitivity measures are used in addition to VaR as risk management tools. Authorities are reviewed at least annually to ensure they remain appropriate and to assess the quality of decisions taken by the authorised individual. Key risk-taking decisions are made only by certain individuals or committees with the skills, judgement and perspective to ensure that the Group's control standards and risk-return objectives are met.

Authority delegators are responsible for monitoring the quality of the risk decisions taken by their delegates and the ongoing suitability of their authorities.

VaR

The Group applies VaR as a measure of the risk of losses arising from future potential adverse movements in market rates, prices and volatilities. VaR, in general, is a quantitative measure of market risk that applies recent historical market conditions to estimate the potential future loss in market value that will not be exceeded in a set time period at a set statistical confidence level. VaR provides a consistent measure that can be applied across trading businesses and products over time and can be set against actual daily trading profit and loss outcome.

VaR is calculated for expected movements over a minimum of one business day and to a confidence level of 97.5 per cent. This confidence level suggests that potential daily losses in excess of the VaR measure are likely to be experienced six times per year.

The Group applies two VaR methodologies:

- Historical simulation: involves the revaluation of all existing positions to reflect the effect of historically observed changes in market risk factors on the valuation of the current portfolio. This approach is applied for general market risk factors and the majority of specific (credit spread) risk VaR;
- Monte Carlo simulation: this methodology is similar to historical simulation but with considerably more input risk factor observations. These are generated by random sampling techniques, but the results retain the essential variability and correlations of historically observed risk factor changes. This approach is applied for some of the specific (credit spread) risk VaR in relation to idiosyncratic exposures in credit markets

In both methods a historical observation period of one year is chosen and applied.

VaR is calculated on our exposure as at the close of business, generally UK time. Intra-day risk levels may vary from those reported at the end of the day.

A small proportion of market risk generated by trading positions is not included in VaR or cannot be appropriately captured by VaR. This is recognised through a Risks-not-in-VaR framework, which estimates these risks and applies capital add-ons.

To assess their ongoing performance, VaR models are backtested against actual results.

See an analysis of VaR and backtesting results in 2017 in the Risk Profile section (pages 147 to 148).

Monitoring

MTCR monitors the overall portfolio risk and ensures that it is within specified limits and therefore Risk Appetite. The annual and mid-year limit review processes provide opportunities for the business and MTCR to review risk in light of performance.

Market risk exposures are monitored daily against approved limits. Intra-day risk exposures may vary from those reported at the end of the day. Limit excess approval decisions are informed by factors such as an assessment of the returns that will result from an incremental increase to the business risk exposure. Limits and excesses can only be approved by a market risk manager with the appropriate delegated authority.

Stress testing is the basis for internal economic capital and economic profit reporting for market risk. Incremental Risk Charge is also used to reflect credit default and migration risk. Financial Markets traders may adjust their market risk exposures within approved limits and assess risk/reward trade-offs according to market conditions.

In addition, stress scenario analysis is performed on all market risk exposures in Financial Markets and in portfolios outside Financial Markets such as Syndicated Loans and Principal Finance. MTCR reports and monitors limits applied to stressed exposures. Stress loss excesses are discussed with the business and approved where appropriate based on delegated authority levels. Stress loss excesses are reported to CIBRC. Where required by local statute or regulation, MTCR's Group and business-wide stress and scenario testing will be supplemented by entity stress testing at a country level. This stress testing is coordinated at the country level and subject to the relevant local governance.

Capital and liquidity risk

The Group defines capital risk as the potential for insufficient level or composition of capital to support our normal activities, and liquidity risk as the potential for failure where we may not have sufficient stable or diverse sources of funding or financial resources to meet our obligations as they fall due

Risk Appetite Statement

The Group maintains a strong capital position, including the maintenance of management buffers sufficient to support its strategic aims, and holds an adequate buffer of high quality liquid assets to survive extreme but plausible liquidity stress scenarios for at least 60 days without recourse to extraordinary central bank support

Roles and responsibilities

The Treasurer is responsible for developing a risk framework for capital and liquidity risk and for complying with regulatory requirements at a Group level. The Treasury and Finance functions provide independent challenge and oversight of the first line risk management activities relating to capital and liquidity risk. In country, the Treasurer is supported by Treasury and Finance in implementing the capital and liquidity framework.

Mitigation

The Group develops policies to address material capital and liquidity risks and aims to constrain its risk profile within Risk Appetite. Risk Appetite is set for the Group and cascaded down to the countries as limits. The Group also maintains a Recovery Plan which is a live document to be used by management in a liquidity or solvency crisis. The Recovery Plan includes a set of Recovery Indicators, an escalation framework and a set of management actions that could be effectively implemented in a liquidity stress. A Recovery Plan is also maintained within each major country.

The approach to mitigation is detailed further below:

Capital Planning

On an annual basis, strategic business and capital plans are drawn up covering a five-year horizon and are approved by the Board. The capital plan ensures that adequate levels of capital and an efficient mix of the different components of capital are maintained to support our strategy and business plans. Treasury is responsible for the ongoing assessment of the demand for capital and the updating of the Group's capital plan.

Capital planning takes the following into account:

- Current regulatory capital requirements and our assessment of future standards
- Demand for capital due to the business and loan impairment outlook and potential market shocks or stresses
- Available supply of capital and capital raising options

The Funding Plan is also developed to ensure we have a credible plan to manage the future demand and supply of funds in a prudent yet commercially effective manner.

Structural FX Risk

The Group's structural position results from the Group's non-USD investment in the share capital and reserves of subsidiaries and branches. The FX translation gains or losses are recorded in the Group's 'Translation Reserves' with a direct impact on the Group's CET1 ratio.

The Group contracts hedges to manage its structural FX position in accordance with a Board-approved Risk Appetite, and as a result the Group has taken net investment hedges (using a combination of derivative and non-derivative financial investments) to partly cover its exposure to the Korean won, Chinese renminbi and Taiwanese dollar to mitigate the FX impact of such positions on its capital ratios.

Liquidity and Funding Risk

At Group and country level we implement various business-as-usual and stress risk metrics and monitor these against limits. This ensures that the Group maintains an adequate and well-diversified liquidity buffer and stable funding base. The approach to managing the risks and the Board-approved Risk Appetite metrics are assessed annually through the Internal Liquidity Adequacy Assessment Process.

Earnings Risk

Interest rate re-pricing risk is managed centrally by Treasury Markets within market risk limits. The governance of Earnings Risk will develop through 2018 in line with regulatory guidelines for interest rate risk in the banking book. This will focus on implementing this risk type within the Group's Enterprise Risk Management Framework supported by formal delegations of authority, additional policies and methodologies, data and model governance, a broader suite of Risk Appetite metrics, limits, and ongoing reporting and monitoring of exposures against these.

Stress testing

Stress testing and scenario analysis are an integral part of the capital and liquidity framework, and are used to ensure that the Group's internal assessment of capital and liquidity consider the impact of extreme but plausible scenarios on its risk profile. They provide an insight into the potential impact of significant adverse events on the Group's capital and liquidity position and how these could be mitigated through appropriate management actions to ensure the Group remains within the approved Risk Appetite and regulatory limits.

Governance Committee Oversight

At a Board level, the Board Risk Committee oversees the effective management of Capital and Liquidity risk. At the executive level, the Group Asset and Liability Committee informs the Group's strategy on balance sheet matters and ensures that the Group operates within internally approved Risk Appetite and regulatory requirements. This relates to capital, loss absorbing capacity, liquidity, leverage, earnings risk and structural foreign exchange risk. The Group Asset and Liability Committee also ensures that the Group meets internal and external recovery and resolution planning requirements. The Group Asset and Liability Committee delegates responsibilities to the Operational Balance Sheet Committee to ensure that, in executing the Group's strategy, the Group operates within internal and regulatory requirements, with a focus on ensuring alignment with business objectives.

Country oversight under the capital and liquidity framework resides with country Asset and Liability Committees. Countries must ensure they remain in compliance with Group capital and liquidity policies and practices, as well as local regulatory requirements.

The Stress Testing Committee ensures the effective management of capital and liquidity related enterprise-wide stress testing in line with the Group's enterprise-wide stress testing policy and applicable regulatory requirements. The Stress Testing Committee reviews, challenges and approves stress scenarios, results and management actions as part of the Internal Capital Adequacy Assessment Process, as well as assumptions and results as part of the Internal Liquidity Adequacy Assessment Process.

Decision making authorities and delegation

The Group Chief Financial Officer has overall responsibility for determining the Group's approach to capital and liquidity risk management and delegates this authority to the Treasurer. The Treasurer has the authority to delegate second line responsibilities to the Treasury and Finance functions to relevant and suitably qualified individuals. This includes the delegation of policy and metric development, implementation and limit setting, as well as oversight and challenge of first line processes and controls and is delegated to the most appropriate individuals.

Monitoring

On a day-to-day basis the management of capital and liquidity is performed by the country Chief Executive Officer and Treasury Markets respectively. The Group regularly reports and monitors capital and liquidity risks inherent in its business activities and those that arise from internal and external events. The management of capital and liquidity is monitored by Treasury for the Group with appropriate escalation processes in place for any breach of limits.

Internal risk management reports covering the balance sheet and the capital and liquidity position of the Group are presented to the Operational Balance Sheet Committee and the Group Asset and Liability Committee. The reports contain key information on balance sheet trends, exposures against Risk Appetite and supporting risk measures which enable members to make informed decisions around the overall management of the Group's balance sheet. Oversight at a country level is provided by the country Asset and Liability Committee, with a focus on the local capital and liquidity risks, local prudential requirements and risks that arise from local internal and external events.

Operational risk

The Group defines Operational Risk as the potential for loss resulting from inadequate or failed internal processes and systems, human error, or from the impact of external events

Risk Appetite Statement

The Group aims to control operational risks to ensure that operational losses (financial or reputational), including any related to conduct of business matters, do not cause material damage to the Group's franchise

Roles and responsibilities

The Operational Risk Framework (ORF) is set by the Group Head, Operational Risk and approved by the Group Operational Risk Committee. Group Operational Risk, in its role as the second line of defence, develops the Operational Risk Framework and monitors its application across the Group. The Operational Risk function challenges process owners in ensuring the Group's operational risk profile is within Risk Appetite.

Mitigation

The ORF sets out the Group's overall approach to the management of operational risk in line with the Group's Risk Appetite. The approach reinforces the three lines of defence and serves to continually improve the Group's ability to anticipate and control material risks. It also requires the need for clear ownership and accountability for all processes across the Group. Risk assessment is used to determine the design strength and reliability of each process to prevent risks.

The operational risk management approach requires:

- All processes and risks to be identified, owned, and recorded in the Process Universe
- Control tolerance standards to be set for each control for quantity, materiality and timeliness of detection and rectification of defects
- Monitoring of control performance against tolerance standards
- Residual risks to be assessed by process owners and approved by risk framework owners
- Prompt execution of treatment actions

The Group fulfills the requirements of the approach by defining and maintaining a process universe for all client segments, products, and functions. The Process Universe is the complete set of processes that collectively describe the activities of the Group and is the common reference for the approach to operational risk management. Each process is owned by a named individual who is responsible for the outcomes of the process and the design, monitoring and effectiveness of the control environment.

Potential failures in processes are identified by process owners and risk framework owners using their expert judgment. These potential failures are risk assessed against a pre-defined operational risk assessment matrix which must be approved by individuals delegated within the Risk Authorities policy. Risks that fall above the Group's Risk Appetite levels require a time-bound treatment plan to address the potential failures, and are monitored until the risk is reduced to within acceptable levels.

Stress testing

As part of the operational risk management approach, the Group conducts stress testing using scenario analysis. Fifteen scenarios are identified that test the robustness of the Group's processes, and assess the potential impact to the Group. These scenarios include anti-money laundering, sanctions, information and cyber security and external fraud.

In 2017, we also participated in the Bank of England stress test exercise and the annual Internal Capital Adequacy Assessment Process.

Governance Committee Oversight

At a Board level, the Board Risk Committee oversees the effective management of Operational risk. At the executive level, the Group Operational Risk Committee (GORC) oversees the operational risk profile of the Group within the boundaries of the Group's Risk Appetite and any limits and policies set by authorised bodies of the Group. The GORC has the authority to challenge, constrain and, if required, stop business activities where risks are not aligned with the Group's Risk Appetite.

The GORC is supported by Business Process Governance Committees (PGCs) and Function Operational Risk Committees (FORCs) which provide global oversight of all operational risks arising from processes within the Business and Function at the Group level. In addition, the Country Operational Risk Committees (CORCs) oversee the management of operational risks at the country (or entity) level.

The GORC monitors the effectiveness of the PGCs, FORCs and CORCs and challenges the risk decisions made within these committees to remain within the Group's Risk Appetite.

Decision making authorities and delegation

Authority to make risk-related decisions is delegated to individuals or committees with the requisite skills, judgement, and perspective to ensure that the Group's control standards and risk/return objectives are met. The Group has prescribed policies defining the scope and responsibility of the authorised individuals. The authorities are reviewed at least annually to ensure they remain appropriate to assess the quality of decisions taken by the authorised individual.

To ensure the appropriate infrastructure, people, processes, and controls are in place to support change and product management, including mitigation of all operational risks within Risk Appetite, minimum governance standards are set at the Group and Country levels. Significant changes to internal and external environments may give rise to operational risks. Such changes with impact to client segments, products and functions are subject to process governance at a PGC or FORC. Standards for business products are owned by Business Heads and Business PGCs. All products must be approved to the standards set out in the policy, including completion of an operational risk assessment.

Monitoring

Operational Risk Appetite metrics are set against each top risk. These are included as part of the operational risk profile which comprises the following elements:

- Top Risk performance against Risk Appetite
- Losses, near misses and related insights
- Changes to the internal or external environment
- Results of audit and regulatory reviews, or other independent findings

The operational risk profile is aggregated and reported at relevant committees defined at Group, business, regional, country and function level. This provides senior management with the relevant information to inform their risk decisions. The completeness of the operational risk profile ensures appropriate prioritisation and promptness of risk decisions, including risk acceptances with treatment plans for risks that are beyond the acceptable threshold.

Reputational risk

The Group defines reputational risk as the potential for loss of earnings or market capitalisation as a result of stakeholders taking a negative view of the organisation or its actions

Risk Appetite Statement

The Group aims to protect the franchise from material damage to its reputation by ensuring that any business activity is satisfactorily assessed and managed by the appropriate level of management and governance oversight

Roles and responsibilities

In February 2017, second line ownership of reputational risk was transferred from the Group Head, Corporate Affairs to the Group Chief Risk Officer, with responsibility delegated to the Global Head, Enterprise Risk Management. At country level, the responsibility of reputational risk management is delegated to Country Chief Risk Officers. Both the Global Head, Enterprise Risk Management and Country Chief Risk Officers constitute the second line of defence, overseeing and challenging the first line which resides with the CEOs, Business Heads and Product Heads in respect of risk management activities of reputational-related risks.

Mitigation

The Group's reputational risk policy sets out the principal sources of reputational risk and the responsibilities and procedures for identifying, assessing and escalating reputational risks. The policy also defines the control and oversight standards to effectively manage reputational risk.

The Group takes a structured approach to the assessment of risks associated with how individual client, transaction, product and strategic coverage decisions may affect perceptions of the organisation and its activities. Wherever a potential for stakeholder concerns is identified, issues are subject to prior approval by a management authority commensurate with the materiality of matters being considered. Such authorities may accept, decline the risk or impose conditions upon proposals, to protect the Group's reputation. The Group recognises that there is also the potential for consequential reputational risk should it fail to control other Principal Risk Types. Such secondary reputational risks are managed by the owners of each Principal Risk Type.

Stress testing

Reputational risk is incorporated into the Group's stress testing scenarios. For example, the Group may consider what impact a hypothetical event leading to loss of confidence among liquidity providers in a particular market might have, or what the implications might be for supporting part of the organisation in order to protect the brand.

Governance Committee Oversight

The Brand, Values and Conduct Committee retains Board level oversight responsibility for reputational risk. Oversight from an operational perspective falls under the remit of the Group Risk Committee and the Board Risk Committee. The Group Reputational Risk Committee appointed by the Group Risk Committee in May 2017 ensures the effective management of Reputational Risk across the Group. The Group Reputational Risk Committee's remit is to:

- Challenge, constrain and if required, to stop business activities where risks are not aligned with the Group's Risk Appetite
- Make decisions on reputational risk matters assessed as high or very high based on the Group's reputational risk materiality assessment matrix, and matters escalated from the Regions or Client Businesses
- Provide oversight of material reputational risk and/or thematic issues arising from the potential failure of other risk types

Decision making authorities and delegation

The Group Risk Committee provides Group-wide oversight on reputational risk, approves policy and monitors material risks. The Group Reputational Risk Committee is authorised to approve or decline reputational risk aspects of any business transaction, counterparty, client, product, line of business and market within the boundaries of the Group's Risk Appetite, and any limits and policies set by authorised bodies of the Group.

Monitoring

Reputational risk policies and procedures are applicable to all Group entities. However local regulators in some markets may impose additional requirements on how banks manage and track reputational risk. In such cases, these are complied with in addition to Group policies and procedures. Exposure to reputational risk is monitored through:

- A requirement that process owners establish triggers to prompt consideration of reputational risk and escalation where necessary
- The tracking of risk acceptance decisions
- The tracking of thematic trends in secondary risk arising from other Principal Risk Types
- The analysis of prevailing stakeholder concerns

Compliance risk

The Group defines compliance risk as the potential for regulatory sanctions or loss from a failure on our part to comply with laws or regulations

Risk Appetite Statement

The Group has no appetite for breaches in laws and regulations; whilst recognising that regulatory non-compliance cannot be always entirely avoided, the Group strives to reduce this to an absolute minimum

Roles and responsibilities

The Group Head, Compliance sets standards for compliance, establishes and maintains risk-based compliance frameworks and a programme for monitoring compliance; provides support to senior management on regulatory and compliance matters; and is the Risk Framework Owner for Compliance Risk.

The Compliance Risk Framework sets out the roles and responsibilities in respect of compliance risk for the Group. Businesses and functions acting as the first line of defence are responsible for ensuring that their processes operate in a way that ensures continued compliance with all applicable laws and regulations. The compliance function is the second line that provides oversight and challenge of the first line risk management activities that relate to compliance risk.

The Compliance Risk Framework defines risk sub-types and delegates these to the most appropriate control function to ensure that the Compliance function as second line, can effectively provide oversight and challenge of the first line risk management activities.

Mitigation

The Compliance function develops and deploys relevant policies and procedures setting out standards and controls for adherence by the Group to ensure continued compliance with applicable laws and regulations. Through a combination of control monitoring and attestation, the Compliance Risk Framework Owner seeks to ensure that all policies are operating as expected to mitigate the risk that they cover.

Governance Committee Oversight

Compliance risk and the risk of non-compliance with laws and regulations resulting from failed processes and controls are overseen by Process Governance Committees and Functional Operational Risk Committees, and Country Operational Risk Committees that are in place for each business, function and country. The Compliance and Regulatory Risk Committee has a consolidated view of these risks and ensures that appropriate governance is in place for these. In addition, the Committee ensures that elevated levels of Compliance Risk are reported to the Group Operational Risk Committee, Group Risk Committee and Board Audit Committee.

Decision making authorities and delegation

Decision making and approval authorities follow the Enterprise Risk Management Framework approach and risk thresholds. The Group Head, Compliance has the authority to delegate second line responsibilities within the Compliance function to relevant and suitably qualified individuals. In addition, second line responsibilities including policy development, implementation and validation as well as oversight and challenge of first line processes and controls are delegated based on the most appropriate control function for certain compliance risk sub-types.

Monitoring

The monitoring of controls designed to mitigate the risk of regulatory non-compliance in processes is carried out in line with the Operational Risk Framework. The Group has a monitoring and reporting process in place for compliance Risk Appetite metrics, which includes escalation and reporting to Compliance and Regulatory Risk Committee, Group Risk Committee and Board Risk Committee as appropriate. In addition, there is a Group Regulatory Reform team set up to monitor regulatory reforms in key markets and establish a protocol for horizon scanning.

Conduct risk

The Group defines Conduct Risk as the potential regulatory sanctions or loss from a failure on our part to abide by the Group's Conduct Risk Management Framework

Risk Appetite Statement

The Group strives to maintain the standards in our Code of Conduct and outcomes of our Conduct Framework, by continuously demonstrating that we "Do The Right Thing" in the way we conduct business

Roles and responsibilities

Conduct risk management and abiding by the Group Code of Conduct is the responsibility of all employees in the Group. The first line businesses and functions are responsible for reviewing their processes and identifying conduct-related outcomes and ensuring controls are in place to mitigate these risks. The compliance function as second line for conduct risk is responsible for providing oversight and challenge to the first line to ensure the adequacy of the conduct risk management and that we remain within Risk Appetite.

Mitigation

The Group Conduct Risk Management Framework is designed to enable dynamic risk control implementation and risk-based decision making in line with the Group's Enterprise Risk Management Framework. The framework is supported by policies including the Group conduct management policy and the Group code of conduct as well as a range of other policies and procedures which address conduct related aspects in further granular detail. The management of conduct risk includes the monitoring of Risk Appetite metrics and limits that are reported to relevant governance committees.

Conduct risk identification and mitigation are embedded in businesses and functions through an end-to-end review of the Bank's critical processes. Controls are put in place for conduct related risks that have been identified within these processes. In-country workshops are conducted to assist CEOs and management teams to identify conduct related risks in their businesses and country strategies while leader-led training on conduct issues and dilemmas are rolled out across businesses and functions as we seek to ensure conduct is seen in the broader context, as opposed to behavioural conduct.

Governance Committee Oversight

The Board Risk Committee, Brand Values and Conduct Committee, Group Risk Committee, Group Operational Risk Committee and the Compliance Regulatory Risk Committee are responsible for ensuring that the Group remains within conduct Risk Appetite. As Risk Framework Owner for conduct risk, compliance sets reporting thresholds for escalation of conduct risks to the Group Operational Risk Committee and Group Risk Committee. The Board Risk Committee and the Brand Values and Conduct Committee receive periodic reports on conduct risk assurance against businesses and functions.

Decision making authorities and delegation

Conduct risk authority is delegated through the Group ensuring appropriate spans of control and suitable persons holding roles. Responsibilities are clearly articulated and ensure the split between 'doing' and 'oversight'.

Monitoring

The Group regularly monitors the effectiveness of mitigating controls and performance against Risk Appetite. Risk Appetite metrics are defined at granular levels and take into consideration measures such as the outcome of speaking up cases in individual countries and collectively as a group. To further support managers with their responsibilities in respect of conduct risk, a conduct dashboard is in development which will provide managers with a snapshot of each respective business and function.

Information and cyber security risk

The Group defines Information and cyber security risk as the potential for loss from a breach of confidentiality, integrity or availability of the Group's information systems and assets through cyber attack, insider activity, error or control failure

Risk Appetite Statement

The Group seeks to avoid risk and uncertainty for our critical information assets and systems and has a low appetite for material incidents affecting these or the wider operations and reputation of the Group

Roles and responsibilities

In 2017 we introduced the Chief Information Security Officer function in Risk & Compliance and announced a revised operating model to address information and cyber security as a business risk, incorporating this into our overall risk management strategy. The Chief Information Security Officer (CISO) has overall responsibility for strategy, governance and oversight of information and cyber security across the Group and operates as the second line of defence.

The CISO defines policy for information and cyber security overseeing and challenging the operational implementation of controls at the first line, which includes both technical and business responsibilities. The Technology Information Security Office (TISO) operate within the ITO function at the first line, ensuring security of the Group's technology applications and infrastructure.

Mitigation

Information and cyber security risk is managed through a structured framework comprised of a risk assessment methodology and supporting policies, procedures and standards which are aligned to industry best practice models.

The Chief Information Security Officer function is responsible for the information and cyber security risk framework and associated policy documents. The framework model and policy documents must be reviewed and updated at least biennially and / or following material change to a control environment.

Stress testing

Stress testing of technical controls relating to information and cyber security risk are performed annually by an external independent party. Results of these stress tests are reported to the Chief Information Security Officer function for consideration and action. Identified actions are overseen to appropriate conclusion by the Chief Information Security Officer function with progress reports provided to the Group Operational Risk Committee.

Governance Committee Oversight

The information and cyber security risk within the bank is currently governed via the Board Risk Committee who has responsibility for approving the definition of information and cyber risk and the Group appetite. Close and continuous oversight of information and cyber security risk in the Bank is performed by the Technology Operations Risk Committee (TORC) and the Group Operational Risk Committee (GORC), with the GORC being appointed by the Group Risk Committee. Escalation of risks which fall outside the defined appetite for the Group are overseen by these committees to ensure effective mitigation.

Decision making authorities and delegation

Measurement and decision making relating to the approval and or sign off of information and cyber security risk follows the below principles:

- All first line and second line process owner roles in Information and cyber security must be covered, leaving no gaps in risk management and regulatory compliance
- Delegation authority must be consistent with the Group Enterprise Risk Management Framework, apply to IT and non-IT processes impacting in-country information and cyber security risk, cover local and Group processes impacting in-country cyber risk
- Must consider the cost to the Group and take into account any regulatory requirements
- Geographic resource span of control must be consistent with Group models

Monitoring

Following the introduction of the Chief Information Security Officer function in 2017, we are extending monitoring capability for information and cyber security risk with further enhancements planned to take place during 2018.

We have a range of roles and activities in both the Chief Information Security Officer function and the TISO that look at monitoring information and cyber security risks.

CISO activities include:

- The Business Information Security Officers who support business activities relating to information and cyber security at a country or operation level
- Control testing (e.g. phishing simulation exercises)
- Strategic assurance activities (e.g. enterprise-wide security risk assessment)
- Dispensation assessment and approval
- Deployment of the Third Party Security Assessment model

TISO activities include:

- Operation of technical controls (e.g. email monitoring)
- Security Incident response, etc.

Financial crime risk

The Group defines Financial crime risk as the potential for legal or regulatory penalties, material financial loss or reputational damage resulting from the failure to comply with applicable laws and regulations relating to International Sanctions, Anti-Money Laundering and Anti-Bribery and Corruption

Risk Appetite Statement

The Group has no appetite for breaches in laws and regulations related to Financial Crime, recognising that whilst incidents are unwanted, they cannot be entirely avoided

Roles and responsibilities

The Global Head, Financial Crime Compliance has overall responsibility for financial crime risk and is responsible for the establishment and maintenance of effective systems and controls to meet legal and regulatory obligations in respect of Financial Crime. The Global Head, Financial Crime Compliance is the Group's Money Laundering Reporting Officer and performs the Financial Conduct Authority controlled function and senior management function in accordance with the requirements set out by the Financial Conduct Authority[1], including those set out in their 'Systems and Controls' Handbook.

As the first line, the business unit process owners have responsibility for the application of policy controls and the identification and measurement of risks relating to financial crime. Business units must communicate risks and any policy non-compliance to the second line for review and approval following the model for delegation of authority.

Mitigation

There are three Group policies in support of the Financial crime compliance Risk Type Framework:

- Anti-bribery and corruption as set out in the Group Anti-Bribery and Corruption Policy
- Anti-money laundering as set out in the Group Anti-Money Laundering and Terrorist Financing Policy
- Sanctions as set out in the Group Sanctions Policy.

These policies are approved by the Global Head, Financial Crime Compliance.

The Group operates risk-based controls in support of its Financial Crime programme, including (but not limited to):

- Client Due Diligence, to meet "Know Your Customer" requirements
- Surveillance, including Transaction Screening, Name Screening and Transaction Monitoring
- Global Risk Assessment; to understand and quantify the Inherent and Residual Financial Crime risk across the organisation

The strength of these controls are tested and assessed through the Group's Operational Risk Framework, in addition to oversight by the Financial Crime Compliance Assurance and Group Internal Audit functions.

Governance Committee Oversight

Financial crime risk within the Group is governed by the Group Financial Crime Risk Committee which is appointed by and reports into the Group Risk Committee. The Group Financial Crime Risk Committee is responsible for ensuring the effective management of operational risk relating to Financial crime compliance throughout the Group in support of the Group's strategy and in line with the Group's Risk Appetite, Enterprise Risk Management Framework and Group Operational Risk Procedures.

The Board Financial Crime Risk Committee is appointed by the Board, to provide oversight of the effectiveness of the Group's policies, procedures, systems, controls and assurance mechanism designed to identify, assess, manage, monitor, detect or prevent money laundering, non-compliance with sanctions, bribery, corruption, and tax crime by third parties.

Decision making authorities and delegation

The Global Head, Financial Crime Compliance is the Risk Framework Owner for financial crime under the Group's Enterprise Risk Management Framework, and has been allocated overall responsibility within the Group for the establishment and maintenance of effective systems and controls to meet legal and regulatory obligations in relation to Financial crime. Certain aspects of Financial crime compliance second line oversight and challenge are delegated within the Financial Crime Compliance function.

Approval frameworks are in place to allow for risk-based decisions on client on-boarding, for potential breaches of Sanctions regulation or Policy, and for situations of potential Money Laundering and Anti-Bribery and Corruption concerns.

Monitoring

The Group monitors Financial crime compliance risk against a set of Risk Appetite metrics that are approved by the Board. These metrics are reviewed periodically and reported regularly to both the Group Financial Crime Risk Committee and Board Financial Crime Risk Committee.

1 MLRO is a controlled/Senior Management function (SMF 17 – Money Laundering Reporting Function) under Section 59 of the Financial Services and Markets Act 2000 ("FSMA")

Principal uncertainties

In 2017 we undertook a thorough review of our principal uncertainties, using the approach described in the Enterprise Risk Management Framework section (page 160). The key results of the review are detailed below

Key changes to our principal uncertainties

The following items have been removed as principal uncertainties:

- 'Evolving financial crime and fraud' and 'cyber crime'. These form part of our Principal Risk Types which we control and mitigate through distinct risk type frameworks, policies and Board-approved Risk Appetite
- 'Operational performance eroding confidence in the Group' as the Group has a clear Strategic Plan on which it has now started to deliver

The following items have been added as new principal uncertainties:

- 'Climate-related physical risks and transition risks'. There is growing stakeholder interest in these risks, including investors, regulators and civil society, and it is anticipated that climate change will inform future regulatory approaches
- 'New technologies and digitisation. The rapid development of new technologies and digitisation, accompanied by changes in consumer behaviour, could disrupt many elements of banking

Our list of principal uncertainties, based on our current knowledge and assumptions, is set out below:

Geopolitical considerations (Risk ranked according to severity)

Principal uncertainties	Risk trend since 2016	Context	How these are mitigated/next steps
Increase in trade protectionism driven by nationalist agenda Potetntial impact: High Likelihood: Medium Velocity of change: Steady	⇔	→ Protectionist policies driven by nationalist agendas could disrupt established supply chains and invoke retaliatory actions. Countries could introduce tariffs on goods and services available domestically or from other economies. Such actions would impact global trade → Several authorities in our footprint continue to adopt stringent standards on outsourcing or offshoring activities and there is an increased focus on priority sector lending requirements → The Group has a significant revenue stream from supporting cross-border trade and material off-shore support operations	→ We assessed the impact of a severe world trade downturn triggered by rising protectionism as part of our 2017 stress tests. The insights gained as part of these were reviewed through internal governance and we continue to build measures to link stress test outcomes to business objectives in order to mitigate potential downside risk from trade disruption

↑ Risk heightened in 2017 ⇔ Risk remained consistent with 2016 levels

Potential impact (Gross risk assessment) Refers to the extent to which a risk event might affect the Bank	**Likelihood (Gross risk assessment)** Refers to the possibility that a given event will occur	**Velocity of change** Refers to when the risk event might materialise
High *(significant financial or non-financial risk)*	High *(almost certain)*	Fast *(risk of sudden developments with limited time to respond)*
Medium *(some financial or non-financial risk)*	Medium *(likely or possible)*	Moderate *(good pace of developments with sufficient time to respond)*
Low *(marginal financial or non-financial risk)*	Low *(unlikely or rare)*	Steady *(gradual or orderly developments)*

Principal uncertainties	Risk trend since 2016	Context	How these are mitigated/next steps
Korean peninsula geopolitical tensions Potential impact: High Likelihood: Low Velocity of change: Fast	↑	→ Tensions could exacerbate weak investment spending and low growth in the developed world → The Group has a material presence in South Korea and nearby countries	→ Country level crisis management and contingency plans are in place for South Korea focused on the business activities, credit risk, liquidity and capital risk, operations and employee safety. We have enhanced the process for daily monitoring of key indicators and actively review geopolitical risk levels → A North Korea stress scenario is run weekly as part of the global stress test of market and traded risk → We are also assessing contagion risks arising from Korean geopolitical risk levels and associated contingency plans → Regular stress testing on exposures to South Korea and Japan are conducted to support any required action plans
Middle East political situation Potential impact: Medium Likelihood: Medium Velocity of change: Steady	↔	→ In June 2017, the governments of Kingdom of Saudi Arabia, Bahrain, United Arab Emirates and Egypt announced that they were severing diplomatic ties with Qatar escalating tensions in the Middle East region → A number of prominent Saudi Arabian princes, government ministers, and business people were arrested in Saudi Arabia in November 2017 → A decision by the US president to recognise Jerusalem as the capital of Israel, and start preparations for the US to move its embassy from Tel Aviv, has the potential to further increase tensions across the Middle East → The Group has a material presence across the region	→ The impact of the diplomatic crisis on our portfolio has been limited so far, however we are closely monitoring a small number of clients which have been affected. → Tightened controls over transactions and general governance have been put in place → Potential for further event risks is constantly monitored at country and regional level
Post-Brexit implications Potential impact: Low Likelihood: High Velocity of change: Moderate	↔	→ The outcome of the UK referendum to leave the European Union (Brexit) could have implications on economic conditions globally because of changes in policy direction, which might in turn influence the economic outlook for the eurozone. The uncertainties linked to the Brexit negotiations process could delay corporate investment decisions until there is more clarity → Both the EU and UK have indicated their support for a transition period following the UK's formal departure from the EU in March 2019, although it is not clear how long this period will be for → The full implications of Brexit will only be known over the next 12-18 months as negotiations progress. → The first order impact of Brexit on the Group is limited given the nature of the Group's activity	→ We continue to assess and manage post-Brexit risk and the practical implications through the Brexit Executive Committee chaired by a Management Team Member → We are setting up a new European Union (EU) subsidiary and optimising our EU structure to mitigate any potential impact to our clients, our colleagues and the Group as a result of Brexit, including loss of EU passporting rights

Macroeconomic considerations

Principal uncertainties	Risk trend since 2016	Context	How these are mititgated/next steps
Moderation of growth in key footprint markets led by China Potential impact: High Likelihood: Medium Velocity of change: Steady	↔	→ Asia remains the main driver of global growth supported by internal drivers, led by China → Debt levels in China and the pace of transition to more consumption-led growth remain a concern → Highly trade oriented economies such as Hong Kong and Singapore with close ties to China would weaken in the event of an economic slowdown in China. Regional supply chain economies such as Korea, Taiwan and Malaysia would be impacted from a fall in economic activity → Greater China and South East Asian economies remain key strategic regions for the Group	→ As part of our stress tests, severe stress in the global economy associated with a sharp slowdown in China was assessed in 2017 and a refreshed scenario will be run in 2018 → Exposures that result in material loan impairment charges and risk-weighted assets inflation under stress tests are regularly reviewed and actively managed → A global downturn with shocks concentrated on China and countries with close trade links with China is one of the regular market and traded risk stress tests

Principal uncertainties	Risk trend since 2016	Context	How these are mititgated/next steps
Sharp interest rate rises and asset price corrections Potential impact: **High** Likelihood: **Medium** Velocity of change: **Moderate**	↑	→ Significant increases in interest rates from the historically low levels currently prevailing in many markets could have an impact on the highly leveraged corporate sector, as well as countries with high current account deficits or high foreign currency share of domestic debt. Property, commodities and asset prices would also come under pressure → Such sharp increases in interest rates could adversely impact the credit quality of the Group's exposures, and our ability to reprice these exposures in response to changes in the interest rate environment	→ We monitor on a centralised basis the contractual and behavioural interest rate risk exposures, and manage these within a clearly defined risk management framework and Risk Appetite → In many of our markets we have implemented loan-to-value and debt-to-income restrictions in response to rising property prices → The Group has been actively managing its commodities portfolio, including energy, metals and mining exposures over the last few years. For new business, we are focused on deals that are resilient to further price volatility → Relevant scenarios will be run as part of our stress test programme in 2018

Environmental and social considerations

Principal uncertainties	Risk trend since 2016	Context	How these are mitigated/next steps
Climate-related physical risks and transition risks[1] Potential impact: **Medium** Likelihood: **Medium** Velocity of change: **Steady**	New	→ National governments have, through the UN Framework Convention on Climate Change (UNFCCC) process and Paris Agreement, made commitments to enact policies which support the transition to a lower-carbon economy, limiting global warming to less than 2°C and therefore mitigating the most severe physical effects of climate change. → Such policies may however have significant impacts, for example, on energy infrastructure developed in our markets, and thus present 'transition' risks for our clients → Conversely, if governments fail to enact policies which limit global warming, the Group's markets are particularly susceptible to 'physical' risks of climate change such as droughts, floods, sea level change and average temperature change → There is growing stakeholder interest in these risks, including investors, regulators and civil society	→ We are developing an approach for assessing energy utilities clients' power generation assets against a range of physical and transition risks, under multiple climate scenarios and a range of time horizons. We are considering how we extend this to other sectors in 2018 → We have, over time, reduced our Risk Appetite to carbon-intensive sectors by introducing technical standards for coal-fired power plants, and restrictions on new coal mining clients and projects. These standards are reviewed on a regular basis → We have made a public commitment to fund and facilitate $4 billion toward clean technology between 2016 and 2020

Legal considerations

Principal uncertainties	Risk trend since 2016	Context	How these are mitigated/next steps
Regulatory reviews and investigations, legal proceedings Potential impact: **High** Likelihood: **High** Velocity of change: **Moderate**	↔	→ The Group has been, and may continue to be, subject to regulatory actions, reviews, requests for information (including subpoenas and requests for documents) and investigations across our markets, the outcomes of which are generally difficult to predict and could be material to the Group → The Group is also party to legal proceedings from time to time, which may give rise to financial losses or adversely impact our reputation in the eyes of our customers, investors and other stakeholders → In recent years, authorities have exercised their discretion to impose increasingly severe penalties on financial institutions that have been accused of violated laws and regulations, and there can be no assurance that future penalties will not be of increased severity	→ We have invested in improving compliance controls, including increasing the capacity and capabilities of compliance resources, enhancing systems and controls, and implementing remediation programmes (where relevant) → We are cooperating with all relevant ongoing reviews, requests for information and investigations

1 Physical risk refers to the risk of increased extreme weather events while transition risk refers to the risk of changes to market dynamics due to governments' responses to climate change

Principal uncertainties	Risk trend since 2016	Context	How these are mitigated/next steps
Regulatory changes and tax reforms Potential impact: **Medium** Likelihood: **High** Velocity of change: **Fast**	⇔	→ Revised rules have been defined in many key areas of regulation that could impact our business model and how we manage our capital and liquidity. In particular, the upcoming Basel III proposed changes to capital calculation methodology for credit and operational risk, revised framework for Securitisation and Credit Valuation Adjustment (CVA) risk, Fundamental Review of the Trading Book, Large Exposures and implementation of Margin Reforms, and Bank Recovery and Resolution Directive for Total Loss Absorbing Capacity (TLAC) → Increased global efforts in detecting tax evasion through the use of offshore bank accounts and facilitating cross-border tax compliance require the Group to comply with five extraterritorial client tax information regimes. These tax regimes impact the jurisdictions in which the Group operates, as well as all client segments and products → There may be implications on cross-border tax compliance for our clients following the recent US tax reform → There is increasing regulatory scrutiny and emphasis on local responsibilities of remotely booked business. The degree of reliance on global controls is reducing, and the focus is on local controls and governance	→ We actively monitor regulatory initiatives across our footprint to identify any potential impact and change to our business model → With respect to Basel III: – We are closely monitoring developments, and conducting sensitivity analyses on the potential headwinds and opportunities – We continuously review a menu of prospective capital accretive actions, along with impact to the Group Strategy and financial performance → We have established specific programmes to ensure effective and efficient implementation of changes required by new or existing tax regulations and reforms → Relevant product areas have implemented project management or programme oversight to review and improve the end-to-end process, including oversight and accountability, policies and standards, transparency and management information, permission and controls, legal-entity level limits and training

Technological considerations

Principal uncertainties	Risk trend since 2016	Context	How these are mitigated/next steps
New technologies and digitisation Potential impact: **High** Likelihood: **High** Velocity of change: **Moderate**	New	→ New technologies, accompanied by changes in consumer behaviour and digitisation, are likely to significantly disrupt both, the basis of competition and the economics of many elements of banking → The banking landscape for retail banking, for example, is witnessing a significant change where start-ups, Fintechs and existing payment players are able to offer traditional retail banking products and services in real-time with competitive pricing. In addition, regulators are also encouraging Fintechs and start-ups. The impact to the banking sector arises by way of migration of clients and balances to competition or Fintechs due to a more user-friendly client experience → There is a risk of business model disruption arising from inability or failure of the bank to adapt to changing client and regulatory requirements or expectations due to rapidly evolving product and technology innovation	→ We continuously monitor developments in the technology space which affect the banking sector, to keep abreast of the latest trends and announced partnerships. The Management Team has increased its focus on business innovation, given that a large driver of uncertainty is the possible disruption to banking from new entrants and the blurring of barriers between sectors → The Group continuously scans the market for innovative companies that can bring value to the bank through collaborations. Our Exellerator (the Group's innovation lab) in Singapore and Hong Kong engages with start-ups and established companies that can bring specific capabilities to support the Bank with our digitisation agenda. Our SC Studios in San Francisco identifies companies that we believe can bring significant advancements to our business → We also participate in industry-wide initiatives, such as the Ripple Consortium, to allow us to build our own capabilities and be able to capitalise on opportunities, should such technologies 'take-off'

Capital review

The Capital review provides an analysis of the Group's capital and leverage position and requirements

Capital summary

The Group's capital and leverage position is managed within the Board-approved Risk Appetite. The Group is well capitalised with low leverage and high levels of loss-absorbing capacity.

Capital, leverage and RWA	2017	2016
CET1 capital %	**13.6**	13.6
Tier 1 capital %	**16.0**	15.7
Total capital %	**21.0**	21.3
UK leverage %	**6.0**	6.0
RWA ($ million)	**279,748**	269,445

The Group's Common Equity Tier 1 (CET1) capital and leverage position was ahead of both the current requirements and the expected end-state requirements for 2019. For further detail see the Standard Chartered PLC Pillar 3 Disclosures 2017 section on Capital.

The Group was advised during the period that its Pillar 2A requirement, as reviewed regularly by the PRA for all banks, has increased. The Group's current Pillar 2A requirement is 3.1 per cent of RWA of which at least 1.7 per cent must be held in CET1. This requirement is expected to vary over time.

In January 2017, the Group issued $1 billion of Additional Tier 1 (AT1) capital and currently has 2.4 per cent of RWA in AT1. The Group continued its programme of senior issuance from the holding company, with around $1.5 billion issued during the year, including Standard Chartered PLC's inaugural issuance of callable senior notes.

The Bank of England (BoE) confirmed the Group's non-binding, indicative minimum requirement for own funds and eligible liabilities (MREL). As at 31 December 2017 the Group estimates that its MREL requirement is 16.0 per cent of RWA in 2019 rising to 19.1 per cent of RWA in 2020 and 22.2 per cent of RWA from 1 January 2022.

The Group's combined buffer (comprising the capital conservation, global systemically important institution (G-SII) and countercyclical buffers) sits above any MREL requirement, resulting in a total loss-absorbing capacity requirement of 26.0 per cent of RWA from 1 January 2022 based on the Group's CRD IV capital buffers that are known at this time.

The Group currently estimates that its MREL position was around 25.5 per cent of RWA and around 10.0 per cent of leverage exposure at 31 December 2017.

In November 2017, the Bank of England released the results of the 2017 stress test exercise. The 2017 annual cyclical scenario (ACS) incorporated a severe and synchronised global macroeconomic and financial market stress with growth in China, Hong Kong and Singapore particularly impacted. The results showed that, under the ACS, the Group exceeded all hurdle rates and systemic reference points after strategic management actions. The Group has a strong and liquid balance sheet and these results demonstrate the benefits of the actions recently undertaken by the Group to improve its resilience to an extreme stress scenario.

Regulatory update

The Group has been in discussions with the Prudential Regulation Authority (PRA) about changes to the treatment of certain exposures where the country-specific default experience is not deemed sufficient for modelling purposes, including the application of various loss given default (LGD) floors based on the Foundation IRB approach.

Following an agreement reached in the third quarter with the PRA, as of September 2017 the Group has applied a LGD floor to certain financial institutions exposures, which resulted in a RWA increase equivalent to about a 35 basis points reduction in the Group's CET1 ratio. Similar model changes relating to certain corporate exposures will be introduced during the first half of 2018. These changes are expected to have a lower impact on the Group's CET1 ratio than the changes taken in 2017.

The European Commission is proposing amendments to the Capital Requirements Regulation, CRD IV, the Bank Recovery and Resolution Directive and the Single Resolution Mechanism Regulation. Any proposed reforms remain subject to change and until the proposals are in final form it is uncertain how they will affect the Group.

The Group remains a G-SII with a 1.0 per cent G-SII CET1 buffer which began to be phased in from 1 January 2016 and will be fully implemented by 1 January 2019. The buffer phases in at a rate of 0.25 per cent per year. The Standard Chartered PLC 2016 G-SII disclosure is published at: investors.sc.com/fullyearresults

IFRS 9

Under IFRS 9 it is estimated that on day 1 the Group's CET1 ratio would not be impacted after applying 95 per cent transitional relief. The day 1 end point impact (with no transitional relief) reduces CET1 by an estimated 15 basis points, which is attributed to the following factors:

- The increase in IFRS 9 expected credit loss (ECL) allowances for AIRB portfolios has been mostly offset by the existing regulatory excess expected loss (EL) deduction
- The increase in IFRS 9 ECL for standardised portfolios directly impacts CET1 as there is no existing regulatory deduction to absorb the increase
- The increase in deferred tax assets recognised from IFRS 9 re-measurements and the increase in asset fair values as a result of classification and measurement partially mitigates the impact of ECL.

CET1 ratio (phasing in of transition)

13.6	IAS 39 at 31 December 2017
13.5	IFRS 9 at 1 January 2018 before transitional relief
13.6	IFRS 9 at 1 January 2018 after transitional relief

Transitional relief relates to the phasing in of the impact of the initial adoption of the ECL component of IFRS 9 into CET1, as permitted by Regulation (EU) 2017/2395 of the European Parliament and of the Council. Under this approach, the balance of ECL allowances in excess of the regulatory excess EL and standardised portfolios are phased into the CET1 capital base over 5 years. The proportion phased in for the balance at each reporting period is: 2018 5 per cent; 2019 15 per cent; 2020 30 per cent; 2021 50 per cent; 2022 75 per cent. From 2023 onwards there is no transitional relief.

Capital ratios

	2017	2016
CET1	**13.6%**	13.6%
Tier 1 capital	**16.0%**	15.7%
Total capital	**21.0%**	21.3%

CRD IV Capital base

	2017 $million	2016 $million
CET1 instruments and reserves		
Capital instruments and the related share premium accounts	**5,603**	5,597
Of which: share premium accounts	**3,957**	3,957
Retained earnings[1]	**25,316**	26,000
Accumulated other comprehensive income (and other reserves)	**12,766**	11,524
Non-controlling interests (amount allowed in consolidated CET1)	**850**	809
Independently reviewed interim and year-end profits/(losses)	**1,227**	(247)
Foreseeable dividends net of scrip	**(399)**	(212)
CET1 capital before regulatory adjustments	**45,363**	43,471
CET1 regulatory adjustments		
Additional value adjustments (prudential valuation adjustments)	**(574)**	(660)
Intangible assets (net of related tax liability)	**(5,112)**	(4,856)
Deferred tax assets that rely on future profitability (excludes those arising from temporary differences)	**(125)**	(197)
Fair value reserves related to net losses on cash flow hedges	**45**	85
Deduction of amounts resulting from the calculation of excess expected loss	**(1,142)**	(740)
Net gains on liabilities at fair value resulting from changes in own credit risk	**(53)**	(289)
Defined-benefit pension fund assets	**(40)**	(18)
Fair value gains arising from the institution's own credit risk related to derivative liabilities	**(59)**	(20)
Exposure amounts which could qualify for risk weighting of 1,250%	**(141)**	(168)
Total regulatory adjustments to CET1	**(7,201)**	(6,863)
CET1 capital	**38,162**	36,608
Additional Tier 1 capital (AT1) instruments	**6,719**	5,704
AT1 regulatory adjustments	**(20)**	(20)
Tier 1 capital	**44,861**	42,292
Tier 2 capital instruments	**13,927**	15,176
Tier 2 regulatory adjustments	**(30)**	(30)
Tier 2 capital	**13,897**	15,146
Total capital	**58,758**	57,438
Total risk-weighted assets (unaudited)	**279,748**	269,445

1. CET1 capital before regulatory adjustments is prepared on the regulatory scope of consolidation

Movement in total capital

	2017 $million	2016 $million
CET1 at 1 January	**36,608**	38,182
Ordinary shares issued in the year and share premium	**6**	1
Profit/(loss) for the year	**1,227**	(247)
Foreseeable dividends net of scrip deducted from CET1	**(399)**	(212)
Difference between dividends paid and foreseeable dividends	**(233)**	(116)
Movement in goodwill and other intangible assets	**(256)**	(36)
Foreign currency translation differences	**1,363**	(779)
Non-controlling interests	**41**	227
Movement in eligible other comprehensive income	**119**	(579)
Deferred tax assets that rely on future profitability	**72**	15
(Increase) / decrease in excess expected loss	**(402)**	(171)
Additional value adjustments (Prudential Valuation Adjustment)	**86**	(96)
Own credit gains	**(39)**	342
Exposure amounts which could qualify for risk weighting	**27**	31
Other	**(58)**	46
CET1 at 31 December	**38,162**	36,608
AT1 at 1 January	**5,684**	4,591
Issuances net of redemptions	**992**	1,010
Foreign currency translation difference	**23**	(47)
Other	**–**	130
AT1 at 31 December	**6,699**	5,684
Tier 2 capital at 1 January	**15,146**	16,248
Regulatory amortisation	**779**	(181)
Issuances net of redemptions	**(2,907)**	(697)
Foreign currency translation difference	**676**	(577)
Tier 2 ineligible minority interest	**233**	374
Other	**(30)**	(21)
Tier 2 capital at 31 December	**13,897**	15,146
Total capital at 31 December	**58,758**	57,438

The main movements in capital in 2017 were:

- The CET1 ratio remained flat at 13.6 per cent with a $10.3 billion increase in RWA offsetting a $1.6 billion increase in CET1 capital as described below
- CET1 capital increased by $1.6 billion as underlying profits and favourable foreign currency translation were offset in part by distributions and higher regulatory adjustments
- AT1 capital increased to $6.7 billion due to the issuance of $1 billion of AT1 securities in the period
- Tier 2 reduced by $1.2 billion to $13.9 billion as calls and maturities were not replaced by new issuance. This was in part offset by foreign currency translation and the net impact of regulatory amortisation and deductions.

Risk-weighted assets by business

	2017			
	Credit risk $million	Operational risk $million	Market risk $million	Total risk $million
Corporate & Institutional Banking	**109,368**	**14,740**	**22,994**	**147,102**
Retail Banking	**36,345**	**7,761**	**–**	**44,106**
Commercial Banking	**29,712**	**3,356**	**–**	**33,068**
Private Banking	**5,134**	**809**	**–**	**5,943**
Central and other items	**45,671**	**3,812**	**46**	**49,529**
Total risk-weighted assets	**226,230**	**30,478**	**23,040**	**279,748**

	2016			
	Credit risk $million	Operational risk $million	Market risk $million	Total risk $million
Corporate & Institutional Banking	106,834	16,703	19,228	142,765
Retail Banking	33,210	8,953	–	42,163
Commercial Banking	27,553	4,385	–	31,938
Private Banking	5,129	959	–	6,088
Central and other items	41,149	2,693	2,649	46,491
Total risk-weighted assets	213,875	33,693	21,877	269,445

Risk-weighted assets by geographic region[1]

	2017 $million	2016 $million
Greater China & North Asia	**84,593**	76,665
ASEAN & South Asia	**96,733**	96,673
Africa & Middle East	**56,437**	52,849
Europe & Americas	**44,735**	43,487
Central & other items	**(2,750)**	(229)
Total risk weighted assets	**279,748**	269,445

1 Risk-weighted assets by geographic region is presented on a basis consistent with Note 2 Segmental information (pages 210 to 211)

Movement in risk weighted assets

	Credit risk								
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million	Operational risk $million	Market risk $million	Total risk $million
At 1 January 2016	127,528	38,007	30,825	6,302	42,740	245,402	35,610	21,913	302,925
Assets (decline)/growth	(15,860)	(1,221)	(3,221)	(1,120)	493	(20,929)			(20,929)
Net credit migration	156	116	(61)	–	(179)	32	–	–	32
Risk-weighted assets efficiencies	(2,722)	–	–	–	–	(2,722)	–	–	(2,722)
Model, methodology and policy changes	(917)	(2,708)	437	–	(1,316)	(4,504)	–	5,500	996
Disposals	–	(471)	–	–	–	(471)	–	–	(471)
Foreign currency translation	(1,351)	(513)	(427)	(53)	(589)	(2,933)			(2,933)
Other non-credit risk movements	–	–	–	–	–	–	(1,917)	(5,536)	(7,453)
At 31 December 2016	106,834	33,210	27,553	5,129	41,149	213,875	33,693	21,877	269,445
Assets (decline)/growth	**(6,363)**	**2,349**	**1,973**	**445**	**2,273**	**677**	**–**	**–**	**677**
Net credit migration	**4,035**	**74**	**(465)**	**–**	**9**	**3,653**	**–**	**–**	**3,653**
Risk-weighted assets efficiencies	**(2,295)**	**–**	**–**	**–**	**–**	**(2,295)**	**–**	**–**	**(2,295)**
Model, methodology and policy changes	**4,990**	**(368)**	**–**	**(575)**	**2,372**	**6,419**	**–**	**(2,178)**	**4,241**
Disposals	**–**	**(710)**	**–**	**–**	**(443)**	**(1,153)**	**–**	**–**	**(1,153)**
Foreign currency translation	**2,167**	**1,790**	**651**	**135**	**311**	**5,054**	**–**	**–**	**5,054**
Other non-credit risk movements	**–**	**–**	**–**	**–**	**–**	**–**	**(3,215)**	**3,341**	**126**
At 31 December 2017	**109,368**	**36,345**	**29,712**	**5,134**	**45,671**	**226,230**	**30,478**	**23,040**	**279,748**

RWA increased by $10.3 billion, or 3.8 per cent from 31 December 2016 to $279.7 billion. This was due to a $12.4 billion increase in credit risk RWA and a $1.2 billion increase in market risk RWA partly offset by a $3.2 billion decrease in operational risk RWA.

Corporate & Institutional Banking

Credit risk RWA increased by $2.5 billion to $109.4 billion mainly due to:

- $4.0 billion increase due to credit migration in the AME and GCNA regions
- $5.0 billion increase in model, methodology and policy changes, of which $5.2 billion was due to PRA approved IRB model changes in financial institutions relating to LGD floors
- Financial markets and corporate finance asset decline of $6.4 billion driven by asset reduction and change in product mix
- $2.3 billion reduction from efficiencies in financial markets through optimisation and process enhancements, including CVA RWA saves
- $2.2 billion increase from foreign currency translation due to appreciation of currencies in Europe, India, and China

Retail Banking

Credit risk RWA increased by $3.1 billion to $36.3 billion, due to:

- $2.3 billion increase from mortgage and secured lending growth
- $0.4 billion RWA save due to model, methodology and policy changes
- $0.7 billion due to the disposal of our Thailand retail portfolio
- $1.8 billion increase from foreign currency translation due to appreciation of currencies in Korea, Singapore and India

Commercial Banking

Credit risk RWA increased by $2.2 billion to $29.7 billion mainly due to:

- $2.0 billion increase from new business, with growth in transaction banking and lending
- Credit migration reduction of $0.5 billion due to increased provisions in the ASA and GCNA regions
- $0.7 billion increase from foreign currency translation due to appreciation of currencies in Korea, India and Europe

Private Banking

Credit risk RWA is broadly flat at $5.1 billion year on year. Changes in asset balances and foreign currency translation in Europe and Singapore, were offset by RWA saves achieved through recognition of eligible collateral.

Central & other items

Credit risk RWA increased by $4.5 billion to $45.7 billion due to:

- An increase of $2.3 billion in credit RWA mainly due to treasury activities, offset in part by lower RWA balances for investments in Associates
- $2.4 billion increase due to PRA approved IRB model changes in financial institutions relating to LGD floors in treasury markets
- $0.4 billion saving from the disposal of an investment in the GCNA region
- $0.3 billion increase from foreign currency translation due to appreciation of currencies in India, Korea and China

Market risk

Total market risk RWA increased by $1.2 billion, or 5.3 per cent from 31 December 2016 to $23.0 billion. This was mainly due to increases in trading book debt security holdings partly offset by lower market volatility. Methodology and policy changes contributed RWA savings of $2.2 billion.

Operational risk

Operational risk RWA reduced by $3.2 billion to $30.5 billion, due to a decrease in the average income over a rolling three-year time horizon, as lower 2016 income replaced higher 2013 income. This represents a 9.5 per cent year-on-year reduction in operational risk RWA.

UK leverage ratio

The Group's UK leverage ratio, which excludes qualifying claims on central banks in accordance with a PRA waiver, was 6.0 per cent, which is above the current minimum requirement of 3.5 per cent.

The UK leverage ratio in the period remained flat as the increase in Tier 1 capital (end point) was offset by an increase in the UK leverage exposure measure.

UK leverage ratio (unaudited)

	2017 $million	2016 $million
Tier 1 capital (transitional)	**44,861**	42,292
Additional Tier 1 capital subject to phase out	**(1,758)**	(1,735)
Tier 1 capital (end point)	**43,103**	40,557
Derivative financial instruments	**47,031**	65,509
Derivative cash collateral	**9,513**	14,230
Securities financing transactions (SFTs)	**55,187**	44,916
Loans and advances and other assets	**551,770**	522,037
Total on-balance sheet assets	**663,501**	646,692
Regulatory consolidation adjustments[1]	**(31,712)**	(31,491)
Derivatives adjustments		
Derivatives netting	**(29,830)**	(38,737)
Adjustments to cash collateral	**(18,411)**	(23,449)
Net written credit protection	**1,360**	7,311
Potential future exposure on derivatives	**30,027**	49,607
Total derivatives adjustments	**(16,854)**	(5,268)
Counterparty risk leverage exposure measure for SFTs	**13,238**	10,412
Off-balance sheet items	**96,260**	60,535
Regulatory deductions from Tier 1 capital	**(7,089)**	(6,553)
UK leverage exposure (end point)	**717,344**	674,327
UK leverage ratio (end point)	**6.0%**	6.0%
UK leverage exposure quarterly average	**723,508**	N/A
UK leverage ratio quarterly average	**6.0%**	N/A
Countercyclical leverage ratio buffer	**0.1%**	0.0%
G-SII additional leverage ratio buffer	**0.2%**	0.1%

1 Includes adjustment for qualifying central bank claims